Innovation and Leadership through a Diverse STEM Workforce

2009 JOINT ANNUAL MEETING

Client Handbook

June 8-11, 2009
Omni Shoreham Hotel, Washington, DC

National Science Foundation
Division of Human Resource Development
Directorate for Education and Human Resources

Co-sponsored by Directorate for Biological Sciences

TABLE OF CONTENTS

GENERAL ONSITE PROCEDURES

— Do's and Don'ts —

Thank you for supporting the NSF Division of Human Resource Development ***2009 Joint Annual Meeting.*** EDJ Associates, Inc. is striving to be true to the company motto "Achieving Excellence by Choice." By being part of the EDJ family, you are committed to providing ***excellent customer service***. In order to assist you with this level of service and to better understand the process, onsite procedures are explained below.

1. **DRESS CODE**: Professional Attire. All staff must wear Black/black or Black/white. Men: Black suit (dress slacks and jacket) with white shirt, tie (any color) and black shoes. Women: Dress pants, skirt, jacket (solid black), solid white or solid black blouse (no plunging necklines or cleavage), pantyhose and black shoes (closed toe). Limited jewelry and no scarves, pins, or brooches.
2. **GREETING**: Every guest must be treated with the ***utmost respect*** therefore staff must address each participant with a "Good Morning," or "Good Afternoon, How may I help you." Everyone should be addressed by their last name "Mr. or Ms. Smith."
3. **PROFESSIONAL DEMEANOR:** Staff should always conduct themselves in a professional manner. Posture should be professional – always stand to greet a guest (speak up and project your voice in a pleasant tone). Staff should not eat in the main area. Food/liquids should be consumed in the staff office only. No gum chewing. No food/liquids should be consumed in front of guests. Registration and Customer Service should be staffed at all times during conference hours.
4. **CUSTOMER SERVICE:** When a guest asks a question and you do not know the answer, NEVER say "I don't know." Tell the guest you will find out the answer and let them know as soon as possible. If there are questions regarding room locations, please refer to hotel map, agenda or staff handbook. Your staff handbook should be used as a reference tool.

REGISTRATION PROCEDURES

Pre-Paid Registration using Self-Serve Kiosks:

(1). Attendees who have pre-paid their registration will be directed to use the Self-Serve Registration Kiosks located in the West Lobby (next to the built-in registration desk). They will enter their last name and search for their registration. The system will verify their name and print a badge. ***Note****: The system is programmed to instruct participants for whom we have not received their registration fee to go the Onsite Payment desk for assistance.*

(2). If the registrant has a special dietary need, they should proceed to the Customer Service Desk to collect the appropriate card as indicated on their badge. Otherwise they will collect their conference materials (bag, pen, pad, lanyard, program book and badge holder) from Customer Service.

(3). Please remember to inform participants that without their badges, they will not have access to the meal functions. Direct participants to the Regency Ballroom Foyer Room for Light Refreshments and the Regency Ballroom for the General Session.

(4). ALL NSF staff who pre-registered and had their registration fee waived would be indicated already on the list. Please direct them to Customer Service. Note any others and have them return after the first break.

Onsite Payment:

(1). Participants who have "not paid," should be directed to the onsite payment desk in the West Lobby area. Participants should confirm whether the institution will provide verification that payment is being processed. Otherwise, obtain payment (check, or credit card) from the registrant.

(2). If an individual is paying with a credit card, have the attendee complete the onsite payment form. Please make sure all credit cards are valid (check name and expiration date). If the name on the credit card differs from that of the individual, be sure to indicate the registrants name on the credit card slip. Once payment is completed, check the system; indicate paid and print their badge.

(3). Give paid attendee a 2009 JAM bag that contains a program book, lanyard, badge holder, note pad, and pen. Please remember to inform participants that without their badges, they will not have access to the meal functions. Direct participants to the Regency Ballroom Foyer for Light Refreshments and the Regency Ballroom for the General Session.

THERE WILL BE NO ONSITE FULL REGISTRATION

Onsite SESSION-ONLY Registration:

(1). Participants can register onsite as Session-Only.

(2). There is no registration fee and participants are not allowed to participate in meal functions.

(3). Individuals registering onsite as SESSION ONLY complete an onsite registration form and provided a SESSION ONLY badge (which is a different color). They should be provided a conference program only. If asked whether they can hear the luncheon speakers, unfortunately the conference is at capacity and we may not be able to accommodate this request by having perimeter seating.

(4). Please have them return after the 2 hours for their badges. Enter their information in the system as "Session Only".

MEETING MATRIX

June 8-11, 2009
Omni Shoreham Hotel, Washington, DC

SUNDAY JUNE 7, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual ****	**Food & Beverage**	**Notes**
12:00 PM - 24HR HOLD **EDJ Sunday Office**	**Palladian Room** • Twelve (12) 6-ft tables • 15 chairs	House telephone	• Water glasses and pitcher • Five (5) large barrel trash containers • Assorted beverages for 10ppl	**DO NOT POST** • **Set room by 7:30 AM** • Production room to assemble meeting bags
3:00 PM – 6:00 PM **REGISTRATION**	**Palladian Room** • Four (4) high top tables • Four (4) 6-ft tables with 4-schoolroom tables behind	• Two (2) notebook computers with two (2) printers for onsite payment and customer service** • Four (4) notebook computers ** • Four (4) small HP printers for self-serve kiosks**	• Water glasses and pitcher	**Flowers on the registration desk**

** Equipment provided by outside vendor: BAV Services

MONDAY JUNE 8, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual ****	**Food & Beverage**	**Notes**
24HR HOLD **EDJ Office**	**Cabinet Room** • Six (6) 6-ft skirted tables • Two classroom • Conference table for 10ppl • Ten (10) chairs • Two (2) undress 6-ft tables stacked • See diagram	• One (1) internet connection with a network • Two (2) printers ** • Three (3) computers ** • One copier • One phone with DID line (hotel to provide)	• Water glasses and pitcher • One (1) Large wastebasket and three (3) regular wastebaskets • Coffee and beverage service	**DO NOT POST** **Require 6 keys**
24HR HOLD **EDJ Storage 2 (AV Overflow)**	**Committee Room** • Two (2) skirted 6-ft on the perimeter with 4 chairs		• One (1) large wastebasket	**DO NOT POST** **Require 3 keys**
24HR HOLD **NSF Office**	**Directors Room** • Skirted 6-ft with 2 chairs (for laptop and printer) • Conference for 8ppl Soft furniture – two chairs, lamp, coffee table	• One (1) internet connection • One (1) phone with DID line • One (1) computer ** • One (1) printer **	• Water glasses and pitcher • Beverage station • One (1) wastebasket Coffee and beverage service	**DO NOT POST** **Require 3 keys**
24HR HOLD **AV Storage**	**Sales Conference Room** • Four (4) 6-ft undressed tables stacked			**DO NOT POST** **Require 6 keys (hard lock)** **No entry for cleaning unless client in room**
7:00 AM – UNTIL (Set-up) **GENERAL SESSION**	**Regency Ballroom**			**AV setup begins at 7:00am** **Do not set chairs** **NOTE TO HOTEL:** **Require wired internet connection for high res web casting in the ballroom.** **Electricity requirements:** **2, 100 amp/3 phase services**

** Equipment provided by outside vendor: BAV Services

MONDAY JUNE 8, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual ****	**Food & Beverage**	**Notes**
10:00 AM – 12 NOON **NSF HRD Staff Meeting**	**Forum Room** • Conference for 20ppl • Perimeter seating	• N/A	• Water station w/pads and pens on tables	**DO NOT POST**
11:00 AM – 6:00 PM **REGISTRATION** **Self-serve Kiosks** **Onsite Payment/Customer Service** **Session Only and Speaker Registration**	**West Lobby Registration Desk** • Four (4) high top tables	• Two (2) notebook computers with two (2) printers for onsite payment and customer service** • Four (4) notebook computers ** • Four (4) small HP printers for self-serve kiosks**	• Water station w/pads and pens on tables	**Flowers on the registration desk**
1:00 PM (SET-UP) **Email Kiosks**	**Regency Gallery** • Four (4) high tops and one (1) cocktail tables	• Four (4) computers with wireless connection • One table without a computer		
1:00 PM (SET-UP) **Exhibitors**	**Bird Cage Walk** • Four (4) 6-ft skirted tables with 2 chairs each • Wastebaskets for each table • 4 poster boards (vendor to provide)	• N/A	• Water glasses and pitcher	

** Equipment provided by outside vendor: BAV Services

MONDAY JUNE 8, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual ****	**Food & Beverage**	**Notes**
1:00 PM – 4:00 PM **ADVANCE TOWN-HALL, OPEN MEETING**	**Hampton Room** • Theater seating for 100ppl • Riser with head table for 5ppl • Scattered cocktail rounds in the rear of the room	• Podium w/ Mic • Two (2) table microphones at head table • One (1) microphone for audience • One (1) Laptop computer • One (1) LCD projector • One (1) screen • Sound patch	• Water station w/pads and pens in the rear of the room	**Post: ADVANCE Town-Hall, Open Meeting**
2:00 PM – 4:00 PM **NEW AWARDEES ORIENTATION**	**Empire Room** • Theater seating for maximum within pillars • Riser with head table for 5ppl	• Podium w/ Mic • Two (2) table microphones at head table • One (1) microphone for audience • One (1) Laptop computer • One (1) LCD projector • One (1) screen • Sound patch	• Water station w/pads and pens in the rear of the room	**Post: New Awardees Orientation** **SPEAKERS:** • **Rashawn Farrior** • **Pamela Hawkins** • **Claudia Rankins** • **Kelly Mack** • **James Wyche**
3:00 PM – 3:30 PM **PM BREAK**	**Empire and Hampton Foyer**	• N/A	**Sweet Treat Break (450ppl)** • Coffee (regular and decaf) • Assorted selection of Hot teas • Assorted soft drinks • Assorted baked cookies • Empire (350ppl) and Hampton (100ppl)	

** Equipment provided by outside vendor: BAV Services

MONDAY JUNE 8, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual ****	**Food & Beverage**	**Notes**
4:00 PM – 7:00 PM **CREST**	**Governors Room, Embassy Room, Calvert Room, Chairman's Room** • Theater seating for max. • Head table for 3ppl (on riser where possible)	• Podium w/ Mic • Two (2) table microphones at head table (where necessary) • One (1) microphone for audience *(if possible)* • One (1) Laptop computer • One (1) LCD projector • One (1) screen • Sound patch		**Post: CREST**
4:00 PM – 7:00 PM **GSE**	**Diplomat Room, Palladian Room** • Theater seating for maxium • Head table for 5ppl on riser	• Podium w/ Mic • Two (2) table microphones at head table • One (1) microphone for audience • One (1) Laptop computer • One (1) LCD projector • One (1) screen • Sound patch		**Post: GSE**
4:00 PM – 7:00 PM **LSAMP**	**Blue Room Prefunction** • Elevated head table for 4 ppl • Place screen in the corner to allow panel to view • Theater seating for maximum	• Podium w/ Mic • Three (3) table microphones at head table • One (1) microphone for audience • One (1) Laptop computer • One (1) LCD projector • One (1) screen • Sound patch		**Post: LSAMP**

** Equipment provided by outside vendor: BAV Services

MONDAY JUNE 8, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual ****	**Food & Beverage**	**Notes**
4:00 PM – 7:00 PM **TCUP**	**Ambassador Room** • Head table for 5ppl on riser • Theater seating in a circle for 50ppl	• Podium w/ Mic • Two (2) table microphones at head table • One (1) microphone for audience • One (1) Laptop computer • One (1) LCD projector • One (1) screen • Sound patch • Pipe and drape for stage**		**Post: TCUP** **AV vendor storage for Ballroom gear behind pipe and drape stage area**
4:00 PM – 7:00 PM **RDE**	**Congressional A & B** • Head table for 3 ppl • Theater for 40 ppl	• Podium w/ Mic • Two (2) table microphones at head table • One (1) microphone for audience • One (1) Laptop computer • One (1) LCD projector • One (1) screen • Sound patch	• Water station w/pads on the table	**Post: RDE**

** Equipment provided by outside vendor: BAV Services

TUESDAY JUNE 9, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
7:30 AM **REGISTRATION**	**West Lobby Area** • Existing set	• Existing set		**Post: Registration**
7:30 AM – 8:30 AM **Light Refreshments**	**Regency Ballroom Foyer**	N/A	**Continental Breakfast** • Fresh Squeezed Orange and Cranberry Juices • Danishes, Muffins, Croissants and Bagels • Egg and Cheese Burritos • Marmalade, Fruit Preserves, Cream Cheeses, Honey and Butter • Freshly Brewed Coffee, Teas and Decaffeinated Coffee **Guarantee for: 850 ppl**	**Set by 7:00 AM** **Items remain until consumed** **Post: Light Refreshments**
8:00 AM – 5:00 PM **MEDIA ROOM**	**Capitol Room** • Two (2) Executive chairs • Coffee table • Floral arrangement (if available) • Two (2) skirted 6-ft tables with 4 chairs around the perimeter of the room	N/A		**DO NOT POST**
8:00 AM – 5:00 PM **NSF DIRECTOR'S OFFICE**	**President Boardroom** • Existing set	N/A	• Water station w/pads on the table	**DO NOT POST**

TUESDAY JUNE 9, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
8:30 AM –10:00 AM **GENERAL SESSION**	**Regency Ballroom** • Banquet for 1,100ppl (Rounds of 10) • Riser • Executive chairs for 5ppl • Two coffee tables • Podium w/ Microphone in the middle of stage • Simultaneously Webcast	• Two (2) screens with dress kits (appropriate size) • Two (2) LCD packages • One (1) Laptop Computer • Laser Pointer • Wireless mic for podium with lav kit • Three (3) wireless mics for audience questions (see staging guides) • Lighting panels • Gobo/Camera/record deck	• EDJ to provide 20-gallon water coolers throughout meeting area	**Post: General Session:** **SPEAKERS:** • **Mark Leddy** • **Wanda Ward** • **James Wyche** **NOTE TO HOTEL:** **Require wired internet connection for high res web casting in the ballroom.**
10:00 AM – 10:30 AM **BREAK**	**Regency Ballroom Foyer**	N/A	**Break** • Freshly Brewed Starbucks Coffee, Starbucks Decaffeinated Coffee and • A selection of Tazo Teas with Honey and Lemon • Assorted beverages **Guarantee for: 850 ppl**	**Refresh by 9:45am**
10:30 AM – 12:15 PM **PROGRAM BREAKOUT SESSION 1: ADVANCE (Combined with GSE)**	**Diplomat Room** • Existing set	• Existing set		**Post: ADVANCE/GSE**
10:30 AM – 12:15 PM **PROGRAM BREAKOUT SESSION 1: AGEP**	**Palladian Room** • Existing set	• Existing set		**Post: AGEP**

** Equipment provided by outside vendor: BAV Services

TUESDAY JUNE 9, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
10:30 AM – 12:15 PM **PROGRAM BREAKOUT SESSION 1: CREST/HBCU-RISE**	**Governors Room** • Head table for three (3) ppl (on riser if possible) • Theater for maximum	• Podium w/ Mic • Two (2) table microphones at head table • One (1) Laptop computer • One (1) LCD projector • One (1) screen • Sound patch		**Post: CREST/HBCU-RISE**
10:30 AM – 12:15 PM **PROGRAM BREAKOUT SESSION 1: GSE (Combined w/ ADVANCE)**	**Diplomat Room** • Existing set	• Existing set		**Post: ADVANCE/GSE**
10:30 AM – 12:15 PM **PROGRAM BREAKOUT SESSION 1: HBCU-UP**	**Empire Room** • Existing set	• Existing set		**Post: HBCU-UP**
10:30 AM – 12:15 PM **PROGRAM BREAKOUT SESSION 1: LSAMP**	**Blue Room Prefunction** • Existing set	• Existing set		**Post: LSAMP**
10:30 AM – 12:15 PM **PROGRAM BREAKOUT SESSION 1: LSAMP-BD**	**Blue Room** • Elevated head table for 5 ppl • Theater for 350 ppl	• Podium w/ Mic • Two (2) table microphones at head table • One (1) microphone for audience • One (1) Laptop computer • One (1) LCD projector • One (1) screen • Sound patch		**Post: LSAMP-BD**

** Equipment provided by outside vendor: BAV Services

TUESDAY JUNE 9, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
10:30 AM – 12:15 PM **PROGRAM BREAKOUT SESSION 1: RDE**	**Congressional A & B** • Existing set	• Existing set		**Post: RDE**
10:30 AM – 12:15 PM **PROGRAM BREAKOUT SESSION 1: TCUP**	**Ambassador Room** • Head table for 5 ppl • Change to theater for maximum	• Existing set		**Post: TCUP**
12:15 PM – 1:30 PM **LUNCHEON**	**Regency Ballroom** • Existing set • Reserve two tables in front near stage for VIPs	• Existing Set	**Lunch** • Salad with goat cheese • Duo of Chicken and Salmon with Roasted Red Pepper Chutney and Wild Mushroom Ragout • Hawaiian dessert • Iced Tea • Rolls and Butter • Coffee Service **Guarantee for: 850 ppl**	**Post: Luncheon** **Set by 11:45 am** Preset salad and dessert **SPEAKERS:** • **James Collins** • **J. Craig Venter** • **James Wyche**
1:30 PM – 3:30 PM (SET-UP) **Poster Session**	**Regency Ballroom** • Food & Beverage stations • Clean and clear at least half of tables for 30 poster boards • Scattered high top cocktail rounds	• Existing Set		• **Outside vendor to bring Poster boards (4ft x 8ft)** • **Participants will set up posters from 3:30-6:00pm** Metropolitan Board Installers Contact: Jim O'Connell Phone: (301) 728-1225

TUESDAY JUNE 9, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
1:30 PM – 3:00 PM **PROFESSIONAL DEVELOPMENT SESSION: Communicating Results of Your Research to the Public**	**Diplomat Room** • Existing Set	• Existing Set		**Post: Communicating Results of Your Research to the Public:** **PRESENTER: Bobbie Mixon** **Chair: Jolene Jesse**
1:30 PM – 3:00 PM **PROFESSIONAL DEVELOPMENT SESSION: Funding Opportunities - Directorate for Biological Sciences**	**Hampton Room** • Existing set	• Existing Set		**Post: Funding Opportunities - Directorate for Biological Sciences:** **PRESENTER: Aixa Alfonso** **Chair: Mark Leddy**
1:30 PM – 3:00 PM **PROFESSIONAL DEVELOPMENT SESSION: Funding Opportunities - National Institute of General Medical Sciences at the National Institutes of Health**	**Congressional A & B** • Existing set	• Existing Set		**Post: Funding Opportunities - National Institute of General Medical Sciences at the National Institutes of Health:** **PRESENTERS:** • **Alberto L. Rivera-Rentas** • **Jermelina Tupas** **Chair: Harry Bass**
1:30 PM – 3:00 PM **PROFESSIONAL DEVELOPMENT SESSION: Funding Opportunities - National Science Foundation**	**Palladian Room** • Existing Set	• Existing Set		**Post: Funding Opportunities - National Science Foundation Programs:** **PRESENTERS:** • **Janice E. Cuny** • **Jill Karsten**

** Equipment provided by outside vendor: BAV Services

TUESDAY JUNE 9, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
Programs				• **Amy Sharma** • **Amber Story** **Chair: Claudia Rankins**
1:30 PM – 3:00 PM **PROFESSIONAL DEVELOPMENT SESSION: Mentoring Plans for Postdoctoral Associates**	**Blue Room Prefunction** • Existing Set	• Existing Set		**Post: Mentoring Plans for Postdoctoral Associates:** **PRESENTER:** • **Cathee Johnson Phillips** **Chair: Patrick Mensah**
1:30 PM – 3:00 PM **PROFESSIONAL DEVELOPMENT SESSION: Publishing Education Related Research**	**Empire Room** • Existing Set	• Existing Set		**Post: Publishing Education Related Research:** **PRESENTERS:** • **William B. Harvey** • **Edward H. Perry** • **Michelle L. Pilati** **Chair: Kelly Mack**
3:00 PM – 3:30 PM **BREAK**	**Empire, Hampton, Regency Ballroom and Palladian Foyers**	N/A	**Break** • Chocolate Chip, White Chocolate Macadamia Nut Cookies • Peanut Butter and Oatmeal Raisin Cookies • Granola Bars • Starbucks Coffee, Starbucks Decaffeinated Coffee and • A Selection of TazoTeas with Honey and Lemon • Assorted Beverages **Guarantee for: 850 ppl**	**Set at 2:45pm**

TUESDAY JUNE 9, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
3:30 PM – 5:30 PM **PROGRAM BREAKOUT SESSION 2: ADVANCE**	**Hampton Room** • Existing Set	• Existing Set		**Post: Advance**
3:30 PM – 5:30 PM **PROGRAM BREAKOUT SESSION 2: AGEP**	**Palladian Room**	• Existing Set		**Post: AGEP**
3:30 PM – 5:30 PM **PROGRAM BREAKOUT SESSION 2: CREST and HBCU-RISE**	**Embassy Room**	• Existing Set		**Post: CREST and HBCU-RISE**
3:30 PM – 5:30 PM **PROGRAM BREAKOUT SESSION 2: GSE**	**Chairman's, Calvert, Diplomat, Governors Room**	• Existing Set		**Post: GSE**
3:30 PM – 5:30 PM **PROGRAM BREAKOUT SESSION 2: HBCU-UP**	**Empire Room**	• Existing Set		**Post: HBCU-UP**
3:30 PM – 5:30 PM **PROGRAM BREAKOUT SESSION 2: LSAMP**	**Blue Room Prefunction**	• Existing Set		**Post: LSAMP**

** Equipment provided by outside vendor: BAV Services

TUESDAY JUNE 9, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
3:30 PM – 5:30 PM **PROGRAM BREAKOUT SESSION 2: LSAMP-BD**	**Blue Room**	• Existing Set		**Post: : LSAMP-BD**
3:30 PM – 5:30 PM **PROGRAM BREAKOUT SESSION 2: RDE**	**Congressional A & B Room**	• Existing Set		**Post: RDE**
3:30 PM – 5:30 PM **PROGRAM BREAKOUT SESSION 2: TCUP**	**Ambassador Room**	• Existing Set		**Post: TCUP**
5:30 PM – 6:00pm **BREAK**				
6:00 PM – 8:00PM **NETWORK AND POSTER SESSION**	**Regency Ballroom & Ambassador Room**		**Reception** • Dressed Ceasar Salad • Asparagus Spears Wrapped in Proscuitto • Vegetable Spring Rolls with Duck Sauce • Chicken Satay with Peanut Sauce • Beef Teriyaki Brochette • Cheese Display • Crudités tray • Turkey and smoked brisket of beef carving station for 500ppl each	**Post: Network and Poster Session**

** Equipment provided by outside vendor: BAV Services

TUESDAY JUNE 9, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
			• Bowtie Pasta with cream sauce • Shrimp cocktail (600pcs) • Chocolate covered strawberries • Assorted Beverages **Guarantee for: 850 ppl**	
8:00 PM – 9:00 PM **Poster Session TEAR DOWN & RESET**	**Regency Ballroom**	• Existing Set		• **Outside vendor to REMOVE Poster boards (4ft x 8ft)** • **Hotel to reset Ballroom with Rounds of 10ppl** Metropolitan Board Installers Contact: Jim O'Connell Phone: (301) 728-1225

** Equipment provided by outside vendor: BAV Services

WEDNESDAY JUNE 10, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
7:30 AM **REGISTRATION**	**West Lobby** • Existing set	• Existing set		**Post: Registration**
7:30 AM – 8:30 AM **LIGHT REFRESHMENTS**	**Regency Ballroom Foyer** • Open ballroom to allow participants to seat for breakfast	N/A	**Continental Breakfast** • Fresh Squeezed Orange and Cranberry Juices • Danishes, Muffins, Croissants and Bagels • Marmalade, Fruit Preserves, Cream Cheeses, Honey and Butter • Yogurt and granola • Assorted Cold Cereals with Low Fat and Skim Milk • Freshly Brewed Coffee, Teas and Decaffeinated Coffee **Guarantee for: 950 ppl**	**Set by 7:00 AM** **Items remain until consumed**
8:30 AM – 10:00 AM **PROFESSIONAL DEVELOPMENT SESSION: Funding Opportunities – Directorate for Biological Sciences**	**Blue Room Prefunction** • Existing set	• Existing Set		**Post: Funding Opportunities – Directorate for Biological Sciences:** **PRESENTER:** • **Wilson Francisco** • **Chair: Judith Verbeke**

WEDNESDAY JUNE 10, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
8:30 AM – 10:00 AM **PROFESSIONAL DEVELOPMENT SESSION: Funding Opportunities - National Science Foundation Programs**	**Palladian Room** • Existing set	• Existing Set		**Post: Funding Opportunities – National Science Foundation Programs:** **PRESENTERS:** • **Omnia El-Hakim** • **Dean Evasius** • **Elizabeth E. Lyons** **Chair: Claudia Rankins**
8:30 AM – 10:00 AM **PROFESSIONAL DEVELOPMENT SESSION: Funding Opportunities - Other Federal Agencies**	**Ambassador Room** • Existing set	• Existing Set		**Post: Funding Opportunities – Other Federal Agencies:** **PRESENTERS:** • **Chi Chang Kao** • **Carl Persons** • **Bill Valdez** **Chair: Tessema Guebre**
8:30 AM – 10:00 AM **PROFESSIONAL DEVELOPMENT SESSION: Publishing Education Related Research**	**Empire Room** • Existing set	• Existing Set		**Post: Publishing Education Related Research:** **PRESENTERS:** • **William B. Harvey** • **Edward H. Perry** **Chair: Kelly Mack**
8:30 AM – 10:00 AM **PROFESSIONAL DEVELOPMENT SESSION: Writing Annual and Final NSF Reports**	**Diplomat Room** • Existing set	• Existing Set		**Post: Writing Annual and Final NSF Reports:** **PRESENTER:** • **Nakeina Douglas** **Chair: Jolene Jesse**

** Equipment provided by outside vendor: BAV Services

WEDNESDAY JUNE 10, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
10:00 AM – 10:30 AM **BREAK**	**Empire, Hampton, Regency Ballroom and Palladian Foyers**	N/A	**Break** • Freshly Brewed Starbucks Coffee, Starbucks Decaffeinated Coffee and • A selection of TazoTeas with Honey and Lemon • Bottled smoothies • Assorted soft drinks **Guarantee for: 950 ppl**	**Refresh at 9:45 AM**
10:30 AM – 12:15 PM **LSAMP-BD**	**Blue Room** • Existing set • Head table for 7ppl	• Existing set • Add one (1) table top mic		
10:30 AM – 12:15 PM **COLLABORATION AND NETWORKING DIALOGUES: Education Research Collaborations**	**Diplomat Room** • Existing set	• Existing set		**Post: Education Research Collaboration:** **FACILITATORS:** • **Laura Graves** • **Sylvia James** • **Felecia McInnis Nave** • **Eileen Trauth** **Chair: Marilyn Suiter**
10:30 AM – 12:15 PM **COLLABORATION AND NETWORKING DIALOGUES: Directorate for Biological Sciences**	**Hampton Room** • Existing set	• Existing set		**Post: Directorate for Biological Sciences:** **FACILITATOR: Aixa Alfonso** **Chair: Harry Bass**

WEDNESDAY JUNE 10, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
10:30 AM – 12:15 PM **COLLABORATION AND NETWORKING DIALOGUES: Funding Opportunities: National Science Foundation Programs**	**Empire Room** • Existing set	• Existing set		**Post: Funding Opportunities: National Science Foundation Programs:** **FACILITATORS:** • **Omnia El-Hakim** • **Thomas P. Rieker** • **Gwen Wright** **Chair: Patrick Mensah**
10:30 AM – 12:15 PM **COLLABORATION AND NETWORKING DIALOGUES: Human Resource Development Programs**	**Palladian Room** • Existing set	• Existing set		**Post: Human Resource Development Programs:** **FACILITATOR: Jag Sankar** **Chair: Claudia Rankins**
10:30 AM – 12:15 PM **COLLABORATION AND NETWORKING DIALOGUES: Innovation through Institutional Integration**	**Blue Room Prefunction** • Existing set	• Existing set		**Post: Human Resource Development Programs:** **FACILITATORS:** • **Su-Seng Pang** • **Jack Holmes** **Chair: Mark Leddy**
10:30 AM – 12:15 PM **COLLABORATION AND NETWORKING DIALOGUES: Math and Science Partnerships**	**Ambassador Room** • Existing set	• Existing set		**Post: Math and Science Partnerships:** **FACILITATORS:** • **Shaik Jeelani** • **Asamoah Nkwanta** **Chair: Kathleen Bergin**

** Equipment provided by outside vendor: BAV Services

WEDNESDAY JUNE 10, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
10:30 AM – 12:15 PM **COLLABORATION AND NETWORKING DIALOGUES: Robert Noyce Teacher Scholarships**	**Congressional A & B Room** • Existing set	• Existing set		• **Post: Robert Noyce Teacher Scholarships:** **FACILITATOR: Betty Clark** **Chair: Joan Prival**
12:15 PM – 1:30 PM **LUNCHEON**	**Regency Ballroom** • Existing set	• Existing set	**Lunch** • Spinach Frisee salad • Rosemary Chicken Breast with potatoes • Caramel mocha cake • Rolls and Butter • Iced Tea • Coffee Service **Guarantee for: 950 ppl**	**Set by 12:00 PM** Preset salad and dessert **SPEAKERS**: • **Joan Ferrini-Mundy** • **Eric Jolly** • **Mark Leddy**
2:00 PM – 5:00 PM **PROGRAM BREAKOUT SESSION 3: ADVANCE**	**Forum Room** • Existing set	• Existing set	N/A	**Post: Advance**
2:00 PM – 5:00 PM **PROGRAM BREAKOUT SESSION 3: AGEP**	**Palladian Room** • Existing set	• Existing set		**Post: AGEP**

WEDNESDAY JUNE 10, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
2:00 PM – 5:00 PM **PROGRAM BREAKOUT SESSION 3: CREST and HBCU-RISE**	**Ambassador Room** • Existing set	• Existing set		**Post: CREST and HBCU-RISE**
2:00 PM – 5:00 PM **PROGRAM BREAKOUT SESSION 3: GSE**	**Diplomat, Embassy Room** • Existing set	• Existing set		**Post: GSE**
2:00 PM – 5:00 PM **PROGRAM BREAKOUT SESSION 3: HBCU-UP**	**Empire Room** • Existing set	• Existing set		**Post: HBCU-UP**
2:00 PM – 5:00 PM **PROGRAM BREAKOUT SESSION 3: LSAMP**	**Blue Prefunction Room** • Existing set	• Existing set		**Post: LSAMP**
2:00 PM – 5:00 PM **PROGRAM BREAKOUT SESSION 3: LSAMP-BD**	**Blue Room** • Existing set	• Existing set		**Post: LSAMP-BD**
2:00 PM – 5:00 PM **PROGRAM BREAKOUT SESSION 3: RDE**	**Congressional A & B** • Existing set	• Existing set		**Post: RDE**

** Equipment provided by outside vendor: BAV Services

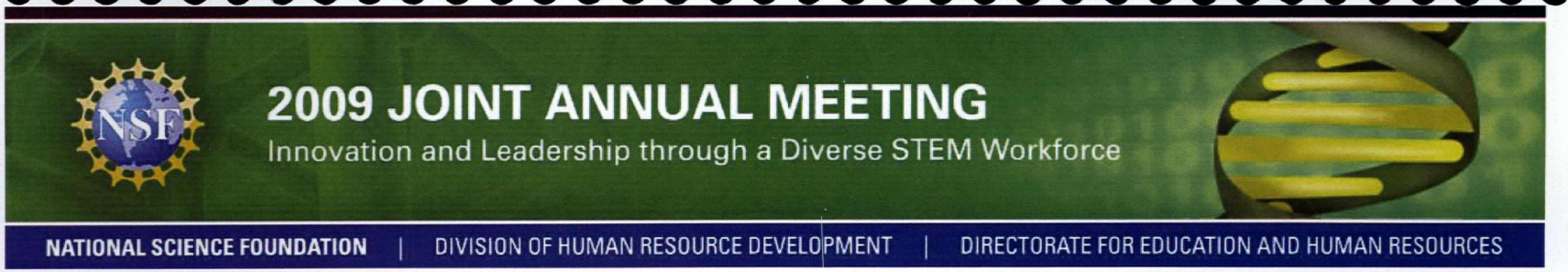
WEDNESDAY JUNE 10, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
2:00 PM – 5:00 PM **PROGRAM BREAKOUT SESSION 3: TCUP**	**Council Room** • Conference style for 20ppl	N/A		**Post: TCUP**
3:00 PM – 3:30 PM **PM BREAK**	**Empire, Hampton, Regency Ballroom and Palladian Foyers**		**Break** • Ice cream bars • Brownies & rice krispies • Starbucks Coffee, Starbucks Decaffeinated Coffee and • A Selection of TazoTeas with Honey and Lemon • Assorted Beverages **Guarantee for: 850 ppl**	**Set at 2:45pm**

THURSDAY JUNE 11, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
7:30 AM **REGISTRATION**	**West Lobby** • Existing set			**Post: Registration**
8:00 AM – 8:30 AM **LIGHT REFRESHMENTS**	**Regency Foyer** • Existing set	N/A	**Continental Breakfast** • Fresh Squeezed Orange and Cranberry Juices • Danishes, Muffins, Croissants and Bagels • Sliced seasonal fruit • Marmalade, Cream Cheeses, Honey and Butter • Freshly Brewed Coffee, Teas and Decaffeinated Coffee **Guarantee for: 650 ppl**	**Set by 7:30 AM** **Items remain until consumed**

** Equipment provided by outside vendor: BAV Services

THURSDAY JUNE 11, 2009				
Date/Time/Function	**Room Set-Up**	**Audio/Visual**	**Food & Beverage**	**Notes**
8:30 AM – 9:00 AM **POST AWARD MANAGEMENT FORUM**	**Regency Ballroom** • Existing set • Executive chairs for 8ppl	• Existing set • Equipment for web cast		**Post: Post Award Management Forum:** **SPEAKERS:** • **John Cieplak** • **Laura Hansen-Rainey** • **Alfred Wilson**
9:00 AM – 10:45 AM **OFFICE OF BUDGET, FINANCE, AND AWARD MANAGEMENT (BFA), DIVISION OF GRANTS AND AGREEMENTS (DGA)**	**Regency Ballroom** • Existing set	• Existing set		**SPEAKERS:** • **Tamara Bowman** • **Rashawn Farrior** • **Pamela Hawkins** • **Rosalind Jackson-Lewis Charlie Zeigler**
10:45 AM – 11:00 AM **AM BREAK**	**Regency Ballroom Foyer**		**Break** • Freshly Brewed Starbucks Coffee, Starbucks Decaffeinated Coffee and • A selection of TazoTeas with Honey and Lemon • Assorted beverages **Guarantee for: 650 ppl**	
11:00 AM – 1:00 PM **POST AWARD MANAGEMENT FORUM**	**Regency Ballroom** • Existing Set			

** Equipment provided by outside vendor: BAV Services



STAFF ASSIGNMENTS

	Staff	Sunday, June 7th	Monday, June 8th	Tuesday, June 9th	Wednesday, June 10th	Thursday, June 11th
1.	Angela Moody		Pre-conference w/Hotel HRD Meeting Client Relations	Client Relations VIP Handler & Ballroom Lead	Client Relations VIP Handler & Ballroom Lead	
2.	Cody Bridges	Assembly of materials Registration at 2:00pm	Pre-conference w/Hotel HRD Meeting Client Relations	Client Relations On-Site Management	Client Relations On-site Management	Close-out
3.	Sancta Watley	Assembly of materials	Pre-conference w/Hotel HRD Meeting Overall management	Registration —supervise process B/O Supervisor Overall management	Registration —supervise process B/O Supervisor Overall management	Close-out
4.	Wanda Mickens	Assembly of materials Registration Management	Registration Management	Registration Management Troubleshooting	Registration Management Troubleshooting	Supervise Pack-up
5.	David Brown	Assembly of materials	Set-up Registration at 2:00pm	Customer Service/Exhibits/Poster Session Administrative support	Customer Service/Exhibits/Poster Session Administrative support	Pack up
6.	Daryel Dunston		Set-up	Breakout sessions (ADVANCE, AGEP; GSE; HBCU-UP)		Conference close-out Pack-up
7.	Shirley Fairwell	Assembly of materials	Set-up Registration at 9:00am	Customer Service Registration (Session Only) Networking Reception	Customer Service Registration (Session Only)	
8.	Audrey Merrill		Set-up	Breakout sessions		

	Staff	Sunday, June 7th	Monday, June 8th	Tuesday, June 9th	Wednesday, June 10th	Thursday, June 11th
				(CREST; RDE; TCUP)		
9.	Brittany Mickens	Assembly of materials	Set-up Registration at 9:00am	Pre-registration Customer Service	Breakout sessions (CREST; RDE; TCUP)	Pack up
10.	Kathy Park	Assembly of materials	Set-up Registration at 9:00am	Onsite payment	Onsite payment	
11.	Jennifer Sprinkel	Assembly of materials Registration at 2:00pm	Set-up Registration at 9:00am	Breakout session monitor	Breakout sessions (AGEP; GSE; HBCU-UP)	Conference close-out Pack-up
12.	Kiara Watts	Assembly of materials	Set-up Registration at 9:00am	Pre-registration (Self-serve kiosks) Breakout room monitor	Pre-registration (Self-serve kiosks) Breakout room monitor	Pack up
13.	Joe Wilder	Assembly of materials Registration at 2:00pm	Set-up	Onsite registration Breakout session monitor (LSAMP & LSAMP-BD)		
14.	TEMPS (8) College Students	Assembly of materials	Set-up Directional Guides	Directional Guides Runners	Directional Guides Runners	Directional Guides Pack-up
15.	TEMPS (4) AEIO	Registration	Registration Customer Service	Registration Customer Service	Registration Customer Service	

Communications:

- Radios will be posted at General registration, Customer Service; EDJ office; and provided to AV (Mark Grantham); AV (Breakout Lead – Frank Brewster); Cody; Wanda; Jennifer; Sancta; Rachel (CSM) total = 10.

EDJ Office:

- The office should be staffed at all times.

Contact Numbers:
Sancta Watley – (301) 792-4383
Cody Bridges – (202) 550-0842
Wanda Mickens – (540) 907-5787
Daryel Dunston – (240) 432-3014
Angela Moody – (703) 863-2541

Area Managers:

- Overall and Client Relations = Cody/Angela;
- Breakout session = Daryel/Jennifer; Registration = Wanda;
- Audiovisual and F&B = Sancta; Poster session = Cody
- Administrative = Kathy

Omni Shoreham Hotel
2500 Calvert Street, NW
Washington, DC 20008
Rachel Ross, Senior Convention Services Manager
Main Line: (202) 234-0700
Direct Line: (202) 756-5138
Cell phone: (202) 423-1290
Fax: (202) 756-5140

OPENING SESSION STAGING GUIDE

Tuesday, June 9, 2009
8:30 a.m. – 10:00 a.m.
Regency Ballroom

Stage Set:
Podium Centered on stage w/ mic; also have a wireless lavaliere available
Four executive chairs stage left towards the back
Reserve two tables in front near stage for VIPs

A/V needs:
Existing Set-up

Participants:
Wanda Ward, Acting Assistant Director, Directorate for Education and Human Resources, NSF **[Keynote Speaker]**
James Wyche, Director, Division of Human Resource Development, NSF [Welcome and Introduction; Introduction of Ward]
Mark Leddy, Program Director and JAM 2008 Planning Chair, HRD, NSF [Initial Welcome and Introduction of Wyche; Logistics]

Order of Events:
Pre-Ceremony: Presenters will be led by staff person to stage - chairs will be marked.

Opening Session:
8:30 a.m. Opening Session Begins

[Leddy steps to podium, calls room to order.]

LEDDY: Good morning and welcome to Washington, DC, and the 2009 Joint Annual Meeting sponsored by the Division of Human Resource Development, a division of the National Science Foundation's Directorate for Education and Human Resources. My name is Mark Leddy and I serve NSF as the Director of the Research in Disabilities Education program and Chair of this year's Joint Annual Meeting. It is my sincere pleasure to….

8:30/8:40 a.m.	Leddy calls session to order (10 minutes). When done, he introduces James Wyche and he returns to his seat on stage.
8:40/8:50 a.m.	Wyche steps to podium to give his remarks (10 minutes). When done, he introduces Ward and returns to his seat on stage.
8:50/9:15 a.m.	Ward steps to podium to give her remarks and welcome to BIO co-sponsorship (25 minutes). She then fields questions from the audience, asking them to go to the microphones in the room.
9:15/9:45 a.m.	Participant Questions and Comments (30 minutes) When done Ward returns to her seat on stage.
9:45/10:00 a.m.	Wyche steps to podium to thank Ward and Leddy follows to give administrative announcements.
10:00 a.m.	Session Concludes

WORKING LUNCHEON STAGING GUIDE

Tuesday, June 9, 2009
12:15 – 1:30 p.m.
Regency Ballroom

Stage Set:
Podium Centered on stage w/ mic; also have a wireless lavaliere available as Venter will use it
Two executive chairs stage left towards the back
Reserve two tables in front near stage for VIPs
Water on stage for Keynote Venter

Audio/Visual:
Existing Set-up
Three hand-held microphones (NO stands) for Leddy and staff to use for 3 Questions

Participants:
J. Craig Venter, Founder, Chairman and President, J. Craig Venter Institute [**Speaker**]
James Collins, Assistant Director, Directorate for Biological Sciences [Introduction of Venter]
James Wyche, Director, Division of Human Resource Development, NSF [Welcome and Introduction of Collins]
Mark Leddy, Program Director and JAM 2008 Planning Chair, HRD, NSF [Administrative Announcements]

Order of Events:
Pre-Program: Collins, Wyche and Venter will have seats at VIP table, near stage, for lunch. They will be prompted by Leddy when it is time to begin the program. At that time, they can take their seats on stage. It is likely that Collins and Wyche will move to the stage before Venter enters the room.

**Program start depends on the time Venter arrives at the hotel. HRD staff will be situated at the hotel front entrance and will notify Leddy upon Venter's arrival. If Venter arrives early, then we will start at 12:30pm. Venter's slides will be brought to AV as soon as he arrives (most likely while Wyche and Collins are completing introductions).

Program:
12:35/12:40 p.m.: Wyche steps to podium and calls the room to order. Briefly introduces session then introduces Collins and returns to his seat on stage.

12:40/12:50 p.m. Collins steps to podium to introduce Venter. At conclusion of remarks, he returns to his seat on the stage.

12:50/1:15 p.m. Venter steps to the stage and gives address. At conclusion of address, he stays on the stage to address only **3 questions** from the audience. Leddy and staff will handle the audience microphones.
[UPDATE: No Q&A…remarks will be longer]

1:15/1:25 p.m. Question and Answer Period

1:25 p.m. Collins returns to podium to thank Venter; Leddy follows behind Collins to give administrative announcements.

1:30 p.m. Session Concludes.

WORKING LUNCHEON STAGING GUIDE

Wednesday, June 10, 2009
12:15 – 1:30 p.m.
Regency Ballroom

Stage Set:
Podium Centered on stage w/ mic; also have a wireless lavaliere available as Jolly will use it

Three executive chairs stage left towards the back (seats will be marked)
Reserve two tables in front near stage for VIPs

Audio/Visual:
Existing Set-up

Participants:
Eric Jolly, President, Science Museum of Minnesota, **[Speaker]**
Joan Ferrini-Mundy, Acting Executive Officer, Directorate for Education and Human Resources
[Remarks and Introduction of Jolly]
James Wyche, Director, Division of Human Resource Development, NSF [Welcome and Introduction of Ferrini-Mundy]
Mark Leddy, Program Director and JAM 2008 Planning Chair, HRD, NSF [Administrative Announcements]

Order of Events:
Pre-Program: Jolly and Ferrini-Mundy will be seated at VIP table, near stage, for lunch. They will be prompted by Leddy when it is time to begin the program. At that time, they can take their seats on stage.

Program:

12:35/12:40p.m.	Wyche steps to podium and calls the room to order. Briefly introduces session and welcomes Ferrini-Mundy. Returns to seat on stage.
12:40/12:50p.m.	Ferrini-Mundy steps to podium, gives remarks and welcomes Jolly. Returns to seat on stage.
12:50/1:25 p.m.	Jolly steps to the stage and gives address. He returns to seat on the stage.
1:25 p.m.	Ferrini-Mundy returns to podium to thank Jolly; Leddy follows behind Ferrini-Mundy to give administrative announcements.
1:30 p.m.	Session Concludes.

POST AWARD MANAGEMENT STAGING GUIDE

Thursday, June 11, 2009
8:30 a.m. – 1:00 p.m.
Regency Ballroom

Stage Set:
Podium Centered on stage w/ mic; also have a wireless lavaliere available
Eight executive chairs stage left towards the back (seats will be marked)
Reserve two tables in front near stage for VIPs

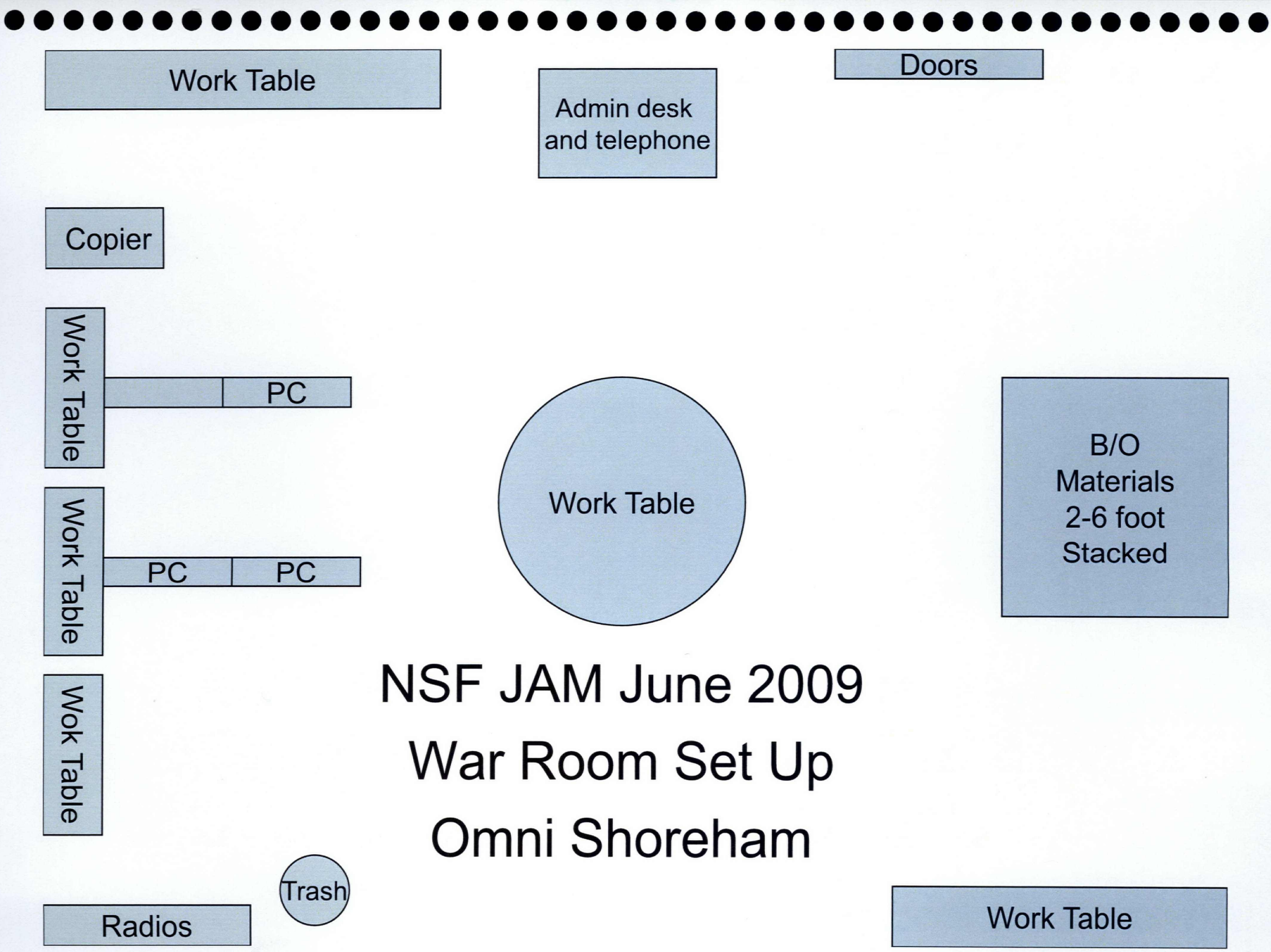
Audio/Visual:
Existing Set-up

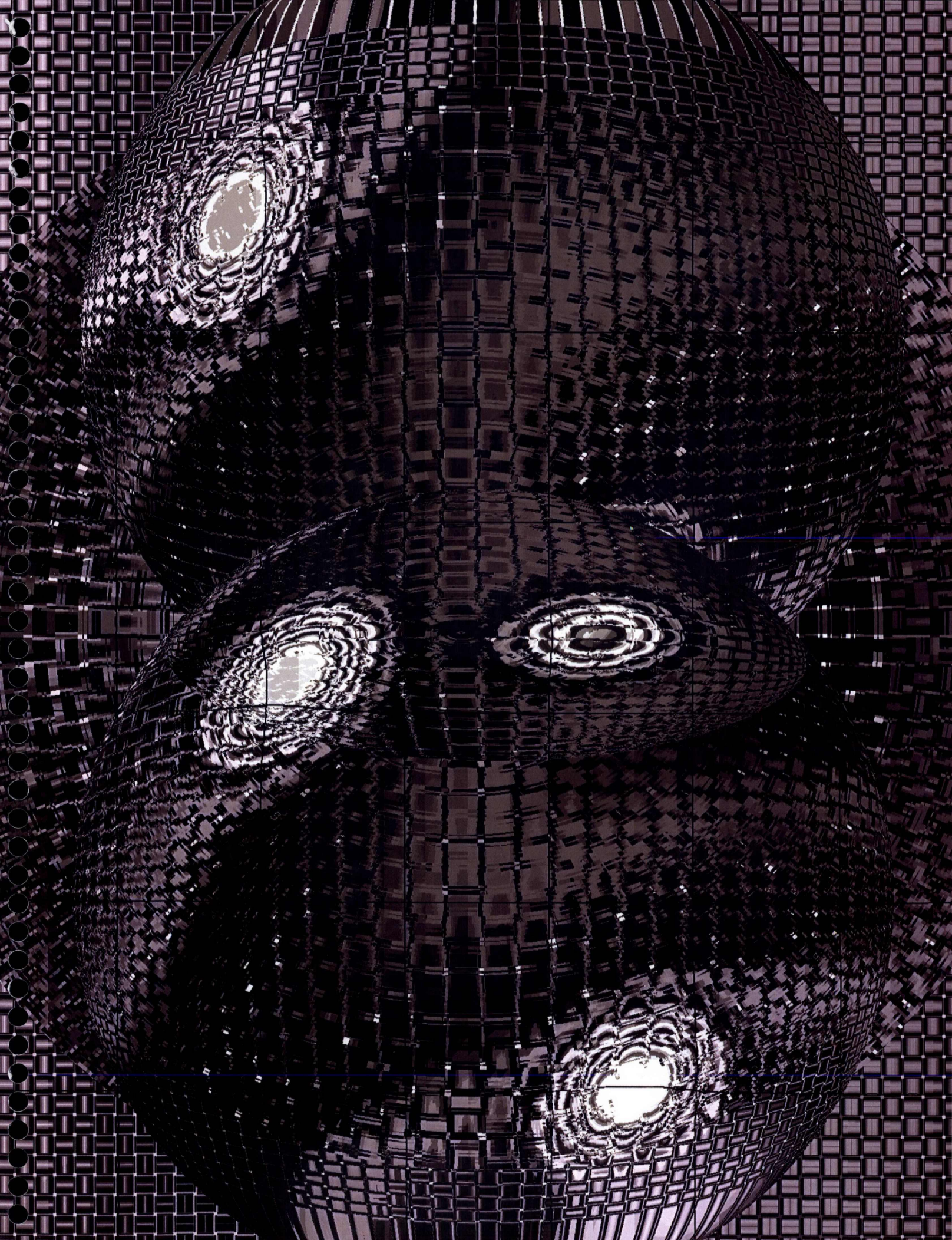
Participants:
Alfred Wilson, HRD
John Cieplak, Office of Inspector General
Laura Hansen-Rainey, Office of Inspector General
Pamela Hawkins, Team Leader, Division of Grants and Agreements
Rashawn Farrior, HRD Grants and Agreement Specialist, Division of Grants and Agreements
Tamara Bowman, Team Leader, Division of Institution and Award Support
Rosalind Jackson-Lewis, Project Director, Division of Institution and Award Support
Charlie Ziegler, Special Assistant, Division of Institution and Award Support

Order of Events:
Pre-Program: Presenters will be led by staff person to stage - chairs will be marked.

Program:

8:30/8:35 am	Wilson steps to the podium and calls session to order. Introduces Cieplak.
8:35/8:50 a.m.	Cieplak steps to podium and gives remarks (15 minutes). When done, he introduces Hansen-Rainey and returns to his seat.
.	Hansen-Rainey steps to podium to give remarks (15 minutes). At conclusion, she returns to her seat on the stage.
9:05/10:45 a.m.	Hawkins invites the other panelists on stage and conducts session.
10:45/11:00am	Break
11:00/1:00 p.m.	Continued session with Questions and Answers


Work Table
Admin desk and telephone
Doors
Copier
Work Table
PC
Work Table
PC
PC
Work Table
B/O Materials 2-6 foot Stacked
NSF JAM June 2009
War Room Set Up
Omni Shoreham
Wok Table
Trash
Radios
Work Table



AGENDA-AT-A-GLANCE

SUNDAY, JUNE 7

3:00 – 6:00pm	REGISTRATION Palladian Foyer

MONDAY, JUNE 8 Pre-Meeting

11:00am	REGISTRATION OPENS West Lobby
1:00 – 4:00pm	ADVANCE TOWN-HALL, OPEN MEETING Hampton
2:00 – 4:00pm	NEW AWARDEES ORIENTATION Empire
3:00 – 3:30pm	BREAK
4:00 – 7:00pm	PROGRAM BREAKOUT SESSIONS CREST Chairman's, Calvert, Embassy, Governors GSE Diplomat, Palladian LSAMP Prefunction RDE Congressional A & B TCUP Ambassador

TUESDAY, JUNE 9

7:30am	REGISTRATION OPENS West Lobby
8:00 – 8:30am	LIGHT REFRESHMENTS Regency Foyer
8:30 – 9:00am	WELCOME AND INTRODUCTION Regency Ballroom

AGENDA-AT-A-GLANCE

TUESDAY, JUNE 9 (Continued)

9:00 – 9:40am	KEYNOTE SPEAKER Regency Ballroom
9:40 – 10:00am	PARTICIPANT QUESTIONS AND COMMENTS Regency Ballroom
10:00 – 10:30am	BREAK
10:30 – 12:15pm	PROGRAM BREAKOUT SESSION I See Program Breakout Sessions for agendas and locations
12:15 – 1:30pm	LUNCHEON Regency Ballroom
1:30 – 3:00pm	PROFESSIONAL DEVELOPMENT SESSION See Detailed Program Agenda for offerings and locations
3:00 – 3:30pm	BREAK
3:30 – 5:30pm	PROGRAM BREAKOUT SESSION II See Program Breakout Sessions for agendas and locations
5:30 – 6:00pm	BREAK
6:00 – 8:00pm	NETWORKING AND POSTER SESSION Regency Ballroom

WEDNESDAY, JUNE 10

7:30am	REGISTRATION OPENS West Lobby
8:00 – 8:30am	LIGHT REFRESHMENTS Regency Foyer
8:30 – 10:00am	PROFESSIONAL DEVELOPMENT SESSION See Detailed Program Agenda for offerings and locations
10:00 – 10:30am	BREAK
10:30 – 12:00pm	COLLABORATION AND NETWORKING DIALOGUES See Detailed Program Agenda for offerings and locations

AGENDA-AT-A-GLANCE

WEDNESDAY, JUNE 10 (Continued)

12:15 – 1:30pm	LUNCHEON Regency Ballroom
1:30 – 2:00pm	BREAK
2:00 – 5:00pm	PROGRAM BREAKOUT SESSION III See Program Breakout Sessions for agendas and locations

THURSDAY, JUNE 11

7:30am	REGISTRATION OPENS West Lobby
8:00 – 8:30am	LIGHT REFRESHMENTS Regency Foyer
	POST AWARD MANAGEMENT FORUM Regency Ballroom
8:30 – 9:00am	OFFICE OF THE INSPECTOR GENERAL (OIG) Regency Ballroom
9:00 – 10:45am	OFFICE OF BUDGET, FINANCE, AND AWARD MANAGEMENT (BFA) Regency Ballroom
	COST ANALYSIS AND AUDIT RESOLUTION BRANCH (CAR) Regency Ballroom
	DIVISION OF GRANTS AND AGREEMENTS (DGA) Regency Ballroom
10:45 – 11:00am	BREAK
11:00 – 1:00pm	POST AWARD MANAGEMENT FORUM - continues Regency Ballroom

DETAILED PROGRAM AGENDA

All Programs

SUNDAY, JUNE 7

TIME	TOPIC	ROOM
3:00 – 6:00pm	REGISTRATION OPENS	Palladian Foyer

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
11:00 am	REGISTRATION OPENS	West Lobby
1:00 – 4:00pm	ADVANCE TOWN-HALL, OPEN MEETING	Hampton
2:00 – 4:00pm	NEW AWARDEES ORIENTATION	Empire
	Welcome *James Wyche* *Director* *Division of Human Resource Development*	
	Meeting the Representatives from the Division of Grants and Agreements *Pamela Hawkins* *Team Leader*	
	Rashawn Farrior *Grants and Agreement Specialist*	
	Understanding Your Role at the Home Institution *Claudia Rankins* *Program Director* *Division of Human Resource Development*	
	Interfacing with the Funding Agency *Kelly Mack* *Program Officer* *Division of Human Resource Development*	
3:00 – 3:30pm	BREAK	
4:00 – 7:00pm	PROGRAM BREAKOUT SESSIONS	
	CREST – Chairman's, Calvert, Embassy, Governors GSE – Diplomat, Palladian LSAMP – Blue Prefunction RDE – Congressional A & B TCUP – Ambassador	

DETAILED PROGRAM AGENDA

All Programs

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	REGISTRATION OPENS	West Lobby
8:00 – 8:30am	LIGHT REFRESHMENTS	Regency Foyer
8:30 – 9:00am	WELCOME AND INTRODUCTION* *James Wyche* *Director* *Division of Human Resource Development*	Regency Ballroom
9:00 – 9:40am	KEYNOTE SPEAKER* *Wanda E. Ward* *Acting Assistant Director* *Directorate for Education and Human Resources*	Regency Ballroom
9:40 – 9:55am	PARTICIPANT QUESTIONS AND COMMENTS	
9:55 – 10:00am	LOGISTICS *Mark Leddy* *Program Director and 2009 JAM Planning Chair* *Division of Human Resource Development*	Regency Ballroom
10:00 – 10:30am	BREAK	
10:30 – 12:15pm	PROGRAM BREAKOUT SESSION I ADVANCE – Diplomat AGEP – Palladian CREST – Governors GSE – Diplomat HBCU-UP – Empire LSAMP – Blue Prefunction LSAMP-BD – Blue RDE – Congressional A & B TCUP – Ambassador	
12:15 – 1:30pm	LUNCHEON REMARKS AND INTRODUCTION* *James Wyche* *Director* *Division of Human Resource Development* *James Collins* *Assistant Director* *Directorate for Biological Sciences* SPEAKER* *J. Craig Venter* *Founder, Chairman and President* *J. Craig Venter Institute*	Regency Ballroom

DETAILED PROGRAM AGENDA

All Programs

TUESDAY, JUNE 9 (Continued)

TIME	TOPIC	ROOM
1:30 – 3:00pm	PROFESSIONAL DEVELOPMENT SESSIONS *Patrick Mensah* *Program Director* *Division of Human Resource Development*	
	- *Communicating Results of Your Research to the Public*	Diplomat
	- *Funding Opportunities: Directorate for Biological Sciences*	Hampton
	- *Funding Opportunities: National Institute of General Medical Sciences at the National Institute of Health*	Congressional A & B
	- *Funding Opportunities: National Science Foundation Programs*	Palladian
	- *Mentoring Plans for Postdoctoral Associates*	Blue Prefunction
	- *Publishing Education-related Research*	Empire
3:00 – 3:30pm	BREAK	
3:30 – 5:30pm	PROGRAM BREAKOUT SESSION II ADVANCE – Hampton AGEP – Palladian CREST – Embassy GSE – Chairman's, Calvert, Diplomat, Governors HBCU-UP – Empire LSAMP – Blue Prefunction LSAMP-BD – Blue RDE – Congressional A & B TCUP – Ambassador	
5:30 – 6:00pm	BREAK	
6:00 – 8:00pm	NETWORK AND POSTER SESSION	Regency Ballroom

DETAILED PROGRAM AGENDA

All Programs

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30am	REGISTRATION OPENS	West Lobby
8:00 – 8:30am	LIGHT REFRESHMENTS	Regency Foyer
8:30 – 10:00am	PROFESSIONAL DEVELOPMENT SESSIONS *Patrick Mensah* *Program Director* *Division of Human Resource Development*	
	- Funding Opportunities: Directorate for Biological Sciences	Blue Prefunction
	- Funding Opportunities: National Science Foundation Programs	Palladian
	- Funding Opportunities: Other Federal Agencies	Ambassador
	- Publishing Education-related Research	Empire
	- Writing Annual and Final NSF Reports	Diplomat
10:00 – 10:30am	BREAK	
10:30 – 12:00pm	COLLABORATION AND NETWORKING DIALOGUES	
	- Education Research Collaborations	Diplomat
	- Funding Opportunities: Directorate for Biological Sciences	Hampton
	- Funding Opportunities: National Science Foundation Programs	Empire
	- Human Resource Development Programs	Palladian
	- Innovation Through Institutional Integration	Blue Prefunction
	- Math and Science Partnerships Program	Ambassador
	- Robert Noyce Teacher Scholarship Program	Congressional A & B
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
	REMARKS AND INTRODUCTION* *Mark Leddy* *Program Director* *Division of Human Resource Development*	
	Joan Ferrini-Mundy *Acting Executive Officer* *Directorate for Education and Human Resources*	
	SPEAKER* *Eric Jolly* *President* *Science Museum of Minnesota*	

DETAILED PROGRAM AGENDA

All Programs

WEDNESDAY, JUNE 10 (Continued)

TIME	TOPIC	ROOM
1:30 – 2:00pm	BREAK	Regency Foyer
2:00 – 5:00pm	PROGRAM BREAKOUT SESSION III ADVANCE – Forum AGEP – Palladian CREST – Ambassador GSE – Diplomat, Embassy HBCU-UP – Empire LSAMP – Blue Prefunction LSAMP-BD – Blue RDE – Congressional A & B TCUP – Council	

THURSDAY, JUNE 11

TIME	TOPIC	ROOM
7:30am	REGISTRATION OPENS	West Lobby
8:00 – 8:30am	LIGHT REFRESHMENTS	Regency Foyer
	POST AWARD MANAGEMENT FORUM* *Alfred Wilson* *Program Analyst* *Division of Human Resource Development*	Regency Ballroom
8:30 – 9:00am	OFFICE OF THE INSPECTOR GENERAL* *John Cieplak* *General Investigator* *Office of the Inspector General* *Laura Hansen-Rainey* *Audit Manager* *Office of the Inspector General*	Regency Ballroom

DETAILED PROGRAM AGENDA

All Programs

THURSDAY, JUNE 11 (Continued)

TIME	TOPIC	ROOM
9:00 – 10:45am	OFFICE OF BUDGET, FINANCE, AND AWARD MANAGEMENT (BFA)* COST ANALYSIS AND AUDIT RESOLUTION BRANCH (CAR) DIVISION OF GRANTS AND AGREEMENTS (DGA) SPEAKERS *Pamela Hawkins* *EHR Team Leader* *Division of Grants and Agreements* *(BFA/DGA)* *Rashawn Farrior* *HRD/DUE (except CCLI) Grants and Agreement Specialist* *Division of Grants and Agreements* *(BFA/DGA)* *Tamara Bowman* *Team Leader* *Division of Institution and Award Support* *(BFA/DIAS)* *Rosalind Jackson-Lewis* *Project Director* *Division of Institution and Award Support* *(BFA/DIAS)* *Charlie Zeigler* *Special Assistant* *Division of Institution and Award Support* *(BFA/DIAS)*	Regency Ballroom
10:45 – 11:00am	BREAK	Regency Foyer
11:00 – 1:00pm	POST AWARD MANAGEMENT FORUM	Regency Ballroom

"GREENING" THE 2009 JOINT ANNUAL MEETING

The National Science Foundation (NSF) and EDJ Associates, Inc. (EDJ) would like to highlight for conference participants a few of the many measures that we have taken to "reduce, reuse, and recycle" at this year's meeting.

Bags, Water Bottles, Flash Drives and Pens

The Division of Human Resource Development (HRD) selected this year's meeting bags for their utility. Not only will they hold all the informative materials that you will collect during your time in Washington, DC, but their design also enables you to reuse them at the grocery store, farmer's market, or just about anywhere, once you return home. The bag itself is 100 percent recycled, made from the plastic fibers of 8-10 consumer bottles which are thermally woven to create the tote.

Inside the conference bag, you will find an insulated, reusable, water bottle to be used during the conference. EDJ has placed 5-gallon water coolers throughout the meeting space to reduce the use of plastic water bottles and cups. At event registration you will receive flash drives made from 100 percent recycled ABS plastic that contain speaker presentations and resource materials to reduce paper consumption and pens made of corn that are 72 percent biodegradable.

Printed Materials

CCI Printing, our Maryland-based printer, has printed our registration and conference brochures, using soy-based inks on Chorus Art paper, composed of 50 percent recycled content and 25 percent consumer waste.

Nametags

Your badge holders are made from 50 percent recycled vinyl. At the conclusion of the conference, please return your nametag. We will recycle the paper and reuse the holder for our next event. Be sure to take out all those business cards you collected while networking with colleagues before dropping off your nametag!

In bringing together so many dedicated individuals to look at important research, program models, and strategies to promote science, technology, engineering and mathematics (STEM), NSF sets the stage to challenge us to define and understand the meaning of innovation and leadership in the context of programs and projects that you represent.

We value your leadership and are especially eager to hear your thoughts on innovative approaches to diversifying the STEM enterprise. Please make the most of every plenary, workshop and networking opportunity to reach across HRD programs and across projects within programs to leverage your knowledge and develop collaborative relationships.

We hope that you enjoy your conference experience and that you will join us in our efforts to be kind to our environment. These seemingly small measures can make a big impact!

SPECIAL THANKS

The entire HRD staff contributed to the success of this year's Joint Annual Meeting. This is a special thank you and recognition of their efforts.

– Mark Leddy, 2009 JAM Planning Committee Chair

PROGRAM BREAKOUT SESSION AGENDAS

Increasing the Participation and Advancement of Women in Academic Science and Engineering (ADVANCE)

Program Directors: Dr. Jesse DeAro, jdearo@nsf.gov, 703-292-5350
Dr. Kelly Mack, kmack@nsf.gov, 703-292-8575

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
11:00am	Registration Opens	West Lobby
1:00 – 4:00pm	Welcome and Introductions *Jesse DeAro* *National Science Foundation* ADVANCE TOWN-HALL, OPEN MEETING Inside the Double Bind *Cheryl Leggon* *Georgia Institute of Technology* Open Discussion with Keynote Speaker	Hampton
3:00 – 3:30pm	BREAK	

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Follow the General Program Schedule	
10:30 – 12:00pm	*PROGRAM BREAKOUT SESSION I* Joint GSE/ADVANCE Session	Diplomat
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
1:30 – 3:30pm	Follow the General Program Schedule	
3:30 – 5:30pm	*PROGRAM BREAKOUT SESSION II* Approaches to Conducting Social Science Research SBE Funding Opportunities *Mia Ong* *TERC* *Laurel Smith-Doerr* *National Science Foundation*	Hampton
6:00 – 8:00pm	Networking and Poster Session	Regency Ballroom

ADVANCE continues

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 12:00pm	Follow the General Program Schedule	
12:15 – 2:00pm	LUNCHEON	Regency Ballroom
	Follow the General Program Schedule	
2:00 – 5:00pm	*PROGRAM BREAKOUT SESSION III* ADVANCE Indicators ADVANCE Program Website Web-portal ADVANCE Evaluation *Susan Berkowitz* *Westat Evaluation Contract* *Clemencia Colsentino de Cohen* *Urban Institute Evaluation Contract* *Lisa Frehill* *Commission on Professionals in Science & Technology (CPST)* *Peggy Layne* *Virginia Polytechnic Institute and State University* *Eden Segal* *Westat Evaluation Contract*	Forum

PROGRAM BREAKOUT SESSION AGENDAS

Alliances for Graduate Education and the Professoriate Program (AGEP)

Program Directors: Dr. James Wyche, jwyche@nsf.gov, 703-292-8640
Dr. Lenell Allen, l-allen@nsf.gov, 703-292-4679

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
	Travel Day: Optional Time for One-On-One Meeting with Program Officers	

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:00 – 8:30am	Networking	
8:30 – 10:30am	Follow the General Program Schedule	
10:30 – 11:00am	*PROGRAM BREAKOUT SESSION I* Welcome and Program Update Recap of March AGEP Meeting in Chicago *James Wyche* *National Science Foundation*	Palladian
11:00 – 12:00pm	*PROGRAM BREAKOUT SESSION I* Status of the AGEP National Evaluation *Carlos Rodriguez* *American Institutes for Research (AIR)* *Chip Storey* *American Institutes for Research (AIR)*	Palladian
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
1:30 – 3:30pm	Follow the General Program Schedule	

AGEP continues

TUESDAY, JUNE 9 (Continued)

TIME	TOPIC	ROOM
3:30 – 5:30pm	*PROGRAM BREAKOUT SESSION II* Materials Research Science & Engineering (MRSEC) *Sean Jones* Science and Technology Centers (STC) *Vanessa Green* IGERT *Sara Wadia-Fascetti* *Northeastern University* ADVANCE *Gilda Barabino* *Georgia Institute of Technology* Mathematical National Alliance *Phil Kutzko* *University of Iowa*	Palladian
6:00 – 8:00pm	NETWORKING AND POSTER SESSION	Regency Ballroom

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30 am	Registration Opens	West Lobby
8:00 – 8:30am	Networking	
8:30 – 12:00pm	Follow the General Program Schedule	
12:15 – 2:00pm	LUNCHEON	Regency Ballroom
2:00 – 3:15pm	*PROGRAM BREAKOUT SESSION III* Alliances Breakout Session *Robert Belle* *Southern Regional Education Board (SREB)*	Palladian

PROGRAM BREAKOUT SESSION AGENDAS

Centers of Research Excellence in Science and Technology (CREST) and

Historically Black Colleges and Universities - Research Infrastructure for Science and Engineering (HBCU-RISE)

Program Directors: Dr. Victor Santiago, vsantiag@nsf.gov, 703-292-4673
Dr. Patrick Mensah, pmensah@nsf.gov, 703-292-4988

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
11:00am	Registration Opens	West Lobby
2:00 – 4:00pm	New Awardees Orientation	Empire
3:00 – 3:30pm	BREAK	
4:00 – 4:15pm	1st Joint Annual Research Collaborations Parallel Sessions WELCOME *Patrick F. Mensah* *National Science Foundation*	Governors
4:15 – 7:00pm	*CONCURRENT SESSION A* Advances in CREST Advanced Materials/Nano-Materials Research and Education Activities ASU, CAU, Howard, NC A&T, Tuskegee, CUNY and UPRM *Ishrat Khan (Chair)* *Jim Mitchell (Co-Chair)*	Governors
4:15 – 7:00pm	*CONCURRENT SESSION B* Advances in CREST Astronomy and Optical Science Research and Education Activities DSU, Hampton, FAMU and UTB *N. Melikechi (Chair)* *C. Weatherford (Co-Chair)*	Embassy
4:15 – 7:00pm	*CONCURRENT SESSION C* Advances in CREST Natural and Environmental Research and Education Activities CSU-LA, TAMUK, UH-Hilo, UPRRP, AAMU, JSU, FISK and NSU *K. John (Chair)* *E. Cuevas (Co-Chair)*	Calvert

CREST and HBCU-RISE continues

MONDAY, JUNE 8 Pre-Meeting (Continued)

TIME	TOPIC	ROOM
4:15 – 7:00pm	*CONCURRENT SESSION D* Advances in CREST Computational Science Research and Education Activities FIU, NMSU, UTEP and NCCU *Y. Deng (Chair)* *A. Gates (Co-Chair)*	Chairman's

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Follow the General Program Schedule	
10:30 – 10:45am	*PROGRAM BREAKOUT SESSION I* CREST/RISE Business Meeting Program overview and update *Patrick Mensah (Moderator)* *National Science Foundation* *Jim Wyche* *National Science Foundation* *Victor Santiago* *National Science Foundation*	Governors
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
1:30 – 3:30pm	Follow the General Program Schedule	

CREST and HBCU-RISE continues

TUESDAY, JUNE 9 (Continued)

TIME	TOPIC	ROOM
3:30 – 5:30pm	*PROGRAM BREAKOUT SESSION II* Fostering CREST Research Partnerships and Opportunities: Regional, National and International Collaborations *Patrick Mensah (Moderator)* DOE Programs Brookhaven National Lab *Chi Chang Kao* *Chair* *National Synchrotron Light Source Department* *Department of Energy (DOE)* Funding for International Research Opportunities *Elizabeth Lyons* *Program Coordinator for Africa Near East and South Asia Region of OISE* *National Science Foundation* SBIR Phase II *Juan Figueroa* *Program Director* *National Science Foundation* MRSEC/PREM *Thomas Rieker* *Program Director* *National Science Foundation* Science and Technology Centers Program *Margaret Tolbert* *Senior Advisor for OIA and CEOSE Executive Liaison* *National Science Foundation*	Embassy

CREST and HBCU-RISE continues

TUESDAY, JUNE 9 (Continued)

TIME	TOPIC	ROOM
	ASME Heat Transfer Division Technical Committee K-15 on Transport Phenomena in Manufacturing and Materials Processing *Wilson Chiu* *K-15 Vice Chair* *Associate Professor* *Department of Mechanical Engineering* *University of Connecticut*	
6:00 – 8:00pm	Networking and Poster Session	Regency Ballroom

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 12:00pm	Follow the General Program Schedule	
12:15 – 2:00pm	LUNCHEON	Regency Ballroom
2:00 – 5:00pm	*PROGRAM BREAKOUT SESSION III* Macro International CREST WEB Reporting Outcomes *Kinsey Gimbel* *Macro International* Highlights of HBCU-RISE Projects: *Patrick Mensah (Moderator)* FAMU, SUBR, Hampton, JSU, NSU, NCAT, MSU, AAMU, DSU, CAU, HU, PVAMU, TU and TSU Future Directions, Remaining Business & Adjournment *Patrick Mensah (Moderator)*	Ambassador

PROGRAM BREAKOUT SESSION AGENDAS

Historically Black Colleges and Universities – Undergraduate Program (HBCU-UP)

Program Directors: Dr. Claudia Rankins, crankins@nsf.gov, 703-292-8109
Ms. Marilyn Suiter, msuiter@nsf.gov, 703-292-5121

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
11:00am	Registration Opens	West Lobby
2:00 – 4:00pm	New Awardees Orientation	Empire
3:00 – 3:30pm	BREAK	

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Follow the General Program Schedule	
10:30 – 12:00pm	*PROGRAM BREAKOUT SESSION I* Exploring Our Portfolio – Grant Projects, Old and New HBCU-UP Grantees	Empire
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
1:30 – 3:30pm	Follow the General Program Schedule	
3:30 – 5:30pm	*PROGRAM BREAKOUT SESSION II* Innovative Practices: HBCU-UP Grantees, Guests	Empire
6:00 – 8:00pm	Networking and Poster Session	Regency Ballroom

HBCU-UP continues

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 12:00pm	Follow the General Program Schedule	
12:15 – 2:00pm	LUNCHEON	Regency Ballroom
2:00 – 5:30pm	*PROGRAM BREAKOUT SESSION III* Partnerships: HBCU-UP Grantees, Guests	Empire

PROGRAM BREAKOUT SESSION AGENDAS

Louis Stokes Alliance for Minority Participation (LSAMP)

Program Directors: Dr. A. James Hicks, ahicks@nsf.gov, 703-292-4668
Dr. Harry Bass, hbass@nsf.gov, 703-292-8447
Ms. Martha James, mjames@nsf.gov, 703-292-7772

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
11:00am	Registration Opens	West Lobby
1:00 – 4:00pm	ADVANCE TOWN-HALL, OPEN MEETING	Hampton
2:00 – 4:00pm	New Awardees Orientation	Empire
3:00 – 3:30pm	BREAK	
4:00 – 6:00pm	Pre-Conference Session for PIs & Selected LSAMP Staff (Closed Session)	Blue Prefunction

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Follow the General Program Schedule	
10:30 – 12:00pm	*PROGRAM BREAKOUT SESSION I* LSAMP Business Meeting Introductions and Orientation Budget *Clemencia Colsentino de Cohen* *Urban Institute Evaluation Contract* BD Evaluation Update	Blue Prefunction
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
1:30 – 3:30pm	Follow the General Program Schedule	
3:30 – 4:00pm	*PROGRAM BREAKOUT SESSIONS II* LSAMP Business Meeting Undergraduate Research Opportunities Department of Energy Labs, Etc.	Blue Prefunction

LSAMP continues

TUESDAY, JUNE 9 (Continued)

TIME	TOPIC	ROOM
4:30 – 6:00pm	International STEM Education: A Case Study of Working in Low-Income Countries *Roger V. Gonzales* *Professor of Biomedical Engineering* *LeTourneau University*	Blue
6:00 – 8:00pm	Networking and Poster Session	Regency Ballroom

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 12:00pm	Follow the General Program Schedule	
12:15 – 2:00pm	LUNCHEON	Regency Ballroom
2:00 – 2:30pm	*PROGRAM BREAKOUT SESSION III* Lessons Learned from an Internal Audit *Patricia Lowney* *Executive Director of Sponsored Programs* *Syracuse University*	Blue Prefunction
2:30 – 3:30pm	*PROGRAM BREAKOUT SESSION III* Lessons Learned from a Federal Audit *Norma Ledesma* *New Mexico State University* *John Meehan* *Chicago State University*	Blue Prefunction

LSAMP continues

WEDNESDAY, JUNE 10 (Continued)

TIME	TOPIC	ROOM
3:45 – 4:30pm	A Final Perspective on Lessons Learned from Audits *Rochelle D. Ray* *Team Leader* *Cost Analysis & Audit Resolution Branch* *National Science Foundation*	Blue Prefunction
4:30 – 5:30pm	*Keynote Address:* *What They Didn't Teach You in Graduate School* *David E. Drew* *Claremont Graduate University*	Blue

PROGRAM BREAKOUT SESSION AGENDAS

Louis Stokes Alliance for Minority Participation – Bridge to the Doctorate (LSAMP-BD)

Program Directors: Dr. A. James Hicks, ahicks@nsf.gov, 703-292-4668
Dr. Harry Bass, hbass@nsf.gov, 703-292-8447
Ms. Martha James, mjames@nsf.gov, 703-292-7772

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
11:00am	Registration Opens	West Lobby
1:00 – 4:00pm	ADVANCE TOWN-HALL, OPENING MEETING	Hampton
2:00 – 4:00pm	New Awardees Orientation	Empire
3:00 – 3:30pm	BREAK	

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Follow the General Program Schedule	
10:30 – 11:30am	*PROGRAM BREAKOUT SESSION I* Introductions and NSF Overview *Tia McNair* *National College Access Network*	Blue
11:30am – 12:00pm	"You've Got the Power - It is Time to Use It" *Lesia Crumpton Young*	
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
2:00 – 2:45pm	*PROGRAM BREAKOUT SESSION II* NSF Opportunities in Division of Graduate Education *William Hahn* *National Science Foundation* *Gisele Muller-Parker* *National Science Foundation*	Blue

LSAMP-BD continues

TUESDAY, JUNE 9 (Continued)

TIME	TOPIC	ROOM
2:45 – 3:15pm	Ford Fellowship Opportunities *Christine M. O'Brien* *National Academy of Science* *Ford Foundation Fellowship Program*	Blue
3:15 – 3:45pm	Sloan Fellowship Opportunities *Julie Saltzman* *Sloan Minority and American Indian Graduate Program*	Blue
3:45 – 4:15pm	Other Graduate Fellowship Opportunities *James Powell* *National Physical Science Consortium*	Blue
4:30 – 6:00pm	International STEM Education: A Case Study of Working in Low-Income Countries *Roger V. Gonzales* *Professor of Biomedical Engineering* *LeTourneau University*	Blue
6:00 – 8:00pm	NETWORKING AND POSTER SESSION	Regency Ballroom

LSAMP-BD continues

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Follow the General Program Schedule	
10:30 – 12:00pm	Panel: Lessons Learned in Graduate School *PANELISTS* *Azlin Biaggi* *Glenn Research Center* *Patrick Carpenter* *Doctorial Candidate* *Purdue University* *Zachary Carpenter* *Doctorial Candidate* *Oklahoma State University* *Alberto Guzman* *University of Arizona* *Mande Holford* *American Museum of Natural History* *Al-Aakhir Rogers* *Doctorial Candidate* *University of South Florida* *Caira Woods* *Doctorial Candidate* *New York University*	Blue
12:15 – 2:00pm	LUNCHEON	Regency Ballroom
1:45 – 3:30pm	*PROGRAM BREAKOUT SESSION III:* Postdoctoral Funding Opportunities AAAS Postdoc Fellowship Program *Vicky Rahamatali* *Program Specialist* *AAAS*	Blue
4:30 – 5:30pm	*Keynote Address:* *What They Didn't Teach You in Graduate School* *David E. Drew* *Claremont Graduate University*	Blue

PROGRAM BREAKOUT SESSIONS AGENDAS

Research in Disabilities Education Program (RDE)

Program Director: Dr. Mark Leddy, mleddy@nsf.gov, 703-292-4655

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
11:00am	Registration Opens	West Lobby
1:00 – 4:00pm	ADVANCE TOWN-HALL, OPEN MEETING	Hampton
2:00 – 4:00pm	New Awardees Orientation Meeting	Empire
3:00 – 3:30pm	BREAK	
4:00 – 6:00pm	RDE 2008 New Awardee Meeting Open only to 2008 New Awardees and their teams *Mark Leddy* *National Science Foundation*	Congressional A & B

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Follow the General Program Schedule	
10:30 -12:00pm	*PROGRAM BREAKOUT SESSION I* RDE, EHR and NSF Updates and Future Directions *Mark Leddy* *National Science Foundation* RDE Project Data Management System (PDMS) *Kinsey Gimbel* *ICF Macro* *Wendi Poole* *ICF Macro*	Congressional A & B

RDE continues

TUESDAY, JUNE 9 (Continued)

TIME	TOPIC	ROOM
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
1:30 – 3:30pm	Follow the General Program Schedule	
3:30 – 5:30pm	*PROGRAM BREAKOUT SESSION II*	
	Session A: Alliances for Students with Disabilities in STEM, Enrichment and Information Dissemination Projects: Project Updates and Collaboration Opportunities *Mark Leddy* *National Science Foundation* *Thomas Allen* *Gallaudet University* *Wyn Jennings* *National Science Foundation* RDE Program Evaluation *Kate Nagle* *SRI International* Discussion of Current Awards	Congressional B
	Session B: Research and Demonstration Projects: Project Updates, Collaboration Opportunities and Discussion of Current Awards	Congressional A
6:00 – 8:00pm	NETWORKING AND POSTER SESSION	Regency Ballroom

RDE continues

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 12:00pm	Follow the General Program Schedule	
12:15 – 2:00pm	LUNCHEON	Regency Ballroom
2:00 – 4:30pm	*PROGRAM BREAKOUT SESSION III* RDE Project Presentations and Discussion of Awards	Congressional A & B
4:30 – 5:00pm	RDE Wrap-Up and Future Directions *Mark Leddy* *National Science Foundation*	Congressional A & B

THURSDAY, JUNE 11

TIME	TOPIC	ROOM
8:30 – 12:00pm	Individual Meetings with RDE Program Staff Pre-scheduled with RDE Program	Senate

PROGRAM BREAKOUT SESSIONS AGENDAS

Research on Gender in Science and Engineering (GSE)

Program Director: Dr. Jolene Kay Jesse, jjesse@nsf.gov, 703-292-7303

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
11:00am	Registration Opens	West Lobby
1:00 – 4:00pm	ADVANCE TOWN-HALL OPEN MEETING	Hampton
2:00 – 4:00pm	New Awardees Orientation	Empire
3:00 – 3:30pm	BREAK	
4:00 – 6:00pm	Extension Services JAM Session *Jolene Jesse* *National Science Foundation* *Ruta Sevo* Open only to Extension Service PIs	Diplomat, Palladian

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Follow the General Program Schedule	
10:30 – 11:00am	*PROGRAM BREAKOUT SESSION I* Joint GSE/ADVANCE Session *Jolene Jesse* *National Science Foundation* *Kelly Mack* *National Science Foundation*	Diplomat

GSE continues

TUESDAY, JUNE 9 (Continued)

TIME	TOPIC	ROOM
11:00 – 12:00pm	*PROGRAM BREAKOUT SESSION I* Why Don't They Hear What I Say: An Interactive Role Play on Communicating about Gender and STEM *Patricia Campbell* *President* *Campbell-Kibler Associates, Inc.* *Susan Metz* *Senior Advisor* *Center for Innovation in Engineering and Science Education* *Stevens Institute of Technology* *Jennifer Weisman* *Research Associate* *Campbell-Kibler Associates, Inc.*	Diplomat
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
1:30 – 3:30pm	Follow the General Program Schedule	
3:30 – 5:30pm	*PROGRAM BREAKOUT SESSION II* *Session A:* Inventiveness and Creativity as Research Subjects *Barbara Kerr* *Session B:* What Would it Take to Get You to Fill Out This Survey? *Anne Lincoln* *Session C:* Can you Work in STEM and Have a Life? *Paula Rayman* *Session D:* Sharing and Comparing Data *Rose Marra* *Barbara Bogue*	Chairman's, Calvert, Diplomat, Governors
6:00 – 8:00pm	NETWORKING AND POSTER SESSION	Regency Ballroom

GSE continues

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 12:00pm	Follow the General Program Schedule	
12:15 – 2:00pm	LUNCHEON	Regency Ballroom
	Follow the General Program Schedule	
2:00 – 3:30pm	*PROGRAM BREAKOUT SESSION III*	Diplomat, Embassy
	Session A: Keeping Up With the "Next New Thing" in Tech Tools *Monica Bruning*	
	Session B: I'm a Researcher, Why Do I Need an External Evaluator? *Deborah Edward*	
3:30 – 4:30pm	WEPAN Knowledge Center Introduction *Diane Mat* *Executive Director and CEO* *WEPAN*	Diplomat
4:30 – 5:00pm	Wrap Up *Jolene Jesse* *National Science Foundation*	Diplomat

PROGRAM BREAKOUT SESSIONS AGENDAS

Tribal Colleges and Universities Program (TCUP)

Program Directors: Dr. Jody Chase, lchase@nsf.gov, 703-292-8682
Mr. Michael Fredenberg, mfredenb@nsf.gov, 703-292-5178

MONDAY, JUNE 8 Pre-Meeting

TIME	TOPIC	ROOM
11:00am	Registration Opens	West Lobby
1:00 – 4:00pm	ADVANCE TOWN-HALL, OPEN MEETING	Hampton
2:00 – 4:00pm	New Awardees Orientation	Empire
3:00 – 3:30pm	BREAK	
4:00 – 6:00pm	Open Circle Discussion	Ambassador
	Pre-Engineering Update *Jody Chase (Moderator)* *National Science Foundation*	
	Michael Fredenberg (Moderator) *National Science Foundation*	

TUESDAY, JUNE 9

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Follow the General Program Schedule	
10:30 – 12:00pm	*PROGRAM BREAKOUT SESSION I* Welcome and Introductions	Ambassador
	Keynote Address: *Jody Chase (Moderator)* *National Science Foundation*	
	Michael Fredenberg (Moderator) *National Science Foundation*	

TCUP continues

TUESDAY, JUNE 9 (Continued)

TIME	TOPIC	ROOM
12:15 – 1:30pm	LUNCHEON	Regency Ballroom
1:30 – 3:30pm	STUDENT RESEARCH SYMPOSIUM 1: Student Presentations with Panel Discussion	Ambassador
3:30 – 5:30pm	STUDENT RESEARCH SYMPOSIUM 2: Student Presentations with Panel Discussion	Ambassador
6:00 – 8:00pm	NETWORKING AND POSTER SESSION	Regency Ballroom

WEDNESDAY, JUNE 10

TIME	TOPIC	ROOM
7:30am	Registration Opens	West Lobby
8:30 – 10:30am	Individual Project Meetings	Council
10:30 – 12:00pm	Follow the General Program Schedule	
12:15 – 2:00pm	LUNCHEON	Regency Ballroom
2:00 – 5:00pm	*PROGRAM BREAKOUT SESSION III* Individual Project Meetings	Council

2009 JOINT ANNUAL MEETING

Innovation and Leadership through a Diverse STEM Workforce

NATIONAL SCIENCE FOUNDATION | DIVISION OF HUMAN RESOURCE DEVELOPMENT | DIRECTORATE FOR ED

Last Name	First Name	Company	Status	Payment Method	Registration Type
A					
Abernathy	Shawn	Howard University	Not Paid	Check	General Attendee
Abraham	Ansley	Southern Regional Education Board	Paid	Credit Card	General Attendee
Adair	Suzanne	Penn State University	Paid	Credit Card	General Attendee
Adams	Brian	Miles College	Not Paid	Check	General Attendee
Adeniran	Adedayo	University of Maryland, College Park	Paid	Credit Card	General Attendee
Aghajanian	Akbar	Fayetteville State University	Paid	Credit Card	General Attendee
Aguirre	Brandon	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
Aigbe	Time	University of Maryland, College Park	Paid	Credit Card	General Attendee
Aitken	Larry	Itasca Community College	Paid	Check	General Attendee
Akins	Daniel	City College of New York	Not Paid	Failed Transaction	BIO Invitee
Al-Baati	Alison	National Science Foundation State Alliances for Graduate Education and Prof	Paid	Credit Card	General Attendee
Alexander	Laurence	University of Florida Graduate School	Paid	Credit Card	General Attendee
Alfonso	Aixa	National Science Foundation	Paid	Payed by Contract	BIO Invitee
Ali	Radman	Morris College	Paid	Credit Card	General Attendee
Allen	Alvin	Louisiana State University	Paid	Credit Card	General Attendee
Allen	Lenell	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Allen	Thomas	Gallaudet University	Session Only	None Required	Session Only
Almodóvar	Edgard	University of Puerto Rico	Not Paid	Other	General Attendee
Alo	Richard	University of Houston-Downtown	Not Paid	Other	General Attendee
Alvarado	Christina	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
Alvarez	Cesar	Fort Berthold Community College	Not Paid	Check	General Attendee
Alvarez	Diane	Louisiana State University	Paid	Credit Card	General Attendee
Andersen	Christopher	The Ohio State University	Paid	Credit Card	General Attendee
Anderson	Bernice	National Science Foundation	Paid	Payed by Contract	General Attendee
Anderson	Chris	Michigan Technological University	Paid	Credit Card	General Attendee
Anderson	James	National Science Foundation/South Carolina State University	Not Paid	Other	General Attendee
Anderson	John	Oakwood University	Paid	Credit Card	General Attendee
Anderson	Latrisha	Clark Atlanta University	Paid	Check	General Attendee
Anderson	Victoria	National Science Foundation	Paid	Payed by Contract	General Attendee
Andino	Jean	Western Alliance to Expand Student Opportunities/More Graduate Education	Paid	Check	General Attendee
Anglon	Gloria	University of Maryland, College Park	Paid	Credit Card	General Attendee
Anguay	Cornelia	University of Hawaii at Hilo	Not Paid	Check	General Attendee
Ansari	Ali	Virginia State University	Paid	Credit Card	General Attendee
Arciero	Ariana	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
Ariyo	Oluwole	Allen University	Paid	Check	General Attendee
Aroutiounian	Svetlana	Dillard University	Not Paid		BIO Invitee
Artis	Sonja	Illinois LSAMP	Session Only	None Required	Session Only
Ash	Samantha	Delaware State University	Paid	Credit Card	General Attendee
Ashby	Valerie	The University of North Carolina-Chapel Hill	Paid	Check	General Attendee
Asselin	Susan	Virginia Polytechnic Institute and State University	Paid	Credit Card	General Attendee
Attia	John	Prairie View Agricultural and Mechanical University	Paid	Credit Card	General Attendee
Attia	Magdy	Johnson Crayne Smith University	Paid	Check	General Attendee
Atwell	Beverly	Blackfeet Community College	Paid	Credit Card	General Attendee
August	Bonne	City University of New York, New York City College of Technology	Paid	Credit Card	General Attendee
Avery Gomez	Elizabeth	City University of New York, The Graduate Center	Not Paid	Other	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Awaya	Jonathan	University of Hawaii at Hilo	Not Paid		BIO Invitee
☐	Ayala	Emiliano	Sonoma State University	Paid	Credit Card	General Attendee
	B					
☐	Bagayoko	Diola	Southern University and Agricultural and Mechanical College	Paid	Credit Card	General Attendee
☐	Bahoura	Messaoud	Norfolk State University	Not Paid	Other	General Attendee
☐	Bailey	Karen	Dillard University	Not Paid	Check	General Attendee
☐	Bailey	Pam	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Bailey	Rick	Midlands Technical College	Paid	Credit Card	General Attendee
☐	Baird	Phil	United Tribes Technical College	Paid	Check	General Attendee
☐	Baker	Corey	California State University, Los Angeles	Paid	Check	General Attendee
☐	Baker	Destiny	Fort Berthold Community College	Not Paid	Check	General Attendee
☐	Baker	Rosalyn	Fort Berthold Community College	Not Paid	Check	General Attendee
☐	Balderrama	Darrell	University of Texas at San Antonio	Paid	Credit Card	General Attendee
☐	Baldwin	Timothy	Alabama Agricultural and Mechanical University	Paid	Check	General Attendee
☐	Ballard, II	Carl	Western Alliance to Expand Student Opportunities /Arizona State University	Paid	Check	General Attendee
☐	Banerjee	Diya	Virginia Tech	Not Paid		BIO Invitee
☐	Bannaga	Osman	Miles College	Not Paid	Check	General Attendee
☐	Barabino	Gilda	Georgia Institute of Technology	Paid	Credit Card	BIO Invitee
☐	Barker	Lecia	University of Colorado	Paid	Credit Card	General Attendee
☐	Barley	Kamal	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee
☐	Barnes	Denise	Earth and Planetary Sciences Center	Session Only	None Required	Session Only
☐	Baronette	Marie-Urlima	University of Maryland, College Park	Paid	Credit Card	General Attendee
☐	Barrena	Juanita	California State University, Sacramento	Paid	Check	General Attendee
☐	Barrett	Kim	University of California, San Diego	Paid	Credit Card	General Attendee
☐	Barth	Joan	University of Alabama	Paid	Credit Card	General Attendee
☐	Bass	Harry	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Bastidos	Amanda	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
☐	Bates	Clayton	Howard University	Paid	Credit Card	General Attendee
☐	Bates	Floyd	University of Maryland, College Park	Paid	Credit Card	General Attendee
☐	Batson	Bernard	University of South Florida	Paid	Credit Card	General Attendee
☐	Battle	Katrina	Louisiana State University	Paid	Credit Card	General Attendee
☐	Beal	Carole	University of Arizona	Paid	Credit Card	General Attendee
☐	Bear	John	University of Houston	Paid	Credit Card	General Attendee
☐	Beason	Alison	National Science Foundation	Paid	Payed by Contract	BIO Invitee
☐	Becker	Joan	University of Massachusetts, Boston	Paid	Credit Card	General Attendee
☐	Bell	Bob	Southern Regional Education Board (SREB)	Session Only	None Required	Session Only
☐	Bellarmine	Gnanasigamani	Florida Agricultural and Mechanical University	Not Paid		General Attendee
☐	Belle	Robert	Southern Regional Education Board	Paid	Credit Card	General Attendee
☐	Beningo	Karen	Wayne State University	Not Paid		BIO Invitee
☐	Beninson	Lida	University of Colorado, Boulder	Not Paid		General Attendee
☐	Benjamin	Marcus	Oklahoma State University	Paid	Check	General Attendee
☐	Benjamin	Mary	University of Arkansas at Pine Bluff	Paid	Check	General Attendee
☐	Bennett	Wannetta	Turtle Mountain Community College	Not Paid	Other	General Attendee
☐	Berberena	Maria Fernanda	University of Turabo	Not Paid		BIO Invitee
☐	Berge	Nicole	University of South Carolina	Paid	Credit Card	General Attendee
☐	Bergin	Kathleen	National Science Foundation	Session Only	None Required	Session Only
☐	Berkley	Deborah	Stevens Institute of Technology	Not Paid	Check	General Attendee
☐	Berkowitz	Susan	Westat Evaluation Contract	Session Only	None Required	Session Only
☐	Berry	Mary	University of South Dakota	Not Paid		General Attendee
☐	Beuning	Penny	Northeastern University	Not Paid		BIO Invitee
☐	Biaggi	Azlin	University of Puerto Rico, Rio Piedras	Not Paid	Other	General Attendee
☐	Bilen-Green	Canan	North Dakota State University - Fargo	Paid	Credit Card	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Billie	Glencoe	Southwestern Indian Polytechnic Institute	Session Only	None Required	Session Only
☐	Binzaid	Shuza	Prairie View Agricultural and Mechanical University	Paid	Credit Card	General Attendee
☐	Black	Suely	Norfolk State University	Not Paid	Other	General Attendee
☐	Blackburn	Noel	Brookhaven National Laboratory	Not Paid	Other	General Attendee
☐	Blackwell	Gloria	American Association of University Women	Session Only	None Required	Session Only
☐	Blackwolf Jr.	Fred	Chief Dull Knife Memorial College	Paid	Credit Card	General Attendee
☐	Bland	Constance	Mississippi Valley State University	Paid	Check	General Attendee
☐	Blanton	Joan	Jackson State University	Paid	Check	General Attendee
☐	Blas	Amy	University of Hawaii at Manoa	Not Paid	Check	General Attendee
☐	Bluestone	Elizabeth	Fort Berthold Community College	Not Paid	Check	General Attendee
☐	Bogue	Barbara	Penn State University	Paid	Credit Card	General Attendee
☐	Bolden	Thomas	Alcorn State University	Not Paid	Other	General Attendee
☐	Bondarev	Igor	North Carolina Central University	Not Paid	Other	General Attendee
☐	Boudreaux	Anthony	Howard University	Not Paid	Check	General Attendee
☐	Boulden	Walter	Resource Development Institute	Paid	Credit Card	General Attendee
☐	Boutte	Jodi	Louisiana State University	Paid	Credit Card	General Attendee
☐	Boutte	Kenneth	Xavier University of Louisiana	Paid	Credit Card	General Attendee
☐	Bowen	Bonnie	Iowa State University	Paid	Credit Card	General Attendee
☐	Bowen	Carol	Haskell Indian Nations University	Paid	Credit Card	General Attendee
☐	Bowman	Tamara	National Science Foundation	Session Only	None Required	Session Only
☐	Boyd	Eulas	Rochester Institute of Technology	Paid	Credit Card	General Attendee
☐	Boyd-Melvin	April	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Boyer	Paul	Boyer Associates	Paid	Check	General Attendee
☐	Bracken	Susan	North Carolina State University	Paid	Credit Card	General Attendee
☐	Brady	Marissa	Delaware State University	Paid	Credit Card	General Attendee
☐	Brady	Nell	WAMC Northeast Public Radio	Paid	Credit Card	General Attendee
☐	Bragg	Willie	Morgan State University	Paid	Credit Card	General Attendee
☐	Bramwell	Fitzgerald	University of Kentucky	Session Only	None Required	Session Only
☐	Brathwaite	Claude	City College of New York	Paid	Check	General Attendee
☐	Bravo	Hector	Western Alliance to Expand Student Opportunities /Arizona State University	Paid	Check	General Attendee
☐	Brewington	Reba	Howard University	Not Paid	Check	General Attendee
☐	Brier	Todd	Lac Courte Oreilles Ojibwe Community College	Paid	Check	General Attendee
☐	Briggs	Calvin	Lawson State Community College	Paid	Credit Card	General Attendee
☐	Britsch	Brenda	National Girls Collaborative Project	Paid	Credit Card	General Attendee
☐	Brome	Deborah	Global Evaluation and Applied Research Solutions (GEARS), Inc.	Session Only	None Required	Session Only
☐	Bronstein	Susan	University of Massachusetts, Amherst	Paid	Credit Card	General Attendee
☐	Brooks-McDonald	Patricia	Alabama Agricultural and Mechanical University	Paid	Check	General Attendee
☐	Brothers	Ernest	University of Georgia	Paid	Check	General Attendee
☐	Brown	Cassaundra	University of Maryland, College Park	Paid	Credit Card	General Attendee
☐	Brown	Margaret	University of Maryland, College Park	Paid	Credit Card	General Attendee
☐	Brown	Pamela	City University of New York, New York City College of Technology	Paid	Credit Card	General Attendee
☐	Browne	William	University of Hawaii	Not Paid		BIO Invitee
☐	Bruning	Monica	Iowa State University	Paid	Credit Card	General Attendee
☐	Buckner	Anissa	University of Arkansas at Pine Bluff	Paid	Check	General Attendee
☐	Bufford	Lisa	Tuskegee University	Not Paid	Check	General Attendee
☐	Burger	Carol	Virginia Technological University	Session Only	None Required	Session Only
☐	Burgstahler	Sheryl	University of Washington	Paid	Credit Card	General Attendee
☐	Burke	Mary	National Science Foundation	Session Only	None Required	Session Only
☐	Burnett	Ann	North Dakota State University	Paid	Credit Card	General Attendee
☐	Busby	Glenn	WAMC Northeast Public Radio	Paid	Credit Card	General Attendee
☐	Butler-Purry	Karen	Texas A&M University	Paid	Credit Card	General Attendee

C

Last Name	First Name	Company	Status	Payment Method	Registration Type
Cabral	Eric	California State University, Los Angeles	Paid	Check	General Attendee
Cabrera	Jill	University of Mississippi	Paid	Credit Card	General Attendee
Caceres	Rita Irene	University of Puerto Rico, Rio Piedras	Not Paid	Check	General Attendee
Cade	Charvon	University of Arkansas at Pine Bluff	Paid	Check	General Attendee
Cady	Elizabeth	National Academy of Engineering	Not Paid		General Attendee
Cain	Curtis	Auburn University	Paid	Credit Card	General Attendee
Caldwell	Theodore	Michigan State University	Paid	Credit Card	General Attendee
Callahan	Nicole	American Association of University Women	Paid	Credit Card	General Attendee
Callahan	Rebecca	University of Georgia	Paid	Credit Card	General Attendee
Calonkey	Susy	University of Oklahoma	Not Paid	Check	General Attendee
Camacho	Erika	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee
Cambridge	Winston	Quality Education for Minorities Network	Session Only	None Required	Session Only
Campbell	Anisha	Bowie State University	Session Only	None Required	Session Only
Campbell	Jahmil	University at Buffalfo, The State University of New York	Paid	Credit Card	General Attendee
Campbell	Larry	University of North Carolina, Chapel Hill	Paid	Check	General Attendee
Campbell	Patricia	Campbell-Kibler Associates, Inc.	Paid	Credit Card	General Attendee
Campbell	Patricia	National Science Foundation	Session Only	None Required	Session Only
Campos	Nicole	California State University, Sacramento	Paid	Check	General Attendee
Capobianco	Brenda	Purdue University	Paid	Credit Card	General Attendee
Cardoso	Elizabeth	Hunter College-City University of New York	Paid	Credit Card	General Attendee
Carlile	Jan	University of Alaska, Fairbanks	Paid	Credit Card	General Attendee
Carlos	Patrick	University of Maryland, College Park	Paid	Credit Card	General Attendee
Carlson	Susan	University of Illinois at Chicago	Session Only	None Required	Session Only
Carney	Ginny	Leech Lake Tribal College	Paid	Check	General Attendee
Carpena	Jennifer	University of Puerto Rico, Rio Piedras	Not Paid	Check	General Attendee
Carpenter	Hayley	Yale University	Not Paid		General Attendee
Carpenter	Patrick	Purdue University	Paid	Credit Card	General Attendee
Carpenter	Zachary	Oklahoma State University	Not Paid	Other	General Attendee
Carroll	Marnie	Dine College	Paid	Check	General Attendee
Carruthers	RaShon	Grambling State University	Not Paid	Other	General Attendee
Carstens	Bryan	Louisiana State University	Not Paid		BIO Invitee
Carter	Wilsonia	North Carolina Agricultural and Technology State University	Paid	Credit Card	General Attendee
Casad	Bettina	California State Polytechnic University, Pomona	Paid	Credit Card	General Attendee
Casey	Beth	Boston College	Paid	Credit Card	General Attendee
Caspillo-Aalona	Leisha	Kapiolani Community College	Not Paid	Other	General Attendee
Casseus	Tayana	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Cassidy	Craig	University of Houston	Paid	Credit Card	General Attendee
Cauley	Sean	Howard University	Not Paid	Check	General Attendee
Cech	Margaret	Colorado State University	Paid	Credit Card	General Attendee
Cervantes	Francisco	New York University	Not Paid		General Attendee
Chan	Christina	University of Houston	Paid	Credit Card	General Attendee
Chapman	David	University of Delaware	Paid	Credit Card	General Attendee
Chapman	Jarrett	Auburn University	Paid	Credit Card	General Attendee
Chase	Jody	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Chatman	Liesl	Science Museum of Minnesota	Paid	Credit Card	General Attendee
Chatman	Theresa	Rice University	Paid	Credit Card	General Attendee
Chen	Shu-Ching	Florida International University	Paid	Credit Card	General Attendee
Chen	Xiongwen	Alabama A&M University	Not Paid		BIO Invitee
Chetty	Chellu	Savannah State University	Not Paid		General Attendee
Ching	Jonathan	University of Hawaii at Manoa	Not Paid	Other	General Attendee
Chisham	Brandon	New Mexico State University	Paid	Credit Card	General Attendee
Chitnis	Parag	National Science Foundation	Paid	Payed by Contract	BIO Invitee
Chiu	Wilson	University of Connecticut	Session Only	None Required	Session Only

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Cieplak	John	National Science Foundation	Session Only	None Required	Session Only
☐	Clark	Barbara	Purdue University	Paid	Credit Card	General Attendee
☐	Clark	Betty	Clark Atlanta University	Session Only	None Required	Session Only
☐	Clark	Diane	Gallaudet University	Session Only	None Required	Session Only
☐	Clark	JT	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Clark	Julia	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Clinton	Mary Ellen	Haskell Indian Nations University	Paid	Credit Card	General Attendee
☐	Clore	Timothy	Western Alliance to Expand Student Opportunities/Arizona State University	Paid	Check	General Attendee
☐	Clymer	E. William	National Technical Institute for the Deaf at Rochester Institute of Technology	Paid	Credit Card	General Attendee
☐	Cobb	Stacy	Stony Brook University	Paid	Check	General Attendee
☐	Cobine	Paul	Auburn University	Not Paid		BIO Invitee
☐	Cochrane	Camille	Shelton State Community College	Session Only	None Required	Session Only
☐	Cody	Nichole	Dine College	Paid	Check	General Attendee
☐	Cogburn	Derrick	Syracuse University	Paid	Credit Card	General Attendee
☐	Cohoon	Joanne	National Center for Women Information Technology	Paid	Credit Card	General Attendee
☐	Cole	Brittany	Georgia Southern University	Not Paid		General Attendee
☐	Cole	Ernest	Mississippi e-Center at Jackson State University	Not Paid	Other	General Attendee
☐	Cole	Leonard	Talladega College	Not Paid		General Attendee
☐	Cole	Marsha	Louisiana State University	Paid	Credit Card	General Attendee
☐	Coleman	Calvin	North Carolina Central University	Not Paid	Other	General Attendee
☐	Coleman	John	Langston University	Paid	Credit Card	General Attendee
☐	Colen Jr.	Charles	University of Arkansas at Pine Bluff	Paid	Check	General Attendee
☐	Collins	James	National Science Foundation, Directorate for Biological Sciences	Paid	Payed by Contract	General Attendee
☐	Collins	Warren	Fisk University	Paid	Credit Card	General Attendee
☐	Colman	Daniel	University of New Mexico	Paid	Credit Card	General Attendee
☐	Colomb	Jason	Western Alliance to Expand Student Opportunities /Arizona State University	Paid	Check	General Attendee
☐	Comes At Night, Sr.	Donald	Blackfeet Community College	Paid	Credit Card	General Attendee
☐	Consentino de Cohen	Clemencia	Urban Institute	Session Only	None Required	Session Only
☐	Contreras	Deisy	California State University, Los Angeles	Paid	Check	General Attendee
☐	Corbett	Christianne	American Association of University Women	Paid	Credit Card	General Attendee
☐	Cordero	Ricardo	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee
☐	Cornish	Howard	Bowie State University	Session Only	None Required	Session Only
☐	Cox	Stephen	Drexel University	Paid	Credit Card	General Attendee
☐	Crawford	Bruce	Lawson State Community College	Paid	Credit Card	General Attendee
☐	Crawl	Desiree	Ohio State University	Paid	Check	General Attendee
☐	Creamer	Elizabeth	Virginia Polytechnic Institute and State University	Paid	Credit Card	General Attendee
☐	Cron	Brandi	University of New Mexico	Paid	Credit Card	General Attendee
☐	Crosby	Karen	Southern University	Paid	Credit Card	General Attendee
☐	Crossey	Laura	University of New Mexico	Paid	Credit Card	General Attendee
☐	Crumpton-Young	Lesia	National Science Foundation	Session Only	None Required	Session Only
☐	Cruz-Pol	Astrid	University of Puerto Rico	Not Paid	Other	General Attendee
☐	Cueva	Carla	California State University, Los Angeles	Paid	Check	General Attendee
☐	Cuevas	Elvira	University of Puerto Rico, Rio Piedras	Paid	Credit Card	General Attendee
☐	Cunningham	John	University of Massachusetts, Amherst	Paid	Credit Card	General Attendee
☐	Cuny	Janice	National Science Foundation	Session Only	None Required	Session Only
☐	Curtis	Margaret	Bennett College	Paid	Credit Card	General Attendee
	D					
☐	Dale	Louis	University of Alabama, Birmingham	Paid	Check	General Attendee
☐	Daniels	Dwayne	Fort Valley State University	Paid	Credit Card	General Attendee
☐	Daniels	Jane		Session Only	None Required	Session Only
☐	Darwish	Abdalla	Dillard University	Paid	Check	General Attendee
☐	Datta	Rupali	Michigan Technological University	Not Paid		BIO Invitee

Last Name	First Name	Company	Status	Payment Method	Registration Type
Dauphinais	Leonard	Turtle Mountain Community College	Paid	Credit Card	General Attendee
Davidson	Laura-Lee	Quality Education for Minorities Network	Session Only	None Required	Session Only
Davis	Christopher Ainsley	Bethune-Cookman University	Paid	Credit Card	BIO Invitee
Davis	Elaine	Bowie State University	Session Only	None Required	Session Only
Davis	Jeanette	University of Maryland, College Park	Paid	Credit Card	General Attendee
Davis	Jennifer	Philander Smith College	Paid	Credit Card	General Attendee
Davis	Johnetta	University of Maryland, College Park	Not Paid		General Attendee
Davis	Leonard	Delaware State University	Paid	Credit Card	General Attendee
Davis	Melinda	Fort Valley State University	Paid	Credit Card	General Attendee
Davis	Nikesha	University of Maryland, College Park	Paid	Credit Card	General Attendee
Davis	Zettie	Clark Atlanta University	Paid	Check	General Attendee
Dawan	Fareed	Louisiana State University	Paid	Credit Card	General Attendee
Day	M. Michelle	In Order Enterprises, LLC	Paid	Check	General Attendee
de Coste	Jennifer	Clarkson University	Paid	Credit Card	General Attendee
DeAro	Jessie	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Debro	LaJoyce	National Science Foundation	Paid	Payed by Contract	BIO Invitee
Delgado	Diana	University of Puerto Rico, Rio Piedras	Not Paid	Check	General Attendee
Delgado	Hoben	University of Hawaii at Manoa	Not Paid	Other	General Attendee
Delgado	Monica	California State University, Los Angeles	Paid	Check	General Attendee
Delgado	Yamixa	University of Puerto Rico, Rio Piedras	Not Paid	Check	General Attendee
DeLoatch	Sandra	Norfolk State University	Not Paid	Other	General Attendee
DeMartino	Marjorie	University of California, Irvine	Paid	Credit Card	General Attendee
Demeritte	Teresa	Jackson State University	Paid	Check	General Attendee
Deng	Yi		Session Only	None Required	Session Only
Dengler	Adam	Western Alliance to Expand Student Opportunities/Arizona State University	Paid	Check	General Attendee
Dennis	Tony	Western Michigan University	Paid	Credit Card	General Attendee
Deonauth	Kamla	Howard University	Not Paid	Check	General Attendee
DePriest	Douglas	Hampton University	Paid	Check	General Attendee
Detrick	Liv	Institute for Broadening Participation	Not Paid	Other	General Attendee
Dhir	Sarwan	Fort Valley State University	Not Paid	Check	General Attendee
Diaz	Mario	The University of Texas at Brownsville	Not Paid		General Attendee
Díaz-Pérez	Zobeida	University of Puerto Rico	Paid	Credit Card	General Attendee
Dickerson	Patrice	Ohio State University	Paid	Check	General Attendee
Dickerson	Tamar	Florida Agricultural and Mechanical University	Paid	Credit Card	General Attendee
Dickson	Bronwyn	Southern University and Agricultural and Mechanical College	Paid	Credit Card	General Attendee
Didion	Catherine	National Academy of Engineering, Center for Advancement of Scholarship on	Paid	Credit Card	General Attendee
Diekman	Amanda	Miami University	Paid	Credit Card	General Attendee
Diggs	Angela	Morgan State University	Paid	Credit Card	General Attendee
DiPietro	Santiago	Colorado State University	Not Paid		BIO Invitee
Dixon	Freddie	University of the District of Columbia	Not Paid	Other	General Attendee
Dixon	James	Bennett College	Paid	Credit Card	General Attendee
Dodge	Georgina	The Ohio State University	Paid	Credit Card	General Attendee
Dolence	Jessica	Salish Kootenai College	Paid	Credit Card	General Attendee
Dora	Raven	Louisiana State University	Paid	Credit Card	General Attendee
Doral	Charlena	Quality Education for Minorities Network	Session Only	None Required	Session Only
Dougherty	Barbara	University of Mississippi	Paid	Credit Card	General Attendee
Douglas	Cynthia	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Douglas	Nakeina	Virginia Commonwealth University	Not Paid		General Attendee
Doverspike	Dennis	University of Akron	Paid	Credit Card	General Attendee
Dowell	Elaine	University of Michigan	Paid	Credit Card	General Attendee
Dozier	Cheryl	University of Georgia	Paid	Check	General Attendee
Drayton	Yolanda	South Carolina State University	Paid	Check	General Attendee
Drew	David	Claremont Graduate University	Not Paid	Other	BIO Invitee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Driver	Xavier	Fort Berthold Community College	Not Paid	Check	General Attendee
☐	Duden	Margaret	Twin Cities Public Television	Paid	Credit Card	General Attendee
☐	Dues	Maurice	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Dukelow	Kaheleonolani	Maui Community College	Paid	Credit Card	General Attendee
☐	Dunn	Anne	University of Oklahoma	Not Paid		BIO Invitee
☐	Dunn-Rankin	Derek	University of California, Irvine	Paid	Credit Card	General Attendee
☐	Dupree	Janae	Delaware State University	Paid	Credit Card	General Attendee
☐	Dupuis	Steve	All Nations Louis Stokes Alliance for Minority Participation	Not Paid		General Attendee
☐	Duran	Jasmine	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
☐	Duran	Randy	University of Florida	Paid	Credit Card	General Attendee
☐	Dutta	Alo	Southern University	Paid	Credit Card	General Attendee
☐	Dutta	Jyotsnamoy	North Carolina Central University	Not Paid	Other	General Attendee
	E					
☐	Ebert	Charles	Winston-Salem State University	Not Paid		BIO Invitee
☐	Echegoyen	Luis	National Science Foundation	Session Only	None Required	Session Only
☐	Edquist	Toni	Education and Human Resources/Division of Human Resource Development	Paid	None Required	NSF Staff (HRD Only)
☐	Edward	Deborah	University of Texas at Austin	Not Paid	Other	General Attendee
☐	Edwards	Ashlee	Virginia Wesleyan College	Not Paid		General Attendee
☐	El-Hakim	Omnia	National Science Foundation	Paid	Credit Card	BIO Invitee
☐	Elliot	Lisa	National Technology Institute for the Deaf at Rochester Institute of Technolog	Paid	Credit Card	General Attendee
☐	Emslie	A. Gordon	Oklahoma State University	Not Paid	Other	General Attendee
☐	Engstrom	Ellen	Landmark College Institute for Research and Training	Paid	Credit Card	General Attendee
☐	Esparza	Eric	University of New Mexico	Not Paid		General Attendee
☐	Estevez	Joseph	North Carolina Central University	Not Paid	Other	General Attendee
☐	Evasius	Dean	National Science Foundation	Session Only	None Required	Session Only
	F					
☐	Fadden	Steve	Landmark College Institute for Research and Training	Paid	Credit Card	General Attendee
☐	Falase	Akinbayowa	University of New Mexico	Paid	Credit Card	General Attendee
☐	Fancsali	Cheri	Academy Educational Development	Paid	Credit Card	General Attendee
☐	Farrior	L. Rashawn	National Science Foundation	Paid	Payed by Contract	General Attendee
☐	Favor	Kevin	Lincoln University	Paid	Credit Card	General Attendee
☐	Felder	Frankie	Clemson University	Paid	Credit Card	General Attendee
☐	Feliciano	Ana	University of Puerto Rico	Paid	Credit Card	General Attendee
☐	Feliciano	William	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
☐	Ferguson	David	Stony Brook University	Paid	Check	General Attendee
☐	Fernandez	Eva	University of South Florida	Paid	Credit Card	General Attendee
☐	Fernandez-Weston	Cathy	Virginia Polytechnic Institute and State University	Paid	Credit Card	General Attendee
☐	Ferrer	Ivonne	University at Buffalfo, The State University of New York	Paid	Credit Card	General Attendee
☐	Ferreras	Ana	The National Academies	Session Only	None Required	Session Only
☐	Ferrini-Mundy	Joan	National Science Foundation	Paid	Payed by Contract	General Attendee
☐	Fields	Rick	Alabama Agricultural and Mechanical University	Paid	Check	General Attendee
☐	Figueroa	Javier	University of Puerto Rico	Paid	Credit Card	General Attendee
☐	Figueroa	Juan	National Science Foundation	Session Only	None Required	Session Only
☐	Figueroa	Linda	Colorado School of Mines	Not Paid	Other	General Attendee
☐	Figuerola	Cielo	University of Puerto Rico	Not Paid	Check	General Attendee
☐	Filikhin	Igor	North Carolina Central university	Not Paid	Other	General Attendee
☐	Fine	Scott	Oklahoma State University	Paid	Credit Card	General Attendee
☐	Fines	Jeff	University of Hawaii at Manoa	Not Paid	Other	General Attendee
☐	Fleming	Lorraine	Howard University	Paid	Credit Card	General Attendee
☐	Flores	Benjamin	University of Texas at El Paso	Not Paid	Other	General Attendee
☐	Flowers	Lamont	Clemson University	Paid	Credit Card	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Flowers	Lawrence	Fayetteville State University	Paid	Credit Card	General Attendee
☐	Fontenot	Krystal	Louisiana State University	Paid	Credit Card	General Attendee
☐	Foote	Sarah	Jackson State University	Paid	Check	General Attendee
☐	Ford, Jr.	Charles	Winston-Salem State University	Not Paid	Check	General Attendee
☐	Fortenberry	Norman	National Academy of Engineering	Not Paid		General Attendee
☐	Francisco	Wilson	National Science Foundation	Paid	Payed by Contract	BIO Invitee
☐	Fredenberg	Michael	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Freeman	Cyndi	Ohio State University	Paid	Check	General Attendee
☐	Freeman	Kimberley	Howard University	Paid	Credit Card	General Attendee
☐	Frehill	Lisa	Commission on Professionals In Science and Technology	Not Paid		General Attendee
☐	Freiburger	Annette	University of Alaska, Fairbanks	Paid	Credit Card	General Attendee
☐	Freire	Diego	Illinois LSAMP	Session Only	None Required	Session Only
☐	Frierson	Henry	University of Florida	Paid	Credit Card	General Attendee
☐	Friscic	David	National Science Foundation	Session Only	None Required	Session Only
☐	Froschl	Merle	Academy Education Development	Paid	Check	General Attendee
☐	Fruchtman	Amy	Midwest Alliance in Science, Technology, Engineering and Mathematics	Paid	Credit Card	General Attendee
☐	Frye	Joan	National Science Foundation	Session Only	None Required	Session Only
	G					
☐	Gad	Sangeeta	University of Houston-Downtown	Not Paid	Other	General Attendee
☐	Gaddie	Helene	Oglala Lakota College	Not Paid	Check	General Attendee
☐	Gagnon	Kevin	Texas A&M University	Paid	Credit Card	General Attendee
☐	Gallagher	John	Wright State University	Paid	Credit Card	General Attendee
☐	Gallimore	Alec	University of Michigan	Paid	Credit Card	General Attendee
☐	Gamez	Roberto	Texas A&M University	Paid	Credit Card	General Attendee
☐	Garcia	Antonio	Western Alliance to Expand Student Opportunities /More Graduate Education	Paid	Check	General Attendee
☐	Garcia	Tanya	Texas A&M University	Paid	Credit Card	General Attendee
☐	Garcia Montiel	Diana	University of Puerto Rico at Rio Piedras	Not Paid		BIO Invitee
☐	Garfield Cook	Michelle	University of Georgia	Paid	Check	General Attendee
☐	Gates	Alexander	Rutgers University-Newark	Paid	Credit Card	General Attendee
☐	Gates	Ann	University of Texas at El Paso	Not Paid		General Attendee
☐	Gay	Martha	Howard University	Not Paid	Check	General Attendee
☐	Gaynor	Matthew	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
☐	Gbolo-Thompson	Simone	University of Minnesota	Paid	Credit Card	General Attendee
☐	Getzel	Elizabeth	Virginia Commonwealth University	Paid	Credit Card	General Attendee
☐	Gillett-Kunnath	Miriam	Notre Dame Central New York	Not Paid		General Attendee
☐	Gimbel	Kinsey	ICF Macro International	Session Only	None Required	Session Only
☐	Glascock	Lucy	Quality Education for Minorities Network	Session Only	None Required	Session Only
☐	Gluck	Lucy	Stony Brook University	Paid	Check	General Attendee
☐	Godwin	Nikki	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Goldston	Dee	University of Alabama	Paid	Credit Card	General Attendee
☐	Gomez	Manuel	University of Puerto Rico	Paid	Credit Card	General Attendee
☐	Gonzales	Erik	Oklahoma State University	Not Paid		General Attendee
☐	Gonzales	Jonathan	Oklahoma State University	Paid	Credit Card	General Attendee
☐	Gonzales	Roger	LeTourneau University, Texas	Session Only	None Required	Session Only
☐	Gonzalez	Angelo	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
☐	Gonzalez-Lenahan	Clarisa	New Jersey Institute of Technology	Not Paid	Other	General Attendee
☐	Gonzalez-Quevedo	Antonio	University of Puerto Rico	Not Paid	Other	General Attendee
☐	Gordon	Donna	Mississippi State University	Not Paid		BIO Invitee
☐	Gordon	Willam	Howard University	Not Paid	Check	General Attendee
☐	Gorham	Jackie	Grambling State University	Not Paid		General Attendee
☐	Gorman	Tracy	National Science Foundation	Session Only	None Required	Session Only
☐	Goss	Derrick	Louisiana State University	Paid	Credit Card	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Gouag	Annette	Delaware State University	Paid	Credit Card	General Attendee
☐	Gould	Bryan	National Center for Accessible Media/WGBH 89.7FM	Paid	Credit Card	General Attendee
☐	Grady	Michael	Auburn University	Paid	Credit Card	General Attendee
☐	Graham	Barbara	Jackson State University	Not Paid	Other	BIO Invitee
☐	Graham	Scott	Florida International University	Paid	Credit Card	General Attendee
☐	Grainger	Arthur	Morgan State University	Paid	Credit Card	General Attendee
☐	Granberry Russell	Paulette	Michigan State University	Paid	Credit Card	General Attendee
☐	Grant	Erica	Rutgers University	Not Paid	Check	General Attendee
☐	Graves	Laura	Tennessee Tech University	Paid	Credit Card	General Attendee
☐	Gray-Singh	Danielle	Tuskegee University	Not Paid	Other	General Attendee
☐	Green	Brittany	Auburn University	Paid	Credit Card	General Attendee
☐	Green	Dee	Tennessee State University	Not Paid	Check	General Attendee
☐	Green	J. Byron	Florida Agricultural and Mechanical University	Not Paid	Other	General Attendee
☐	Green	Misty	North Carolina Central University	Not Paid	Other	General Attendee
☐	Green	Sherrie	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Green	Vanessa	Science and Technology Centers (STC)	Session Only	None Required	Session Only
☐	Greenlee	Kendra	North Dakota State University	Not Paid		BIO Invitee
☐	Greer	Diana	University of Kansas	Not Paid		General Attendee
☐	Gregg	Noel	University of Georgia	Paid	Credit Card	General Attendee
☐	Griffin	Gloria	Coppin State University	Not Paid	Other	General Attendee
☐	Griffith	Chris	ICF Macro International	Session Only	None Required	Session Only
☐	Grindstaff	Jennifer	Oklahoma State University	Not Paid		BIO Invitee
☐	Gross	Stephanie	Louisiana State University	Paid	Credit Card	General Attendee
☐	Guebre	Tessema		Session Only	None Required	Session Only
☐	Guess	Shakera	Delaware State University	Paid	Credit Card	General Attendee
☐	Guillemard	Luisa	University of Puerto Rico	Not Paid	Other	General Attendee
☐	Guo	Guodong	North Carolina Central University	Paid	Credit Card	General Attendee
☐	Guzman	Alberto	University of Arizona	Session Only	None Required	Session Only
☐	Guzman	Haydee	University of Puerto Rico	Not Paid	Other	General Attendee
☐	Gwyn	Erica	Spelman College	Not Paid	Check	General Attendee
	H					
☐	Hahn	William	National Science Foundation	Session Only	None Required	Session Only
☐	Hall	Jason	Stony Brook University	Paid	Check	General Attendee
☐	Hamilton	Tamara	University of Maryland, College Park	Paid	Credit Card	General Attendee
☐	Hamlin	Amy	Michigan Technological University	Paid	Credit Card	General Attendee
☐	Hamme	Ashton	Jackson State University	Paid	Check	General Attendee
☐	Hamrick	Florence	Iowa State University	Paid	Credit Card	General Attendee
☐	Hansen-Rainey	Laura	National Science Foundation	Session Only	None Required	Session Only
☐	Hanson	Sandra	Catholic University	Paid	Credit Card	General Attendee
☐	Hanson	Scott	Turtle Mountain Community College	Paid	Check	General Attendee
☐	Hanych	David	National Science Foundation	Session Only	None Required	Session Only
☐	Hardy	Mark	Jackson State University	Not Paid	Check	General Attendee
☐	Harp	Jill	Winston-Salem State University	Not Paid	Other	General Attendee
☐	Harpole	William Stanley	Iowa State University	Not Paid		BIO Invitee
☐	Harrington	Melissa	Delaware State University	Paid	Credit Card	General Attendee
☐	Harris	Chelsea	Texas Southern University	Paid	Check	General Attendee
☐	Harris	Paul	California State University, Los Angeles	Paid	Check	General Attendee
☐	Harris	Trichelle	Stony Brook University	Paid	Check	General Attendee
☐	Harrison	Drake	Onondaga Community College	Paid	Check	General Attendee
☐	Harrison	Marcia	Marshall University	Paid	Credit Card	General Attendee
☐	Hart	Patrick	University of Hawaii at Hilo	Paid	Credit Card	General Attendee
☐	Hartman	Jaime	Fort Berthold Community College	Not Paid	Check	General Attendee

Last Name	First Name	Company	Status	Payment Method	Registration Type
Hartwig	Kalvin	Michigan Technological University	Not Paid		General Attendee
Harvey	Cheryce	Russell Sage College	Not Paid		General Attendee
Harvey	William	University of Virginia	Paid	Check	BIO Invitee
Harwood	Heather	Blackfeet Community College	Paid	Credit Card	General Attendee
Hathaway	Vincent	Howard University	Not Paid	Check	General Attendee
Hauser	Belinda	Howard University	Not Paid	Check	General Attendee
Hawkins	Pamela	National Science Foundation	Paid	Payed by Contract	General Attendee
Hayes	Roberta	Dine College	Paid	Check	General Attendee
Haynes	Aaron	ICF Macro International	Session Only	None Required	Session Only
Haynes	Comas	Georgia Institute of Technology	Paid	Credit Card	General Attendee
Haynes	Kizzy	Historically Black Colleges and Universities-Undergraduate Program	Not Paid	Check	General Attendee
He	Jing	New Mexico State University	Paid	Credit Card	General Attendee
He	Xudong	Florida International University	Paid	Credit Card	General Attendee
Heller	Rachelle	George Washington University	Paid	Credit Card	General Attendee
Helsley	William	Portland State University	Paid	Credit Card	General Attendee
Henry	Larry	Turtle Mountain Community College	Paid	Credit Card	General Attendee
Herbers	Joan	Ohio State University	Paid	Credit Card	General Attendee
Hernandez	Mark	University of Colorado	Paid	Credit Card	General Attendee
Hernandez	Sara	Cornell University	Paid	Credit Card	General Attendee
Herrera	Carlos	New Mexico State University	Paid	Credit Card	General Attendee
Herrera	Jose	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
Hickman	Chantia	Philander Smith College	Paid	Credit Card	General Attendee
Hicks	A. James	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Hightower, Jr	Jesse	Clark Atlanta University	Paid	Check	General Attendee
Hildenbrand	Zachariah	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
Hill	Catherine	American Association of University Women	Paid	Credit Card	General Attendee
Hill	Cynthia	University of Maryland, Baltimore County	Paid	Credit Card	General Attendee
Hill	Glake	Jackson State University	Not Paid	Check	BIO Invitee
Hill	Oliver	Virginia State University	Paid	Credit Card	General Attendee
Hilliard	Casie	Texas A&M University	Paid	Credit Card	General Attendee
Hilliard	Tyvette	Illinois LSAMP	Session Only	None Required	Session Only
Hinojosa	Ricardo	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
His Horse Is Thunder	Deborah	Fort Belknap College	Paid	Check	General Attendee
Hochstein	Jill	University of Nebraska-Lincoln	Paid	Credit Card	General Attendee
Holford	Mande	York College of The City University of New York	Session Only	None Required	Session Only
Holgado	Andrea	Southwestern Oklahoma State University	Not Paid		BIO Invitee
Holland	Florence	Auburn University	Paid	Credit Card	General Attendee
Holmes	Jack	Louisiana State University	Session Only	None Required	Session Only
Hommerich	Uwe	Hampton University	Paid	Credit Card	General Attendee
Hornickel	Anne	University of Minnesota	Paid	Credit Card	General Attendee
Hosur	Mahesh	Tuskegee University	Not Paid	Check	General Attendee
Hough	Matthew	Oklahoma State University	Paid	Credit Card	General Attendee
Howard	Eric	Fulbright Academy of Science and Technology	Paid	Credit Card	General Attendee
Howard-Wharton	Sunnie	North Carolina Agricultural and Technology State University	Paid	Credit Card	General Attendee
Howe	Tiffanie	Chief Dull Knife Memorial College	Paid	Credit Card	General Attendee
Huacuja	Rafael	Texas A&M University	Paid	Credit Card	General Attendee
Hudson	Richard	Twin Cities Public Television	Paid	Credit Card	General Attendee
Hughes	Patricia	Bowie State University	Paid	Credit Card	General Attendee
Hughes	Stephanie	Jackson State University	Paid	Check	General Attendee
Hughes-Harris	Cynthia	Florida Agricultural and Mechanical University	Not Paid	Other	General Attendee
Hui	Dafeng	Tennessee State University	Not Paid		BIO Invitee
Hunter	Adrienne	Xavier University of Louisiana	Paid	Check	General Attendee
Hunter	Colby	Auburn University	Paid	Credit Card	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Hutchins	Ginny	Fort Lewis College	Paid	Credit Card	BIO Invitee
	I					
☐	Ibekwe	Samuel	Southern University	Paid	Credit Card	General Attendee
☐	Idewu	Wakeel	Louisiana State University	Paid	Credit Card	General Attendee
☐	Ingram	Valencia	Norfolk State University	Not Paid	Other	General Attendee
☐	Inkelas	Karen	University of Maryland	Paid	Credit Card	General Attendee
☐	Inyangetor	Patrick	Allen University	Not Paid	Other	General Attendee
☐	Iriarte-Gross	Judith	Middle Tennessee State University	Not Paid	Check	General Attendee
☐	Izzo	Margo	Ohio State University	Not Paid		General Attendee
	J					
☐	Jackson	Julius	Michigan State University Graduate School	Paid	Credit Card	General Attendee
☐	Jackson-Lewis	Rosalind	National Science Foundation	Session Only	None Required	Session Only
☐	Jackson-O'Brien	Dahlia	Delaware State University	Not Paid	Other	General Attendee
☐	Jacobi	Jane	Clemson University	Paid	Credit Card	General Attendee
☐	Jacquez	Ricardo	New Mexico State University	Paid	Credit Card	General Attendee
☐	James	Candace	Clark Atlanta University	Paid	Check	General Attendee
☐	James	Frank	Philander Smith College	Paid	Credit Card	General Attendee
☐	James	Martha	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	James	Sylvia	National Science Foundation	Session Only	None Required	Session Only
☐	Janecek-Hartman	Jen	United Tribes Technical College	Paid	Check	General Attendee
☐	Jayaraman	Kuppuswamy	Savannah State University	Paid	Credit Card	General Attendee
☐	Jeelani	Shaik	Tuskegee University	Not Paid	Other	General Attendee
☐	Jefferson	Margaret	California State University, Los Angeles	Paid	Credit Card	General Attendee
☐	Jeffries	Charelle	Delaware State University	Paid	Credit Card	General Attendee
☐	Jeffries	Danielle	Strategic Governance, LLC	Paid	Credit Card	General Attendee
☐	Jenda	Overtoun	Auburn University	Paid	Credit Card	General Attendee
☐	Jennings	Wyn	National Science Foundation	Session Only	None Required	Session Only
☐	Jenson	Ronda	University of Missouri-Kansas City Institute for Human Development	Paid	Credit Card	General Attendee
☐	Jesse	Jolene	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Jimboy	Twylla	Haskell Indian Nations University	Paid	Credit Card	General Attendee
☐	John	Kuruvilla	Texas Agricultural and Mechanical University-Kingsville	Paid	Check	General Attendee
☐	Johnson	Adriel D.	University of Alabama in Huntsville	Not Paid	Check	BIO Invitee
☐	Johnson	Elmima	National Science Foundation	Session Only	None Required	Session Only
☐	Johnson	Kristie	North Carolina Agricultural and Technology State University	Paid	Credit Card	General Attendee
☐	Johnson	Linda	University of Maryland, Eastern Shore	Paid	Credit Card	General Attendee
☐	Johnson	Martenya	Delaware State University	Paid	Credit Card	General Attendee
☐	Johnson	Monique	Louisiana State University	Paid	Credit Card	General Attendee
☐	Johnson Phillips	Cathee	National Postdoctoral Association	Paid	Credit Card	General Attendee
☐	Johnson Pyrtle	Ashanti	Institute for Broadening Participation	Not Paid	Other	General Attendee
☐	Jolly	Eric	Science Museum of Minnesota	Session Only	None Required	Session Only
☐	Jones	Cadavious	Auburn University	Paid	Credit Card	General Attendee
☐	Jones	Crystalann	Bridge to Doctorate	Session Only	None Required	Session Only
☐	Jones	Jacquelyn	Delaware State University	Paid	Credit Card	General Attendee
☐	Jones	Johnnye	Texas College	Not Paid	Other	General Attendee
☐	Jones	Kenneth	Miles College	Not Paid	Check	General Attendee
☐	Jones	Korri	Howard University	Not Paid	Check	General Attendee
☐	Jones	Sean	National Science Foundation	Session Only	None Required	Session Only
☐	Jones	Stacey	Benedict College	Not Paid	Other	General Attendee
☐	Jones II	LeRoy	Chicago State University	Paid	Check	General Attendee
☐	Jordan	Tyrone	National Science Foundation	Paid	Payed by Contract	General Attendee
☐	Judice	Cheryl	Northwestern University	Paid	Credit Card	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Judy	Yessilith	Fort Berthold Community College	Not Paid	Check	General Attendee
☐	Juliano	Thomas	American Society for Engineering Education	Session Only	None Required	Session Only
☐	Julien	Carolynn	Hunter College of City University of New York	Session Only	None Required	Session Only
☐	Jumbo	Winifred	Brown University	Not Paid		General Attendee
☐	Juvik	Sonia	University of Hawaii at Hilo	Paid	Check	General Attendee
	K					
☐	Kaakua	Joshua	University of Hawaii at Manoa	Not Paid	Other	General Attendee
☐	Kalei	Heather	University of Hawaii at Manoa	Not Paid	Check	General Attendee
☐	Kao	Chi-Chang	Brookhaven National Laboratory	Not Paid	Other	General Attendee
☐	Karlin	Jennifer	South Dakota School of Mines & Technology	Paid	Check	General Attendee
☐	Karr	Liz	University of Oklahoma	Not Paid		BIO Invitee
☐	Karsten	Jill	National Science Foundation	Session Only	None Required	Session Only
☐	Keegan	Katelyn	Commission on Professionals In Science and Technology	Not Paid		General Attendee
☐	Keene	Veniece	Drexel University	Paid	Credit Card	General Attendee
☐	Kekelis	Linda	Techbridge at Chabot Space & Science Center	Paid	Credit Card	General Attendee
☐	Keller	John	University of Iowa Graduate College	Paid	Credit Card	General Attendee
☐	Kelley	Bernadette	Florida Agricultural and Mechanical University	Not Paid	Check	General Attendee
☐	Kelly	Sherrisse	Louisiana State University	Paid	Credit Card	General Attendee
☐	Kemnitzer	Susan	NSF	Session Only	None Required	Session Only
☐	Kendall	Shirley	Brookhaven National Laboratory	Paid	Check	General Attendee
☐	Kendricks	Kimberly	Central State University	Paid	Credit Card	General Attendee
☐	Kennedy	Alvin	Morgan State University	Paid	Credit Card	General Attendee
☐	Kennedy-Sloan	Janice	Johnson Crayne Smith University	Paid	Check	General Attendee
☐	Kent	Ella	Howard University	Not Paid	Check	General Attendee
☐	Kern	Rebecca	University of Houston-Downtown	Not Paid	Other	General Attendee
☐	Kerr	Barbara	University of Kansas	Paid	Credit Card	General Attendee
☐	Kerttula	Anna	National Science Foundation	Session Only	None Required	Session Only
☐	Khan	Ishrat	Clark Atlanta University	Not Paid		General Attendee
☐	Kibler	Tom	Campbell-Kibler Associates, Inc	Session Only	None Required	Session Only
☐	Kim	Yanghee	Utah State University	Paid	Credit Card	General Attendee
☐	Kimball	Suzette	U.S. Geological Survey	Session Only	None Required	Session Only
☐	King	Barbara	University of Texas at Austin	Paid	Credit Card	General Attendee
☐	King	Ronnie	Bethune-Cookman University	Paid	Check	General Attendee
☐	Kinnibrugh	Tiffany	Texas A&M University	Paid	Credit Card	General Attendee
☐	Kirby	Kelvin	Prairie View Agricultural and Mechanical University	Not Paid	Other	General Attendee
☐	Kirk	Deborah	Haskell Indian Nations University	Paid	Credit Card	General Attendee
☐	Knaust	Helmut	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
☐	Knezek	Gerald	University of North Texas	Not Paid	Other	General Attendee
☐	Knight	Chinyere	Howard University	Not Paid	Check	General Attendee
☐	Knox	Barbara	Tennessee State University	Not Paid	Other	General Attendee
☐	Knox	Talina	New Jersey Institute of Technology-Murray Center for Women in Technology	Paid	Check	General Attendee
☐	Koch	Deborah	Springfield Technical Community College	Paid	Credit Card	General Attendee
☐	Kokini	Klod	Purdue University College of Engineering	Paid	Credit Card	General Attendee
☐	Korsmo	Fae	National Science Foundation	Paid	Credit Card	General Attendee
☐	Koster	Janet	Association for Women in Science	Session Only	None Required	Session Only
☐	Kraus	Barbara	University of Colorado, Boulder	Paid	Credit Card	General Attendee
☐	Krueger	Faron	Fort Berthold Community College	Not Paid	Check	General Attendee
☐	Kumar	Ravinder	Alcorn State University	Not Paid	Other	General Attendee
☐	Kundu	Madan	Southern University	Paid	Credit Card	General Attendee
☐	Kusliks	Al		Session Only	None Required	Session Only
☐	Kutzko	Phil	University of Iowa	Paid	Credit Card	General Attendee

Last Name	First Name	Company	Status	Payment Method	Registration Type
L					
Laanan	Frankie	Iowa State University	Paid	Credit Card	General Attendee
LaGarry	Hannan E.	Oglala Lakota College	Not Paid		BIO Invitee
LaiHing	Kenneth	Oakwood University	Paid	Credit Card	General Attendee
Lalley	Peter	Rochester Institute of Technology/National Technical Institute for the Deaf	Paid	Credit Card	General Attendee
Lambertus	Amanda	North Carolina State University	Paid	Credit Card	General Attendee
Lamy	Chrisnel	Stony Brook University	Paid	Check	General Attendee
Lancaster	Sondra	United Negro College Fund Special Programs	Paid	Credit Card	General Attendee
Lange	Sheila	University of Washington	Paid	Credit Card	General Attendee
Largo	Ramondo	Southwestern Indian Polytechnic Institute (SIPI)	Session Only	None Required	Session Only
Laurencio	David	Auburn University	Paid	Credit Card	General Attendee
Lawrence	Elizabeth	National Science Foundation	Session Only	None Required	Session Only
Lawson	Daryl	Alabama Agricultural and Mechanical University	Paid	Credit Card	General Attendee
Layne	Peggy	Virginia Polytechnic Institute and State University	Paid	Credit Card	General Attendee
Leddy	Mark	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Ledesma	Norma	New Mexico State University	Paid	Credit Card	General Attendee
Lee	Clarence	Howard University	Not Paid	Check	General Attendee
Leggon	Cheryl	Georgia Tech University	Session Only	None Required	Session Only
Leibnitz	Gretalyn	Washington State University	Paid	Credit Card	General Attendee
Lencinas	Alejandro	More Graduate Education at Mountain States Alliance /The University of Arizo	Paid	Check	General Attendee
Lent	Robert	University of Maryland	Paid	Credit Card	General Attendee
Leszczynski	Jerzy	Jackson State University	Paid	Check	BIO Invitee
Leyva	Maria	University of New Mexico	Paid	Credit Card	General Attendee
Lincoln	Anne	Southern Methodist University	Paid	Credit Card	General Attendee
Lindsey	Glenda	Coppin State University	Not Paid	Other	General Attendee
Lindsey	Rachel	Chicago State University	Paid	Check	General Attendee
Lipari	Eric	California State University, Los Angeles	Paid	Check	General Attendee
Loesch	Connie	Portland State University	Paid	Credit Card	General Attendee
Long	Terri S.	Duke University	Not Paid		BIO Invitee
Lopez	Carlos	Iowa State University	Paid	Credit Card	General Attendee
Lopez	Yvonne	University of Texas, El Paso	Paid	Check	General Attendee
Lord	Susan	University of San Diego	Paid	Credit Card	General Attendee
Lorden	Joan	University of North Carolina, Charlotte	Paid	Credit Card	General Attendee
Lowney	Trish	Syracuse University	Session Only	None Required	Session Only
Lufkin	Mimi	National Alliance for Partnerships in Equity Education Foundation	Paid	Credit Card	General Attendee
Lyons	Elizabeth	National Science Foundation	Session Only	None Required	Session Only
M					
Macias	Victoria	Colorado State University	Paid	Credit Card	General Attendee
Mack	Kelly	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Mack	Kelly	University of Maryland, Eastern Shore	Session Only	None Required	Session Only
Maclin	Arlene	Norfolk State University	Paid	Check	General Attendee
Madsen	Bob	Chief Dull Knife Memorial College	Paid	Credit Card	General Attendee
Maduike	Dumezie	Texas A&M University	Paid	Credit Card	General Attendee
Maier	Julie	University of Alaska, Fairbanks	Paid	Credit Card	General Attendee
Major	Margaret	Georgia Perimeter College	Paid	Check	General Attendee
Maling	Joan	National Science Foundation	Session Only	None Required	Session Only
Mamoon	Naila	University of Mississippi Medical Center	Paid	Credit Card	BIO Invitee
Mangana	Jan	Hampton University	Not Paid	Check	General Attendee
Mann	Adin	Iowa State University	Paid	Credit Card	General Attendee
Mann	Seth	National Science Foundation	Session Only	None Required	Session Only
Manzanilla	Elaine	University of New Mexico	Paid	Credit Card	General Attendee
Manzoul	Mahmoud	Jackson State University	Paid	Credit Card	General Attendee

Last Name	First Name	Company	Status	Payment Method	Registration Type
Marcano	Aristides	Delaware State University	Not Paid		General Attendee
Marchello	Kainoa	Kapiolani Community College	Not Paid	Other	General Attendee
Marchi	Kal	University of Houston	Session Only	None Required	Session Only
Marcus	Christina	Clark Atlanta University	Paid	Check	General Attendee
Marcus	Susan	U.S. Geological Survey	Session Only	None Required	Session Only
Markoff	Diane	North Carolina Central University	Not Paid	Other	General Attendee
Marra	Rose	University of Missouri	Paid	Credit Card	General Attendee
Martella	Anne	Drexel University	Session Only	None Required	Session Only
Martin	Jay	Midwest Alliance in Science, Technology, Engineering and Mathematics	Paid	Credit Card	General Attendee
Martinez	Alvaro	Texas A&M University-Kingsville	Paid	Check	General Attendee
Marville	Kelly	Salish Kootenai College	Paid	Credit Card	General Attendee
Mason	Kristen	Fort Berthold Community College	Not Paid	Check	General Attendee
Mathews	Amber	Louisiana State University	Paid	Credit Card	General Attendee
Matt	C. Diane	Women in Engineering ProActive Network	Paid	Credit Card	General Attendee
Mattix	Larry	Norfolk State University	Paid	Credit Card	General Attendee
Maung	Nina	Stony Brook University	Paid	Credit Card	General Attendee
Maxwell	Beverly	Dine College	Paid	Check	General Attendee
Maxwell	Shelia	Tennessee State University	Not Paid	Other	General Attendee
Mbarika	Victor	Southern University	Session Only	None Required	Session Only
Mbata	George	Fort Valley State University	Paid	Credit Card	General Attendee
McArrell	Bianca	Nisonger Center, Ohio State University	Not Paid		General Attendee
McAteer	Kate	Washington State University - Tri Cities	Not Paid		BIO Invitee
McBay	Shirley	Quality Education for Minorities Network	Paid	Check	General Attendee
McClinton	Regina	Grand Valley State University	Not Paid		BIO Invitee
McConnell	Justice	North Carolina Central University	Not Paid	Other	General Attendee
McCourt	Rick	National Science Foundation	Session Only	None Required	Session Only
McCoy	Rhonda	Howard University	Not Paid	Check	General Attendee
McDaniels	Melissa	Michigan State University	Paid	Credit Card	General Attendee
McDavid	Lee	Dartmouth College	Paid	Credit Card	General Attendee
McGahey	Evelana	Southwestern Indian Polytechnic Institute (SIPI)	Session Only	None Required	Session Only
McGahey	Michael	Southwestern Indian Polytechnic Institute (SIPI)	Session Only	None Required	Session Only
McHenry	Albert	More Graduate Education at Mountain States Alliance / Western Alliance to E	Paid	Check	General Attendee
McHenry	William	Mississippi e-Center at Jackson State University	Not Paid	Other	General Attendee
McKamey	Corinne	Wellesley Centers for Women	Paid	Credit Card	General Attendee
McLean	Lois	McLean Media	Paid	Credit Card	General Attendee
McManus	Tawny	University of Maryland, Baltimore County	Paid	Credit Card	General Attendee
McMorris	Montreal	Howard University	Not Paid	Check	General Attendee
McNair	Lily	Spelman College	Session Only	None Required	Session Only
McNeely	Connie	George Mason University	Session Only	None Required	Session Only
McQuillan	Julia	University of Nebraska-Lincoln	Paid	Credit Card	General Attendee
McRae	Lynn	Johnson Crayne Smith University	Paid	Check	General Attendee
Medicine Horse	Eva	Chief Dull Knife Memorial College	Paid	Credit Card	General Attendee
Meehan	John	Chicago State University	Session Only	None Required	Session Only
Melendez	Elvia	University of Puerto Rico, Rio Piedras	Paid	Credit Card	General Attendee
Melikechi	Noureddine	Delaware State University	Paid	Credit Card	General Attendee
Melikyan	Hayk	North Carolina Central University	Not Paid	Other	General Attendee
Mellieon-Williams	Francesca	Southern University	Paid	Check	General Attendee
Mendoza	Elizabeth	University of California, Santa Cruz	Paid	Credit Card	General Attendee
Meneses	Johanny	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
Mensah	Patrick	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Meredith	Andrea	University of Maryland School of Medicine	Not Paid		BIO Invitee
Meszaros	Peggy	Virginia Polytechnic Institute and State University	Paid	Credit Card	General Attendee
Metz	Susan	Center for Innovation in Engineering and Science Education, Stevens Institute	Session Only	None Required	Session Only

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Meyen	Ed	University of Kansas	Paid	Credit Card	General Attendee
☐	Meyers	Carolyn	Norfolk State University	Session Only	None Required	Session Only
☐	Michalek	Donna	Michigan Technological University	Paid	Credit Card	General Attendee
☐	Miele	Josh	Smith-Kettlewell Eye Research	Paid	Check	General Attendee
☐	Milgram	Donna	Institute for Women in Trades, Technology & Science	Paid	Credit Card	General Attendee
☐	Milledge	Gaolin	North Carolina Central University	Paid	Credit Card	General Attendee
☐	Miller	Eric	Western Alliance to Expand Student Opportunities/More Graduate Education	Paid	Check	General Attendee
☐	Mills	Latia	National Science Foundation	Session Only	None Required	Session Only
☐	Milner	Marshall	University of Massachusetts Boston	Paid	Credit Card	General Attendee
☐	Milton	Katie	University of Florida	Paid	Credit Card	General Attendee
☐	Minnis Fernander	Tia	University of Georgia	Paid	Check	General Attendee
☐	Miranda	Yesenia	Stony Brook University	Paid	Check	General Attendee
☐	Mitchell	Annette	Global Evaluation and Applied Research Solutions (GEARS), Inc.	Session Only	None Required	Session Only
☐	Mitchell	Burgess	Vanderbilt University	Session Only	None Required	Session Only
☐	Mitchell	Deborah	University of Michigan	Paid	Credit Card	General Attendee
☐	Mitchell	Gwendolyn	South Carolina State University	Paid	Check	General Attendee
☐	Mitchell	James	Howard University	Paid	Check	General Attendee
☐	Mixon	Bobbie	National Science Foundation	Session Only	None Required	Session Only
☐	Moeller	Babette	Education Development Center	Paid	Credit Card	General Attendee
☐	Mohamed	Abdul	Jackson State University	Paid	Check	General Attendee
☐	Molloy	Elizabeth	Georgia Perimeter College	Paid	Check	General Attendee
☐	Montalvo	Roy	Texas A&M University	Paid	Credit Card	General Attendee
☐	Montclare	Jin	Polytechnic Institute of NYU	Not Paid		BIO Invitee
☐	Montgomery	Clyde	Langston University	Not Paid	Other	General Attendee
☐	Montoya	Alicia	Southwestern Indian Polytechnic Institute (SIPI)	Session Only	None Required	Session Only
☐	Montoya	Angela	University of New Mexico	Paid	Credit Card	General Attendee
☐	Monzon	Javier	Stony Brook University	Paid	Check	General Attendee
☐	Moore	Ana	Western Alliance to Expand Student Opportunities/More Graduate Education	Paid	Check	General Attendee
☐	Moore	Ladesha	Louisiana State University	Paid	Credit Card	General Attendee
☐	Moore III	James	The Ohio State University, Todd Anthony Bell National Resource Center on th	Paid	Check	General Attendee
☐	Morales	Emmanuel	Western Alliance to Expand Students Opportunity Bridge to the Doctorate/Ariz	Paid	Check	General Attendee
☐	Morales	Romarie	Western Alliance to Expand Students Opportunity Bridge to the Doctorate/Ariz	Paid	Check	General Attendee
☐	Moreira	Cristina	Bennett College	Paid	Credit Card	General Attendee
☐	Moreno	Benjamin	Western Alliance to Expand Students Opportunity Bridge to the Doctorate/Ariz	Paid	Check	General Attendee
☐	Moreno	Omar	California State University, Los Angeles	Paid	Check	General Attendee
☐	Morgan	Scott	Sisseton Wahpeton College	Not Paid	Check	General Attendee
☐	Morgan	Sherilyn	Florida Agricultural and Mechanical University	Paid	Credit Card	BIO Invitee
☐	Morre	Damien	Southwestern Indian Polytechnic Institute (SIPI)	Session Only	None Required	Session Only
☐	Morris	Diana	College of Menominee Nation	Paid	Check	General Attendee
☐	Morris-King	James	Auburn University	Paid	Credit Card	General Attendee
☐	Morrison	Joy	University of Alaska, Fairbanks	Paid	Credit Card	General Attendee
☐	Morrow	Christine	University of Colorado	Session Only	None Required	Session Only
☐	Mow	Shirley	The Feminist Press at City University of New York	Paid	Credit Card	General Attendee
☐	Muller	Chandra	University of Texas at Austin	Session Only	None Required	Session Only
☐	Muller-Parker	Gisele	National Science Foundation	Session Only	None Required	Session Only
☐	Mupasiri	Douglas	University of Northern Iowa	Paid	Credit Card	General Attendee
☐	Murillo	David	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee
☐	Murray	Elizabeth	Marshall University	Not Paid		General Attendee
☐	Murray	Kenneth	North Carolina Agricultural and Technology State University	Paid	Credit Card	General Attendee
☐	Myers	Damien	Howard University	Not Paid	Check	General Attendee
☐	Myers	Michelle	Texas A&M University	Paid	Credit Card	General Attendee
☐	Myers	Tabitha	Delaware State University	Paid	Credit Card	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
N						
☐	Nabers	Michael	Alaska Native Science & Engineering Program	Paid	Credit Card	General Attendee
☐	Nagel	Joane	University of Kansas	Paid	Credit Card	BIO Invitee
☐	Nagle	Katherine	SRI International	Session Only	None Required	Session Only
☐	Nakama	Debbie	Maui Community College	Paid	Credit Card	General Attendee
☐	Nash	Jennifer	Howard University	Not Paid	Check	General Attendee
☐	Navarrete	Jesica	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
☐	Nave	Felecia	Prairie View Agricultural and Mechanical University	Not Paid	Other	General Attendee
☐	Newkirk	Robert	Tennessee State University	Not Paid	Check	General Attendee
☐	Newsome	Cassandra	Mississippi Valley State University	Paid	Check	General Attendee
☐	Ngo	Minh	Oklahoma State University	Paid	Credit Card	General Attendee
☐	N'Guerekata	Gaston	Morgan State University	Paid	Credit Card	General Attendee
☐	Nguyen	Loan	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee
☐	Niamat	Rohina Amiri	Delaware State University	Paid	Credit Card	General Attendee
☐	Nickerson	Kim	University of Maryland, College Park	Paid	Credit Card	General Attendee
☐	Nippert	Jesse	Kansas State University	Not Paid		BIO Invitee
☐	Njoroge	Jean	Texas A&M University	Paid	Credit Card	General Attendee
☐	Nkwanta	Asamoah	Morgan State University	Session Only	None Required	Session Only
☐	Noa	Keolani	Kapiolani Community College	Not Paid	Other	General Attendee
☐	Noel	Joseph	Stony Brook University	Paid	Check	General Attendee
☐	Nunez	Antonio	Michigan State University Graduate School	Paid	Credit Card	General Attendee
☐	Nyormoi	Okot	North Carolina Central University	Paid	Credit Card	BIO Invitee
O						
☐	Oâ€™Brien	Christine	National Academy of Science, Ford Foundation Fellowship Program	Session Only	None Required	Session Only
☐	Obeng	Morrison	Bethune-Cookman University	Paid	Credit Card	General Attendee
☐	Ocasio-Torres	Maria	University of Puerto Rico	Not Paid	Check	General Attendee
☐	O'Connor	Sally	National Science Foundation	Paid	Payed by Contract	BIO Invitee
☐	Ogonji	Gilbert	Coppin State University	Not Paid	Other	General Attendee
☐	Ogunro	Olayinka	Clark Atlanta University	Not Paid	Check	General Attendee
☐	Okpodu	Camellia	Norfolk State University	Paid	Check	BIO Invitee
☐	Okpodu	Samelia	Howard University	Not Paid	Check	General Attendee
☐	Oloko	Ademola	Southern University and Agricultural and Mechanical College	Paid	Check	General Attendee
☐	Olson	Melfried	Curriculum Research and Development Group, University of Hawaii	Paid	Credit Card	General Attendee
☐	Olson	Tim	Salish Kootenai College	Paid	Credit Card	General Attendee
☐	Omojola	Joe	Southern University at New Orleans	Not Paid	Other	BIO Invitee
☐	Ong	Maria	Technical Education Research Center	Paid	Credit Card	General Attendee
☐	Onyenucheya	Barnard	University at Buffalfo, The State University of New York	Paid	Credit Card	General Attendee
☐	Orona	Gabriella	Whittier College	Paid	Credit Card	General Attendee
☐	Ortega	Omayra	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee
☐	Ortiz Zayas	Jorge	University of Puerto Rico	Paid	Credit Card	General Attendee
☐	Ortiz-Bermúdez	Patricia	University of Puerto Rico - Mayaguez	Not Paid		BIO Invitee
☐	Osborn	Jeffrey	University of Kentucky	Paid	Credit Card	BIO Invitee
☐	Osei	Richard	Ohio State University	Paid	Credit Card	General Attendee
☐	Ostling	Annette	University of Michigan	Not Paid		BIO Invitee
☐	Otero	Elsie	Massachusetts Institute of Technology	Paid	Check	General Attendee
☐	Owens	Nafeesa	National Science Foundation	Session Only	None Required	Session Only
P						
☐	Pachas	Erik	California State University, Los Angeles	Paid	Check	General Attendee
☐	Packard	Becky	Mount Holyoke College	Paid	Credit Card	General Attendee
☐	Padilla	Rosa	California State University, Los Angeles	Paid	Check	General Attendee
☐	Painter	Sherry	LeMoyne-Owen College	Paid	Check	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Palacios	Michelle	California State University, Los Angeles	Paid	Check	General Attendee
☐	Palmer	M. Adam	Illinois LSAMP	Session Only	None Required	Session Only
☐	Pandya	Rajul	University Corporation for Atmospheric Research	Paid	Credit Card	General Attendee
☐	Pang	Su-Seng	Louisiana State University	Paid	Credit Card	General Attendee
☐	Panoff	Robert	Shodor	Paid	Credit Card	General Attendee
☐	Paranawithana	Shanthi	Hampton University	Not Paid		BIO Invitee
☐	Pardo	Andrew	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
☐	Parker	Cass	Clark Atlanta University	Paid	Check	General Attendee
☐	Parker	David	Washington University in St. Louis	Paid	Credit Card	General Attendee
☐	Parker	Neville	City University of New York, City College of New York	Paid	Credit Card	General Attendee
☐	Patt	Colette	University of California, Berkeley	Paid	Credit Card	General Attendee
☐	Patterson	Leticia	United Negro College Fund Special Programs	Session Only	None Required	Session Only
☐	Patterson	Sara	National Science Foundation	Session Only	None Required	Session Only
☐	Pava	Jairo	Florida International University	Paid	Credit Card	General Attendee
☐	Pawley	Alice	Purdue University	Paid	Credit Card	General Attendee
☐	Payne	Wanda	Jackson State University	Paid	Check	General Attendee
☐	Peeples	Tonya	The University of Iowa	Paid	Credit Card	General Attendee
☐	Perry	Edward	Journal of Online Learning and Teaching	Paid	Credit Card	BIO Invitee
☐	Perry	Reginald	Florida Agricultural and Mechanical University	Not Paid	Other	General Attendee
☐	Person	William	Mississippi State University	Session Only	None Required	Session Only
☐	Persons	Carl	he National Aeronautics and Space Administration (NASA)	Session Only	None Required	Session Only
☐	Peters	Myron	Louisiana State University	Paid	Credit Card	General Attendee
☐	Petersen	Sandra	University of Massachusetts, Amherst	Paid	Credit Card	General Attendee
☐	Peterson	Karen	National Girls Collaborative Project	Paid	Credit Card	General Attendee
☐	Pettis	Carl	Alabama State University	Paid	Check	General Attendee
☐	Phaire-Washington	Linda	Argonne National Laboratory	Session Only	None Required	Session Only
☐	Phelps	Randy	National Science Foundation	Session Only	None Required	Session Only
☐	Phillips	Cynthia	University of Hawaii at Hilo	Paid	Credit Card	General Attendee
☐	Pickering	Kristin	University of Virginia	Paid	Check	General Attendee
☐	Pilati	Michelle	Journal of Online Learning and Training	Paid	Credit Card	BIO Invitee
☐	Pillai	Sarita	Education Development Center, Inc.	Session Only	None Required	Session Only
☐	Pinar	Pilar	Gallaudet University	Session Only	None Required	Session Only
☐	Pinkerman	Cody	Oklahoma State University	Paid	Credit Card	General Attendee
☐	Planas	Megan	San Antonio College	Paid	Credit Card	General Attendee
☐	Pollack	Judith	University of Maryland, Baltimore	Paid	Credit Card	General Attendee
☐	Pollard	Amy	Louisiana State University	Paid	Credit Card	General Attendee
☐	Ponce de Leon	Abel	University of Minnesota	Paid	Credit Card	General Attendee
☐	Pontelli	Enrico	New Mexico State University	Paid	Credit Card	General Attendee
☐	Poole	Wendi	ICF Macro International	Session Only	None Required	Session Only
☐	Porche	Michelle	Wellesley Centers for Women, Wellesley College	Not Paid	Other	General Attendee
☐	Porter	Kay	Oklahoma State University	Not Paid	Other	General Attendee
☐	Powell	James	National Physical Science Consortium	Session Only	None Required	Session Only
☐	Powers	Laurie	Portland State University	Paid	Credit Card	General Attendee
☐	Powless	Donna	College of Menominee Nation	Paid	Check	General Attendee
☐	Prade	Kareen	University of New Mexico	Paid	Credit Card	General Attendee
☐	Price	Donald	University of Hawaii at Hilo	Paid	Credit Card	BIO Invitee
☐	Primeaux	Rosan	Quality Education for Minorities Network	Session Only	None Required	Session Only
☐	Pringle	Rose	University of Florida	Paid	Credit Card	General Attendee
☐	Prival	Joan	National Science Foundation	Session Only	None Required	Session Only
☐	Pruitt	Karl	Lawson State Community College	Paid	Credit Card	General Attendee
☐	Puebla	Karina	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
☐	Pulat	P. Simin	University of Oklahoma	Paid	Check	General Attendee

Last Name	First Name	Company	Status	Payment Method	Registration Type
QR					
Quek	Francis	Virginia Polytechnic Institute and State University	Paid	Credit Card	General Attendee
Rafert	Bruce	Clemson University Graduate School	Paid	Credit Card	General Attendee
Ragan	Vicky	Evaluation and Research Associates	Paid	Credit Card	General Attendee
Rahamatali	Vicky	The American Association for the Advancement of Science	Session Only	None Required	Session Only
Rahmani	Munir	Bethune-Cookman University	Paid	Check	General Attendee
Rajaram	Suparna	State University of New York- Stony Brook	Paid	Credit Card	BIO Invitee
Rakhmanov	Malik	The University of Texas at Brownsville	Paid	Credit Card	General Attendee
Ramesh	Govindarajan	Norfolk State University	Not Paid	Other	BIO Invitee
Ramirez	Ana	California State University, Los Angeles	Paid	Check	General Attendee
Ramirez-Reinat	Edgardo	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee
Rand	John	Kapiolani Community College	Not Paid	Other	General Attendee
Rangari	Vijaya	Tuskegee University	Not Paid	Check	General Attendee
Ranjan	Desh	New Mexico State University	Paid	Credit Card	General Attendee
Rankin	Patricia	University of Colorado, Boulder	Paid	Credit Card	General Attendee
Rankins	Claudia	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Rauscher	Jason	University of Puerto Rico	Paid	Credit Card	General Attendee
Ray	Paresh	Jackson State University	Not Paid	Other	General Attendee
Ray	Rochelle	National Science Foundation	Session Only	None Required	Session Only
Rayman	Paula	University of Massachusetts, Lowell, Working WISE Project	Paid	Credit Card	General Attendee
Reddy	Michael	National Science Foundation	Session Only	None Required	Session Only
Reed	Dorothy	Purdue University	Paid	Credit Card	General Attendee
Reed	Frank	Fort Berthold Community College	Not Paid	Check	General Attendee
Reed	Joseph	National Science Foundation	Session Only	None Required	Session Only
Reed	Wendy	North Dakota State University - Fargo	Paid	Credit Card	General Attendee
Reisberg	Rachelle	Northeastern University	Paid	Credit Card	General Attendee
Reishchman	Mike	National Science Foundation	Paid	Payed by Contract	General Attendee
Reiter	Laurie	College of Menominee Nation	Paid	None Required	NSF Staff (HRD Only)
Renta	Isha	Howard University	Paid	Credit Card	General Attendee
Restrepo	Jorge	Texas A&M University	Paid	Credit Card	General Attendee
Reutter, III	John	J.F. Drake State Technical College	Paid	Credit Card	General Attendee
Reuven	Darkeyah	Clark Atlanta University	Not Paid	Other	General Attendee
Richards	Harry	University of Tennessee	Paid	Credit Card	General Attendee
Ridky	Bob	U.S. Geological Survey	Session Only	None Required	Session Only
Riegle-Crumb	Catherine	University of Texas at Austin	Paid	Credit Card	General Attendee
Rieker	Thomas	National Science Foundation	Session Only	None Required	Session Only
Rigg	Yannick	Stony Brook University	Paid	Check	General Attendee
Rinehart	Jan	Rice University	Paid	Credit Card	General Attendee
Rios	Rafael	University of Puerto Rico, Rio Piedras	Paid	Credit Card	General Attendee
Rios Hernandez	Luis A.	University of Puerto Rico - Mayagu?ez	Not Paid		BIO Invitee
Rivera	Manuel	University of New Mexico	Paid	Credit Card	General Attendee
Rivera-Rentas	Alberto	National Institute of General Medical Sciences	Session Only	None Required	Session Only
Rivera-Vélez	Nelson	University of Puerto Rico, Rio Piedras	Not Paid	Check	General Attendee
Rivero	Kennett	University of Puerto Rico, Rio Piedras	Not Paid	Check	General Attendee
Robins	Jana	Louisiana State University	Paid	Credit Card	General Attendee
Robles	Carlos	California State University, Los Angeles	Paid	Credit Card	BIO Invitee
Rodewald	Richard	National Science Foundation/Directorate for Biological Sciences	Session Only	None Required	Session Only
Rodriguez	Alexis J.	Rutgers, The State University of New Jersey	Not Paid		BIO Invitee
Rodriguez	Carlos	American Institutes for Research (AIR)	Session Only	None Required	Session Only
Rodriguez	Douglas	Texas A&M University	Paid	Credit Card	General Attendee
Rodriguez	Rose	Texas A&M University-Kingsville	Paid	Check	General Attendee
Rodriguez	Sara	University of Texas System Louis Stokes Alliance for Minority Participation	Not Paid	Check	General Attendee
Rogers	Al-Aakhir	University of South Florida	Session Only	None Required	Session Only

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Rogers	Amy	Delaware State University	Not Paid	Other	General Attendee
☐	Rohrer	Gregory		Session Only	None Required	Session Only
☐	Rolfes	Jennifer	Texas A&M University	Paid	Credit Card	General Attendee
☐	Romero	Manuela	University of Wisconsin - Madison	Paid	Credit Card	General Attendee
☐	Romero	Rodrigo	University of Texas at El Paso	Paid	Credit Card	General Attendee
☐	Romney	Carla	Boston University School of Medicine	Paid	Credit Card	General Attendee
☐	Rose	Raymond	MentorNet	Paid	Credit Card	General Attendee
☐	Rose	Tonya	Southern University at Baton Rouge	Paid	Credit Card	General Attendee
☐	Ross	Jetaime	Jackson State University	Paid	Check	General Attendee
☐	Ross	Kimi	University of Alaska, Fairbanks	Paid	Credit Card	General Attendee
☐	Rothberg	Madeleine	WGBH National Center for Accessible Media	Paid	Credit Card	General Attendee
☐	Rowley	Rex	Haskell Indian Nations University	Paid	Credit Card	General Attendee
☐	Ruiz	Rachel	University of Texas at San Antonio	Not Paid	Other	General Attendee
☐	Ruiz-Canino	Francheska	Universidad de Puerto Rico	Paid	Credit Card	General Attendee
☐	Rush	Cassandra	Allen University	Not Paid	Other	General Attendee
	S					
☐	Sabanayagam	Chandran	Delaware State University	Paid	Credit Card	General Attendee
☐	Sadler	Philip	Harvard-Smithsonian Center for Astrophysics	Paid	Credit Card	General Attendee
☐	Sahley	Chris	Purdue University	Paid	Credit Card	General Attendee
☐	Salau	Kehinde	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
☐	Salazar	Jeannette	Texas A&M University	Paid	Credit Card	General Attendee
☐	Salley	Judith	South Carolina State University	Paid	Check	General Attendee
☐	Salley	Steven	Wayne State University	Paid	Credit Card	General Attendee
☐	Saltzman	Julie	Sloan Foundation	Session Only	None Required	Session Only
☐	Sampson	Gregory	United Negro College Fund Special Programs	Session Only	None Required	Session Only
☐	Sanchez	Angelica	University of New Mexico	Paid	Credit Card	General Attendee
☐	Sanchez	Sara	University of Arizona	Paid	Credit Card	General Attendee
☐	Sanders	Jason	Lac Courte Oreilles Ojibwe Community College	Paid	Check	General Attendee
☐	Sanders	Timmy	Auburn University	Paid	Credit Card	General Attendee
☐	Sankar	Jag	North Carolina Agricultural and Technology State University	Paid	Credit Card	General Attendee
☐	Santamaria	Danilo	California State University, Los Angeles	Paid	Check	General Attendee
☐	Santiago	Linmaris	University of Maryland, College Park	Paid	Credit Card	General Attendee
☐	Santiago	Victor	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Sarin	Sanjiv	North Carolina Agricultural and Technology State University	Paid	Check	General Attendee
☐	Sawyer	Don	Syracuse University	Paid	Credit Card	General Attendee
☐	Scandura	Terri	University of Miami	Paid	Credit Card	General Attendee
☐	Scantlebury	Kate	University of Delaware	Paid	Credit Card	General Attendee
☐	Schmidt	Jennifer	Northern Illinois University	Paid	Credit Card	General Attendee
☐	Schneps	Matthew	Harvard-Smithsonian Center for Astrophysics	Paid	Credit Card	General Attendee
☐	Schroeder	Herbert	Alaska Native Science & Engineering Program	Paid	Credit Card	General Attendee
☐	Schulte	Kathryn	Northeastern University	Paid	Credit Card	General Attendee
☐	Schwartz	Amy	New York University	Paid	Credit Card	General Attendee
☐	Schwartz	Brian	The Graduate Center of the City University of New York	Paid	Credit Card	General Attendee
☐	Schwert	Donald	North Dakota State University	Paid	Credit Card	General Attendee
☐	Scott	Derrick	University of Michigan	Paid	Credit Card	General Attendee
☐	Scott	Reba	Texas Southern University	Paid	Credit Card	General Attendee
☐	Seal	Susan	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
☐	Sears	Kathy	Purdue University	Paid	Credit Card	General Attendee
☐	Segal	Eden	Westat Evaluation Contract	Session Only	None Required	Session Only
☐	Seo	Jaetae	Hampton University	Not Paid	Other	General Attendee
☐	Serrano	Daniel	University of Maryland, College Park	Paid	Credit Card	General Attendee
☐	Serrano	Laura	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee

Last Name	First Name	Company	Status	Payment Method	Registration Type
Seto-Mook	Tyson	University of Hawaii at Manoa	Not Paid	Other	General Attendee
Sevo	Ruta		Paid	Credit Card	General Attendee
Shadrick	Betty	University at Albany, State University of New York	Not Paid	Check	General Attendee
Shafer	David	North Carolina State University	Paid	Credit Card	General Attendee
Shafi	Muhammad	LeMoyne-Owen College	Paid	Check	General Attendee
Shahin	Mazen	Delaware State University	Paid	Credit Card	General Attendee
Shanahan	Betty	Society of Women Engineers	Paid	Credit Card	General Attendee
Shand	O'Neil	Illinois LSAMP	Session Only	None Required	Session Only
Sharma	Amy	National Science Foundation	Session Only	None Required	Session Only
Sharpe	Juanita C.	Chicago State University	Not Paid		BIO Invitee
Sharpe, Jr.	Lonnie	Tennessee State University	Not Paid	Other	General Attendee
Shaw	Pamella	Purdue University	Paid	Credit Card	General Attendee
Sheppard	Eric	Hampton University	Session Only	None Required	Session Only
Sheu	Eileen	University of Chicago	Session Only	None Required	Session Only
Shingledecker	Clark	Wright State University	Paid	Credit Card	General Attendee
Shoffner	Marie	University of Virginia	Paid	Credit Card	General Attendee
Shute	Marcus	Clark Atlanta University	Paid	Check	General Attendee
Silo-Suh	Laura	Auburn University	Not Paid		BIO Invitee
Silva	Diana	University of Puerto Rico	Not Paid	Other	General Attendee
Simmons	Kevin	Auburn University	Paid	Credit Card	General Attendee
Simms	Pat	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Simon	Derek	Auburn University	Paid	Credit Card	General Attendee
Simpkins	Nerissa	Bowie State University	Session Only	None Required	Session Only
Simpson	Waltena	South Carolina State University	Not Paid		BIO Invitee
Singh	Romila	University of Wisconsin - Milwaukee	Paid	Credit Card	BIO Invitee
Singh	Shree	Alabama State University	Paid	Check	General Attendee
Slakey	Linda	National Science Foundation	Paid	Payed by Contract	General Attendee
Smith	Aaron P.	Louisiana State University	Paid	Credit Card	BIO Invitee
Smith	Barbara	North Carolina State University	Not Paid		General Attendee
Smith	Dwyane	Harris-Stowe State University	Paid	None Required	NSF Staff (HRD Only)
Smith	Gail	City University of New York	Paid	Credit Card	General Attendee
Smith	Jarret	Tennessee Tech University	Paid	Credit Card	General Attendee
Smith	Maurice	Delaware State University	Paid	Credit Card	General Attendee
Smith	Maxine	Jackson State University	Not Paid	Check	General Attendee
Smith	Paige	University of Maryland	Paid	Credit Card	General Attendee
Smith	Rachel	University of Montana	Paid	Credit Card	General Attendee
Smith	Reuel	University of Maryland, College Park	Paid	Credit Card	General Attendee
Smith-Doerr	Laurel	National Science Foundation	Session Only	None Required	Session Only
Smoot	Vicki	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Snowden	Brandy	Louisiana State University	Paid	Credit Card	General Attendee
Snowden	Frank	University of Minnesota	Paid	Credit Card	General Attendee
Soho	Edme	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
Sokolov	Carol	University of California, Irvine	Paid	Credit Card	General Attendee
Soliman	Khary	Alabama Agricultural and Mechanical University	Paid	Check	General Attendee
Song	Joe	New Mexico State University	Paid	Credit Card	General Attendee
Sonnert	Gerhard	Harvard University	Paid	Credit Card	General Attendee
Soto	Leticia	Western Alliance to Expand Student Opportunities/Arizona State University	Paid	Check	General Attendee
Sotomayor-Castro	Yaralid	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
Sowers	Jo-Ann	Portland State University	Paid	Credit Card	General Attendee
Spain	Denise	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
Spears	Brandy	Tennessee Tech University	Paid	Credit Card	General Attendee
Spence	Cynthia	Spelman College	Session Only	None Required	Session Only
Spencer McNair	Tia	National College Access Network	Session Only	None Required	Session Only

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Sprung	Barbara	Academy for Educational Development	Paid	Check	General Attendee
☐	Squitieri	Louise	New York City Alliance	Paid	Check	General Attendee
☐	Srivastava	Sadanand	Bowie State University	Paid	Credit Card	General Attendee
☐	St. Omer	Ingrid	University of Kentucky	Paid	Credit Card	General Attendee
☐	St. Rose	Andresse	American Association of University Women	Paid	Credit Card	General Attendee
☐	Staffin Metz	Susan	Stevens Institute of Technology	Paid	Credit Card	General Attendee
☐	Steele	Ernest	Morgan State University	Paid	Credit Card	General Attendee
☐	Steets	Janette	Oklahoma State University	Not Paid		BIO Invitee
☐	Stefanich	Greg	University of Northern Iowa	Paid	Credit Card	General Attendee
☐	Steffen-Fluhr	Nancy	New Jersey Institute of Technology	Paid	Check	General Attendee
☐	Steinke	Jocelyn	Western Michigan University	Paid	Credit Card	General Attendee
☐	Stevens	Tammy	Massachusetts Institute of Technology - Office of Minority Education	Paid	Check	General Attendee
☐	Stinson	Michael	Rochester Institute of Technology	Paid	Credit Card	General Attendee
☐	Stodden	Robert	Center on Disability Studies, University of Hawaii at Manoa	Paid	Credit Card	BIO Invitee
☐	Storey	Charles (Chip)	American Institutes for Research (AIR)	Session Only	None Required	Session Only
☐	Story	Amber	National Science Foundation	Session Only	None Required	Session Only
☐	Strand	Christine	California Polytechnic State University	Not Paid		BIO Invitee
☐	Strempel	Eileen	Syracuse University	Paid	Credit Card	General Attendee
☐	Suarez	Oscar	University of Puerto Rico, Mayaguez	Paid	Credit Card	General Attendee
☐	Suiter	Marilyn	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Sullivan	Michael	More Graduate Education at Mountain States Alliance /Western Alliance to Ex	Paid	Check	General Attendee
☐	Sungar	Nilgun	California Polytechnic State University San Luis Obispo	Paid	Credit Card	General Attendee
☐	Sunkar	Ramanjulu	Oklahoma State University	Not Paid		BIO Invitee
☐	Supalo	Cary	Penn State University	Session Only	None Required	Session Only
☐	Suskin	Mark	National Science Foundation	Session Only	None Required	Session Only
☐	Suslov	Vladimir	North Carolina Central university	Not Paid	Other	General Attendee
☐	Swan	Amy	University of Virginia	Paid	Credit Card	General Attendee
	T					
☐	Tabibi	Bagher	Hampton University	Not Paid	Other	General Attendee
☐	Takabayashi	Misaki	University of Hawaii at Hilo	Paid	Check	General Attendee
☐	Tallbull	Meredith	Chief Dull Knife Memorial College	Paid	Credit Card	General Attendee
☐	Tam	Mo-Yin	University of Illinois at Chicago	Paid	Credit Card	General Attendee
☐	Tamarkin	Dawn	Springfield Technical Community College	Paid	Credit Card	General Attendee
☐	Tang	Guoqing	North Carolina Agricultural and Technology State University	Paid	Credit Card	General Attendee
☐	Tang	Yongan	North Carolina Central University	Not Paid	Other	General Attendee
☐	Tarleton	Heather	University of California, Los Angeles	Paid	Credit Card	General Attendee
☐	Tatum	Shaquetta	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
☐	Taylor	Carolyn	Clark Atlanta University	Paid	Check	General Attendee
☐	Taylor	Orlando	Howard University	Not Paid	Check	General Attendee
☐	Tchounwou	Martha	Jackson State University	Paid	Check	General Attendee
☐	Temple	Doyle	Hampton University	Not Paid	Check	General Attendee
☐	Terrell	Lekeith	Louisiana State University	Paid	Check	General Attendee
☐	Tessema	Guebre	National Science Foundation	Session Only	None Required	Session Only
☐	Tessman	Rick	McLean Media	Paid	Credit Card	General Attendee
☐	Theodose	Theresa A.	University of Southern Maine	Not Paid		BIO Invitee
☐	Thomas	Cindy	Stony Brook University	Paid	Credit Card	General Attendee
☐	Thomas	Letitia	University at Buffalfo, The State University of New York	Paid	Credit Card	General Attendee
☐	Thomas	Sandra	Institute for Broadening Participation	Paid	Credit Card	General Attendee
☐	Thompson	Bethtrice	Howard University	Not Paid	Check	General Attendee
☐	Thompson	Herbert	Bethune-Cookman University	Paid	Check	General Attendee
☐	Thompson	Jeffrey	Delaware State University	Paid	Credit Card	General Attendee
☐	Thompson	Levi	University of Michigan	Paid	Credit Card	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Thompson	Lezlie	Illinois Louis Stokes Alliance for Minority Participation	Paid	Check	General Attendee
☐	Thompson	Maria	Tennessee State University	Paid	Credit Card	General Attendee
☐	Thurston	Linda	Kansas State University	Paid	Credit Card	General Attendee
☐	Todd	Robert	Georgia Institute of Technology	Paid	Credit Card	General Attendee
☐	Tokuta	Alade	North Carolina Central University	Not Paid	Other	General Attendee
☐	Tolbert	Margaret	National Science Foundation	Session Only	None Required	Session Only
☐	Tolbert	Michelle	Texas Southern University	Not Paid	Check	General Attendee
☐	Toliver	LaMont	University of Maryland, Baltimore County	Paid	Credit Card	General Attendee
☐	Toole	Cornelius	Louisiana State University	Paid	Credit Card	General Attendee
☐	Tornow	Joanne	National Science Foundation	Paid	Payed by Contract	BIO Invitee
☐	Torres	Anthony	University of New Mexico	Paid	Credit Card	General Attendee
☐	Torres	Willis	Quality Education for Minorities Network	Session Only	None Required	Session Only
☐	Tosney	Kathryn	University of Miami	Paid	Credit Card	BIO Invitee
☐	Towns	Lorraine	City University of New York	Paid	Credit Card	General Attendee
☐	Trammel	Ming	North Carolina State University	Paid	Credit Card	General Attendee
☐	Tran	Uyen	University of North Texas	Paid	Credit Card	General Attendee
☐	Trauth	Eileen	Penn State University	Paid	Credit Card	General Attendee
☐	Tremblay	Raymond	Universidad de Puerto Rico	Paid	Credit Card	General Attendee
☐	Trevino	Juanita	University of New Mexico	Paid	Credit Card	General Attendee
☐	Trevino	Yolanda	Indiana University Graduate School	Paid	Credit Card	General Attendee
☐	Triff	Karen	Texas A&M University	Paid	Credit Card	General Attendee
☐	Trujillo	Jolene	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
☐	Truman	Kevin	University of Missouri-Kansas City School of Computing and Engineering	Paid	Credit Card	General Attendee
☐	Tucker	Telpriore	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee
☐	Tufail	Yusuf	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
☐	Tull	Renetta	University of Maryland, Baltimore County	Paid	Credit Card	General Attendee
☐	Tupas	Jermelina	National Institute of General Medical Sciences	Session Only	None Required	Session Only
☐	Turner	Ralph	Florida Agricultural and Mechanical University	Not Paid	Other	General Attendee
☐	Turner	Tiara	Delaware State University	Paid	Credit Card	General Attendee
☐	Turner	Tim	American Society for Engineering Education	Session Only	None Required	Session Only
☐	Tyler-Wood	Tandra	University of North Texas	Paid	Credit Card	General Attendee
☐	Tyson-Polk	Brandy	Louisiana State University	Paid	Credit Card	General Attendee
	UV					
☐	Uma	R.N.	North Carolina Central University	Paid	Credit Card	General Attendee
☐	Urasa	Isai	Hampton University	Paid	Credit Card	BIO Invitee
☐	Vadiee	Nader	Southwestern Indian Polytechnic Institute	Not Paid	Other	General Attendee
☐	Valaitis	Susie	Institute for Broadening Participation	Not Paid	Other	General Attendee
☐	Valdez	Bill	U.S. Department of Energy	Session Only	None Required	Session Only
☐	Vallas	Carolyn	School of Engineering/Center for Diversity in Engineering	Paid	Credit Card	General Attendee
☐	Valle	Henry	California State University, Los Angeles	Paid	Check	General Attendee
☐	Valles-Rosales	Delia	New Mexico State University	Paid	Credit Card	General Attendee
☐	Vallier	Mark	Lac Courte Oreilles Ojibwe Community College	Paid	Check	General Attendee
☐	Van Hartesveldt	Carol	National Science Foundation	Paid	Payed by Contract	General Attendee
☐	Van Schaack	Andrew	Vanderbilt University	Paid	Credit Card	General Attendee
☐	Vance	Tia	Delaware State University	Paid	Check	General Attendee
☐	Vasquez	Gloria	Mexico State University/ Educational Resource Center	Paid	Credit Card	General Attendee
☐	Vega	Laurian	Virginia Polytechnic Institute and State University	Paid	Credit Card	General Attendee
☐	Velazco	Yessenia	California State University, Los Angeles	Paid	Check	General Attendee
☐	Velazquez	Jesus	University at Buffalfo, The State University of New York	Paid	Credit Card	General Attendee
☐	Venter	J. Craig	J. Craig Venter Institute	Session Only	None Required	Session Only
☐	Vera	Marisol	University of Puerto Rico CID / Advance IT Catalyst	Not Paid	Other	General Attendee
☐	Verbeke	Judith	National Science Foundation/Directorate for Biological Sciences	Session Only	None Required	Session Only

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Vesel	Judy	Technical Education Resource Center	Paid	Credit Card	General Attendee
☐	Villarreal	Thomas	Western Alliance to Expand Student Opportunities Bridge to the Doctorate/Ari	Paid	Check	General Attendee
☐	Villegas	Corrie	Salish Kootenai College	Paid	Credit Card	General Attendee
☐	Virone	Dana	Alabama Agricultural and Mechanical University	Paid	Check	General Attendee
☐	Vlahovic	Branislav	North Carolina Central University	Not Paid		General Attendee
☐	Vlahovic	Gordana	North Carolina Central University	Paid	Credit Card	General Attendee
	W					
☐	Wadia-Fascetti	Sara	Northeastern University	Session Only	None Required	Session Only
☐	Waith	LaTanya	Johns Hopkins University	Paid	Credit Card	General Attendee
☐	Walker	Ivan	Jackson State University	Paid	Check	General Attendee
☐	Wandu	Sylvia	Clark Atlanta University	Paid	Check	General Attendee
☐	Wang	Yong	Alabama Agricultural and Mechanical University	Paid	Check	General Attendee
☐	Wang	Yonghui	Prairie View Agricultural and Mechanical University	Paid	Credit Card	General Attendee
☐	Ward	Wanda	National Science Foundation	Paid	Payed by Contract	General Attendee
☐	Warner	Linda	Haskell Indian Nations University	Paid	Credit Card	General Attendee
☐	Warnick	Jordan	University of Maryland, Baltimore	Paid	Credit Card	General Attendee
☐	Warr	Gregory	National Science Foundation	Session Only	None Required	Session Only
☐	Washington	Ruth	University of Connecticut	Not Paid	Check	BIO Invitee
☐	Weatherford	Charles	Florida Agricultural and Mechanical University	Paid	Credit Card	General Attendee
☐	Wei	Jennifer	Chabot Space and Science Center	Paid	Credit Card	General Attendee
☐	Weiser	Ellen	University of Alaska, Fairbanks	Paid	Credit Card	General Attendee
☐	Weisman	Jennifer	Campbell-Kibler Associates, Inc.	Paid	Credit Card	General Attendee
☐	West	Jeffery	Louisiana State University	Paid	Credit Card	General Attendee
☐	Westry	Ka'Laun	Clark Atlanta University	Paid	Check	General Attendee
☐	Wheatly	Michele	Wright State University	Paid	Credit Card	General Attendee
☐	Wheeler	Darius	Delaware State University	Paid	Credit Card	General Attendee
☐	Wheeler	Zetra	All Nations Louis Stokes Alliance for Minority Participation	Paid	Credit Card	General Attendee
☐	White	Kenneth	Brookhaven National Laboratory	Not Paid	Other	General Attendee
☐	White	Rita	Dine College	Paid	Check	General Attendee
☐	Whitney	Jean	University of Southern Maine East-2 Alliance	Paid	Credit Card	General Attendee
☐	Wiggins	Urban	Louisiana State University	Paid	Credit Card	General Attendee
☐	Wilder	Tanganyika	Illinois LSAMP	Session Only	None Required	Session Only
☐	Wilkerson	C. Renee	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Williams	Clarisa	Auburn University	Paid	Credit Card	General Attendee
☐	Williams	Darris	Onondaga Community College	Paid	Check	General Attendee
☐	Williams	Dawn	Howard University	Paid	Credit Card	General Attendee
☐	Williams	Derrick	Purdue University	Paid	Credit Card	General Attendee
☐	Williams	Fara	Oklahoma State University	Paid	Credit Card	General Attendee
☐	Williams	G. Keith	Clark Atlanta University	Paid	Check	General Attendee
☐	Williams	Henry	Florida Agricultural and Mechanical University	Paid	Credit Card	General Attendee
☐	Williams	Marcia	North Carolina Agricultural and Technology State University	Paid	Credit Card	General Attendee
☐	Willis	Derrick	University of Missouri-Kansas City, Institute for Human Development	Paid	Credit Card	General Attendee
☐	Wilmore	Laquyta	University of Arkansas at Pine Bluff	Paid	Check	General Attendee
☐	Wilson	Alfred	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Wilson	Bobby	Texas Southern University	Paid	Credit Card	General Attendee
☐	Wilson	Danyell	University of Florida	Paid	Credit Card	General Attendee
☐	Wilson	Darrell	Strategic Governance, LLC	Paid	Credit Card	General Attendee
☐	Wilson	Errol	Florida Agricultural and Mechanical University	Not Paid	Other	General Attendee
☐	Wilson	John	Dillard University	Paid	Check	General Attendee
☐	Wilson	Valerie	Leadership Alliance	Paid	Credit Card	General Attendee
☐	Wilson Comer	Marian	Illinois Louis Stokes Alliance for Minority Participation	Paid	Check	General Attendee
☐	Wingo	Christine	University at Buffalfo, The State University of New York	Paid	Credit Card	General Attendee

	Last Name	First Name	Company	Status	Payment Method	Registration Type
☐	Winston	Cynthia	Howard University	Paid	Credit Card	General Attendee
☐	Wirkus	Stephen	More Graduate Education at Mountain States Alliance /Arizona State Universit	Paid	Check	General Attendee
☐	Wise	Jo Ann	National Science Foundation	Session Only	None Required	Session Only
☐	Wise	Joshua	Kapiolani Community College	Not Paid	Other	General Attendee
☐	Wisely	Samantha	Kansas State University	Not Paid	Other	BIO Invitee
☐	Wiswall	Matthew	New York University	Paid	Credit Card	General Attendee
☐	Witt	Diane	National Science Foundation	Session Only	None Required	Session Only
☐	Wohlers	David	Truman State University	Paid	Credit Card	General Attendee
☐	Woods	Caira	New York University	Session Only	None Required	Session Only
☐	Woodson	Kamilah	Howard University	Session Only	None Required	Session Only
☐	Wright	Ashleigh	Louisiana State University	Paid	Credit Card	General Attendee
☐	Wright	Gwendolyn (Gwen)	Organization for Tropical Studies	Paid	Credit Card	General Attendee
☐	Wu	Marvin	North Carolina Central University	Paid	Credit Card	General Attendee
☐	Wyatt	Mary	Savannah State University	Not Paid		General Attendee
☐	Wyche	James	National Science Foundation	Paid	None Required	NSF Staff (HRD Only)
☐	Wyer	Mary	North Carolina State University	Paid	Credit Card	General Attendee
	XY					
☐	Yarholar	Doug	Oklahoma State University	Paid	Credit Card	General Attendee
☐	Yates	Denise	Illinois LSAMP	Session Only	None Required	Session Only
☐	Yazzie	Tierney	Southwestern Indian Polytechnic Institute (SIPI)	Session Only	None Required	Session Only
☐	Young	Brandon	Louisiana State University	Paid	Credit Card	General Attendee
☐	Young	Tanya	Clark Atlanta University	Paid	Check	General Attendee
☐	Younker	Jason	Rochester Institute of Technology	Paid	Credit Card	General Attendee
☐	Yturralde	Kasey	National Science Foundation/Directorate for Biological Sciences	Session Only	None Required	Session Only
	Z					
☐	Zastavker	Yevgeniya	Franklin W. Olin College of Engineering	Paid	Credit Card	General Attendee
☐	Zeigler	Charlie	National Science Foundation	Session Only	None Required	Session Only
☐	Zhou	Jianren	Prairie View Agricultural and Mechanical University	Paid	Credit Card	General Attendee
☐	Zongo	Patrick	State University of New York - Albany	Paid	Credit Card	General Attendee
☐	Zurn-Birkhimer	Suzanne	Purdue University	Paid	Credit Card	General Attendee

June 8-11, 2009

POSTER SESSION DESCRIPTIONS

– NON STUDENTS –

Ali Ansari Poster Number: **1**
Virginia State University (HBCU-UP)
Email: aansari@vsu.edu

Graduate Bridge Program

During the third year of its implementation, HBCU-UP (T-STEM) at Virginia State University emphasized graduate education preparation for STEM students. The program initiated a formal six-week GRE preparation course offered three times during the academic year. The T-STEM sponsored orientation sessions on researching and submitting application for graduate programs. The T-STEM also sponsored The 3rd Annual Undergraduate Research Conference, 2nd Annual Graduate Research Symposium, and continued with a formal Undergraduate Research Mentoring Program for the second year. The outcomes, assessment, and evaluation of these programs will be presented during the NSF-JAM Conference.

Ariana Arciero Poster Number: **2**
University of Texas System (LSAMP)
Email: avarcier@utep.edu

Bacterial Fractionation of Stable Copper Isotopes

Many of the transition metals, including Cu, Fe, and Zn, have multiple stable isotopes. Fractionation of stable isotopes can occur through many processes, including adsorption, precipitation, evaporation, and biologic uptake. Although we have the ability to measure the isotopic changes for transition metals, the most critical challenge is actually establishing fractionation factors for these key reactions. Cu, Fe, and Zn are essential nutrients for bacteria and eukaryotes as they are needed, in trace amounts, for a number of metabolic processes and enzyme function. Microorganisms also play important roles as natural sinks for metals, as the microbial surfaces are able to absorb these onto their surfaces. In this investigation we examine the isotopic fractionation of Cu during its interaction (both during surface adsorption and intracellular uptake) with bacterial cells.

Emiliano Ayala Poster Number: **3**
Sonoma State University (RDE)
Email: emiliano.ayala@sonoma.edu

Universal Design for Learning (UDL) in the Sciences: Effective Teaching Strategies for all Students

The results of a comprehensive California State University survey on effective Universal Design for Learning (UDL) teaching practices will be presented. Four hundred students with and without disabilities and 15 faculty from the STEM disciplines offered their perspectives on the importance of incorporating the principles of UDL into the postsecondary classroom.Results reveal specific teaching strategies that were rated as "Very Important" for student success regardless of disability status.

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Failure Analysis and Materials Characterization

This research focused on the microstructural characterization and failure analysis of hip implant components. The three main hip components analyzed were the titanium-chromium-cobalt alloy femoral hip stem, the chromium-cobalt alloy ball, and the ultra-high molecular weight polyethylene (UHMWPE) acetabular shell. Previous research has shown that hip implants tend to fail largely due to UHMWPE shells and liners experiencing adhesion wear, delamination, and wear particles (metals, ceramics, and PE). The methods and procedures for analyzing the said failures consisted of non-destructive and destructive evaluations. The non-destructive evaluations, performed through such techniques as visual characterization, stereo-microscopy, and the use of a dye penetrant, displayed macroscopic surface details and presented initial clues as to the extent and causes of the failures. The destructive evaluations consisted of Fourier Transform Infrared Spectroscopy which displayed the foreign elements through compositional spectrums and metallography which were used to show the true microstructural characteristics of the components. Following metallography, Scanning Electron Microscopy and Energy Dispersive X-ray Spectroscopy were used to discover microscopic cracks and abrasions from areas of delamination and adhesion in the samples. Further studies and analyses of the failed implants should lead to implants with increased lifetimes which save patients money from revision surgeries and will save them the immense pain of a fractured implant.

Katrina Battle Poster Number: **5**
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Integrated Microfluidic System for the Processing of Membrane Proteins Isolated from Biological Cells

Membrane proteins play an integral role in the proper functioning of cells. Unfortunately, they are hard to analyze due to their hydrophobic nature. We describe an integrated system for cell membrane protein analysis. The system consists of two modules manufactured using micro-replication technologies. The first component is a solid-phase protein capture chip with a high-density array of microposts modified with nitroavidin molecules. Its function is to capture biotinylated proteins. In the next step, proteins are eluted from the extraction bed and electrophoretically separated in the second module, also a PMMA-based microchip. The separations use sodium dodecyl sulfate microcapillary gel electrophoresis in the first dimension, and micellar electrokinetic chromatography in the second dimension. The 2D separation operates by rapidly sampling effluent from the first dimension into the second dimension. The system consists of an on-chip serial transfer, which results in the efficient pass between dimensions, and maintaining overall separation performance.

Carole Beal Poster Number: **6**
University of Arizona (RDE)
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Online MathTtutoring for Blind Students

Students who are blind are significantly under-represented in STEM fields, in part due to the challenges that they face in learning mathematics. The project goal is to develop an adaptive web-based tutoring system for K-12 mathematics that will allow blind students to access math instruction delivered in audio format. In an initial study of the prototype system, blind middle and high school students were able to solve math word problems at a rate comparable to sighted students. Audio-based hints have now been added to the system, and data are currently being collected to evaluate the impact on math word problem solving by students who are blind.

Canan Bilen-Green Poster Number: **7**
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From Unstructured to Structured: Advance FORWARD

The NDSU Advance FORWARD (Focus on Resources for Women's Advancement, Recruitment/Retention, and Development), funded by NSF in the Fall of 2008, builds on the earlier work of the NDSU self-initiated FORWARD project. FORWARD is an unstructured space where women and administrators from across campus come together to work towards change. FORWARD members have set into motion changes that have had an impact on the broader institutional climate and laid the foundation for an authorized and recognized space for change. Advance FORWARD set in place a formally recognized structure, the Commission on

the Status of Women Faculty, linked to key administrative authority with strategies that reach across the university through several key programs. This poster will summarize the key components of Advance FORWARD and provide data showing the increase in the representation of women faculty.

Noel Blackburn Poster Number: **8**
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A Synergistic Collaboration - The Department of Energy and National Science Foundation Memorandum of Agreement

A synergistic collaboration as part of the Department of Energy (DOE) and National Science Foundation Memorandum of Agreement includes Cindy White (DOE- Office of Workforce Development for Teachers and Scientists); Linda Phaire-Washington (Argonne National Laboratory); Noel Blackburn (Brookhaven National Laboratory); Susan Brady (Lawrence Berkeley National Laboratory); Linda Holmes (Oak Ridge Institute for Science and Education); and Elaine King (Pacific Northwest National Laboratory). Established in 2001, the Memorandum of Agreement between the Department of Energy and the National Science Foundation has forged internship opportunities for undergraduates and faculty throughout the United States. The poster will highlight some of the successes and research conducted at five of the Office of Science National Laboratories through this collaboration. This is an excellent example of the synergy created when federal agencies work together and complement each other in developing the future for the STEM workforce.

Barbara Bogue Poster Number: **9**
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Assessing STEM Educational Outreach, Retention Programs and Research on Engineering Undergraduates

This poster will highlight the products and research of the Assessing Women and Men in Engineering (AWE) Project, which comprises the AWE Project, the SWE AWE Project and the AWISE (Assessing Women in Student Environments) Project. The AWE Project provides assessment tools for practitioners and researchers related to formal and informal education and outreach. AWISE extends the AWE mission to the engineering classroom. This 3-year project investigated classroom climate through surveys of faculty and students in three diverse departments at Penn State..SWE-AWE is a 18-month initiative to institutionalize and continue developing AWE products. The poster will provide research results for the AWE Leavers Survey and from the AWISE classroom climate surveys. It will also provide information on the products and materials available for practitioners and research through AWEonline.org, including exportable surveys, as well as Applying Research to Practice resources, developed in collaboration with the National Academy of Engineering Center for the Advancement of Scholarship on Engineering Education.

Igor Bondarev Poster Number: **10**
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Electrostatic Field Control of Exciton-Surface-Plasmon Coupling in Carbon Nanotubes
This study examines the theoretical perpendicular electrostatic field effect (the quantum confined Stark effect) for excitons and interband plasmons in small-diameter (<~1nm) semiconducting carbon nanotubes (CN). Results suggest that exciton excitation energy may be tuned to the nearest interband plasmon resonance to form the strongly coupled exciton-surface-plasmon excitation in an individual CN..The exciton excitation energy and the plasmon energy both shift to the red due to the decrease in the CN band gap as the field increases. However, the exciton red shift is much less than the plasmon due to the decrease in the absolute value of the (negative) exciton binding energy. The reason is the perpendicular field shifts up the "bottom" of the effective longitudinal Coulomb potential. This makes the potential shallower and pushes bound excitonic levels up, thereby decreasing the exciton binding energy in its absolute value. The shape of the potential does not change, and the longitudinal relative electron-hole motion remains finite at all times, yielding no tunnel exciton ionization in the perpendicular field, as opposed to the longitudinal electrostatic field (Franz-Keldysh) effect studied. This study proposes the development of CN-based tunable optoelectronic device applications in areas such as nanophotonics, nanoplasmonics, and cavity quantum electrodynamics.

Jodi Boutte Poster Number: **11**
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Human Health Impact of Nanomaterials that can be Utilized in Construction
Growth within the field of nanotechnology has undoubtedly flourished. Overtime, nano-enhanced products will be produced to develop new technologies and advance known ones. In addition, nanomaterials may help to improve the many critical problems facing countries today including cleaner water, and stable structures. Unprecedented increases are expected to occur within the construction industry as new technologies are implemented. However, the execution of these nanomaterials can be associated with potential human health risk. Uncertainites remain within the nanotechnology community as current models utilized to estimate toxicity exposure may not provide the most accurate information for human health. Some progress has been made toward understanding the health risks associated with nanomaterials; however, this research is lacking in human data, as well as in the area of construction. This paper aims to review the human health implications associated with nanomaterials, nanomaterials effect on construction, and possible methods to better quantify the negative health effects in humans.

Bonnie Bowen Poster Number: **12**
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Iowa State University ADVANCE Program: An Integrated Approach to Advancing Women Faculty in STEM Fields

Iowa State University (ISU) ADVANCE has become Iowa's most prominent vehicle to recruit, retain, and advance women and women of color in ISU STEM faculty positions. This program is known for a well-managed network, innovative research, and an integrated approach to change. Key components include a program that identifies cultures, practices, and structures that enhance or hinder the careers of ISU faculty, and works with faculty and administrators to transform university policies, practices, and academic culture in pursuit of a diverse and vibrant faculty in STEM disciplines.

Susan Bracken Poster Number: **13**
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MOSS: Markers of STEM Success: An Eleven-year Longitudinal Study of High Achieving Young Women's Interests, Experiences, and Preparation for STEM Careers

This study examines factors associated with high achieving young women's decisions to participate in STEM courses in preparation for STEM-related career choices. It follows young women from the 8th grade through mid-20s, tracking their interests, activities, educational preparation, and critical events, as these variables influence career path choices and experiences.

Monica Bruning Poster Number: **14**
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FREE (Female Recruits Explore Engineering)

The Female Recruits Explore Engineering (FREE) study is an engineering career exploration project for high achieving, mostly low-income, largely minority high school girls. The project objectives are to facilitate explorations in engineering, track the course of their explorations and considerations during high school, identify and map the influences that shape their sense of the profession, and analyze their views and feelings about their career options in engineering. Findings suggest that even interested young women are unlikely to pursue engineering in the U.S. because their college and career choices are deeply affected by overlapping educational, social, and ideological systems that ignore or discourage engineering thereby making real choice moot.

Lisa Bufford Poster Number: **15**
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Tuskegee University PhD Program In Materials Science and Engineering
Housed in the College of Engineering, Architecture and Physical Sciences at Tuskegee University, the PhD Program in Materials Science and Engineering was started in 1988 with support from the National Science Foundation under the Center for Research Excellence in Science and Technology (CREST) program. It is the University's first doctoral program, which is designed to substantially increase the number of African American PhD's in Materials Science and Engineering. The program is spearheaded by the Center for Advanced Materials (T-CAM), which represents the largest multidisciplinary research and education and outreach activity on Tuskegee's campus. T-CAM is designed to promote the enrollment of tudents with an undergraduate or a Master's degree in Engineering, Mathematics, Chemistry or Physics. A broad spectrum of areas connected with Materials Science and Engineering are available for research at the PhD level. The success of the program within a short period of time has been phenomenal. To date, this program has produced fourteen graduates and several others are on their way to completing their terminal degree requirements.

Sheryl Burgstahler Poster Number: **16**
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Longitudinal Transition Study: Tracking Participant Success Across Multiple NSF Funded Projects
Since 1992, Disabilities, Opportunities, Internetworking, and Technology (DO-IT) has been funded to increase the participation of individuals with disabilities in postsecondary academic programs and careers, particularly in STEM. Through two grants received from NSF's Research in Disabilities Education, as well as funding from Computer and Information Science and Engineering, DO-IT has tracked the progress of more than two hundred participants toward degree completion and careers. This poster will provide the results of the first 212 respondents in addition to information on study design, ongoing updates and analysis.

Charvon Cade Poster Number: **17**
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UDP-Glucuronosyltransferases
UDP-glucuronosyltransferases (UGTs) are involved in the removal of toxic compounds produced in the body or taken up from the environment. This reaction requires the common co-substrate, UDP-glucuronic acid (UDP-GlcUA). In this project, we have identified and characterized eight specific inhibitors of UGT1A8. We have characterized the activity of UGT1A8 using several phenol, estrogen, and flavonoids substrates. The most actively glucuronidated substrate, 4-methylumbelliferone, was used for initial screening of the inhibitors.

All 8 compounds tested significantly inhibited the activity of UGT1A8. 5'-[[N-(2-decanoylamino-3-hydroxy-3-phenyl-propyloxycarbonyl)glycyl]amino]-5'-deoxyuridine (PP36) was chosen for further experiments because it was not shown to have any inhibitory effect on previously tested UGT isoforms. Although total inhibition of activity was not obtained, this IC50 value indicates this compound to be an effective specific inhibitor of this isoform. Inhibition assays with 4-hydroxyestradiol (4-OH-E2) and 1-napthol have been interpreted.

Rebecca Callahan Poster Number: **18**
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Disproportionality in the Identification of Students with a Learning Disability

Certain socio-demographic subgroups remain under- or over-represented among students identified with learning disabilities. Such disparities in identification may be partially explained by the evolution of diagnostic models and variation in special education programs. The academic and social experiences of students misidentified either with or without a learning disability may vary widely, inhibiting the ability to learn and develop to their maximum potential. Using data from the Educational Longitudinal Study of 2002, variations in learning disability identification by individual- and school-level characteristics are defined. Results indicate that socio-demographic characteristics are associated with diagnoses of a learning disability; namely racial/ethnic differences in identification are largely explained away by socioeconomic status, while the effect of English As a Second Language identification remains. Discrepant results between bivariate and multivariate analyses confirm the importance of employing sophisticated methodology in the analysis of disproportionality.

Larry Campbell Poster Number: **19**
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NC OPT-ED Alliance Poster

The NC OPT-ED AGEP Alliance is designed to increase significantly the number of under-represented minority students receiving PhD degrees and ultimately entering the professoriate in STEM disciplines. The NC OPT-ED program develops innovative models to recruit, mentor and retain minority students in doctoral programs. This program also develops strategies to identify and support minority students who want to pursue academic careers in these areas. A third goal is to facilitate change in the culture of our institutions and to ensure a continued norm of inclusiveness within the academic environment.

Bettina Casad Poster Number: **20**
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Stereotype Threat Effects on Girls' Math Outcomes

This project examined the effect of stereotype threat on adolescent girls' math performance, attitudes, and behavioral intentions. It was predicted that girls under stereotype threat would have lower math performance, more negative attitudes toward math, and fewer behavioral intentions to pursue further math education compared to girls in the identity safety condition. Further, this effect will be moderated by math or gender identity such that girls who have stronger identities will be more negatively affected by stereotype threat than girls who have weaker identities. Eighth-grade students from four middle schools in southern California participated in the study. Participants completed a pre-questionnaire, a pre-algebra test under stereotype threat or no threat conditions, and a post-questionnaire. The results from years one and two will be presented.

Nathan Castro Poster Number: **21**
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Calcium Phosphate Coating of Three-dimensional Titanium Scaffolds via Alkali Heat Treatment

Titanium and its alloys are used in a variety of biomedical applications due to its particular mechanical and biocompatibility properties. Many characteristics of this material make it ideal for biomedical applications, although its relative inertness has culminated in developing surface treatments in an effort to create bioactive substrates for the purpose of improving cell adhesion and tissue integration. A modified calcium phosphate coating procedure was investigated with encouraging preliminary results. The focus of this study was to investigate the surface treatment of Ti-6Al-4V (Ti64) titanium porous scaffolds, manufactured by electron beam melting (EBM), using a method of rapid calcium phosphate deposition to produce an osteoconductive substrate. The reported method used a commercial β-tri- Calcium phosphate (β-TCP) as the calcium phosphate source for the scaffold surface modification. Ti64 scaffolds were treated in 1M and 5M Potassium hydroxide (KOH) followed by heating to 600°C to reduce surface morphology alteration while producing an oxide layer for calcium phosphate deposition. Treated scaffolds were post-treated, by soaking in 25mM [Ca2+] β-TCP solution at 37 C for 4 hours. Scaffolds were seeded with rat bone marrow stromal cells (MSCs), cultured in supplemented media for 24 hours and examined by scanning electron microscopy. Preliminary results show excellent cell adhesion, bridging and spreading of the MSCs suggesting the surface treatment process produced a calcium-rich, osteoconductive substrate on the Ti64 scaffolds. The formation of an amorphous titanate layer was formed after the alkali treatment, and crystallization of the oxidative layer occurred after heat treatment. The higher alkali concentration produced a noticeable change in surface morphology resulting in a more porous surface. Uniform calcium deposition was observed on the scaffold surface after treatment with β -TCP. The crystalline titanate layer provided the mechanism for calcium adsorption. After a 24 hour incubation period in supplemented media osteogenic-like cells were observed on the scaffold surfaces and within the pores. Cells were well attached, polygonal with well defined and extended cell processes. Cells

were clearly observed on the surface and within the internal spaces of the scaffold. Cell attachment processes appeared to be directed towards areas of higher concentrations of calcium deposits, although this was not quantified. The present experimental study shows that bone-derived cells are able to attach and spread on Ti64 porous scaffolds produced by the ARCAM EBM process after alkali, heat treatment and calcium deposition. The treatment produced a uniform, calcium-rich osteoconductive surface substrate that facilitated cell attachment. Extended cell culture studies are needed to determine rate of proliferation, cell differentiation pathways and rate of extra-cellular matrix deposition.

David Chapman Poster Number: **22**
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Oceanographic Research Vessel Accessibility

The objective of the Oceanographic Research Vessel Accessibility for Persons with Disabilities Project is the increased participation by persons with disabilities in oceanographic study and research, facilitated by improved accessibility of oceanographic research vessels as well as institutional enlightenment. Oceanographic research vessels are a critical element of STEM education and research. Access to these vessels by persons with disabilities is constrained by physical and cultural barriers. As a result, persons with disabilities have been unable to participate fully in shipboard oceanographic studies. The project is an innovative effort to remove barriers, both physical and cultural, in a field of study that, by its very nature, presents a hostile environment to the able-bodied and the disabled alike. The challenge of making a research vessel accessible is formidable, but recent advances in accessibility improvements to excursion and cruise vessels are transferable to the research vessel fleet.

E. William Clymer Poster Number: **23**
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Captioning, Interpreting & Support for Deaf and Hard-of-Hearing STEM Students Using Cyberinfrastructure: A Report

The provision of online support, social networking, interpreting and captioning service can be major factors in the success of deaf and hard-of-hearing STEM students at the postsecondary level. Students and experts in the field gathered at The Summit to Create a Cyber-Community to Advance Deaf and Hard-of-Hearing Individuals in STEM, June 25-27, 2008, in Rochester, NY, to discuss benefits and challenges, and develop recommendations for future research, development and evaluation of such services. This poster will highlight the findings, as reported in The Summit Proceedings, including "best practices" and recommendations related to virtual support systems.

Joanne Cohoon Poster Number: **24**
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The Systemic Change Approach
Increasing participation of women in undergraduate programs requires a multi-pronged, systemic approach including: improved recruitment, inclusive pedagogy, meaningful curriculum, academic and social support for students, high-level institutional support and appropriate policies, and ongoing assessment of progress. The National Center for Women & Information Technology Extension Services for Undergraduate Programs provides support and resources for achieving change in all six areas in ways that increase participation of women in undergraduate programs.

Elizabeth Creamer Poster Number: **25**
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Effects of the Underrepresentation of Women in Undergraduate Engineering
This poster explores data that reveal that the number and proportion of women enrolled in undergraduate engineering majors has a long-term effect on both men's and women's intent to seek employment in engineering.

Carla Cueva Poster Number: **26**
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Phenotypic and Genetic Characterization of Clinical Isolates of Acinetobacter Baumannii from Los Angeles County Hospitals
Acinetobacter baumannii is an important pathogen that is increasingly responsible for outbreaks of nosocomial infections worldwide including pneumonia, urinary tract infection, endocarditis, surgical site infection, meningitis, and septicemia. Previously susceptible to most antibiotics, A. baumannii now exhibits resistance to a wide range of antibacterial agents including b-lactams, aminoglycosides, fluoroquinolones, chloramphenicol, tetracycline, and rifampin, the major antibiotic classes commonly used to treat these infections. It was hypothesized that multi-drug resistance profiles in clinical isolates of A. baumannii correlate with their genetic profiles. In this study, antibiotic resistance and genetic profiles of 20 clinical isolates of A. baumannii from Los Angeles County (LAC) were examined in an attempt to determine the correlation between antibiotic resistance profiles and genetic characteristics of the isolates. To determine the phenotypic and genetic characteristics of A. baumannii isolates, antibiotic susceptibility testing of 20 clinical isolates was performed followed by subsequent evaluation of their genetic relationships using pulse-field gel electrophoresis analysis. For susceptibility testing, broth microdilution method was used to determine minimal inhibitory concentrations (MIC) of 18 antibiotics against these 20 isolates. Genomic DNA was isolated and digested with restriction endonuclease Apa I. Digested genomic DNA fragments were separated using a BioRad CHEF-

DRIII system. Results indicated that 2 of the 20 A. baumannii clinical isolates exhibited multidrug resistance. The rest remain susceptible to these 18 antibiotics. Additionally, pulsed-field gel electrophoresis indicated that 8 isolates showed distinct genotypic profiles. Using antibiotic susceptibility testing and molecular typing, this study intends to obtain a correlation between antibiotic resistance and genetic characteristics in these clinical isolates of A. baumannii. This relationship may aid clonal analysis of clinical bacterial pathogens based on antibiotic susceptibility and fingerprinting profiling.

Adam Dengler Poster Number: **141**
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Electrophoretic Separation of DNA Nanoarrays from Cell Lysate for Single-cell Proteomics
Parallel analysis of single cells is essential for understanding the heterogeneous progression of cell damage in a population. In addition to genomic analysis, protein analysis is important in elucidating the role of epigenetic marking and post-translational modification in cell damage. Single molecule probes made of self-assembled DNA have been engineered to contain multivalent aptamers that specifically bind post-translationally modified protein with nanomolar resolution. This project assayed DNA nanoarray protein binding by immobilizing the DNA nanoarray on a gold pad in order to scan it with an AFM. Currently, a highly parallel microfluidic system is in development to automate this proteomic assay at the single cell level. Separation of DNA nanoarrays from human esophageal cancer cell lysate is approached with electrophoretic separation. Efficiency and resolution of the separation of DNA nanoarrays from lysate is currently under investigation with capillary electrophoresis and a glass microfluidic platform. Future work will address the immobilization of DNA nanoarrays on gold AFM pads for readout analysis.

Kamla Deonauth Poster Number: **27**
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Howard University and the University of Texas at El Paso (HUTEP) Alliance for Graduate Education and the Professoriate (AGEP) HUTEP-AGEP
Howard University and the University of Texas at El Paso (UTEP) have formed a unique partnership, "The HUTEP Alliance." The goals of this alliance are to: 1) increase underrepresented minority PhD enrollment in the STEM disciplines, 2) increase the retention and graduation rate to exceed the national average, and 3) increase the number of PhD recipients entering postdoctoral positions and the professoriate. This partnership represents the first major endeavor in graduate education to join a Historically Black College or University (HBCU) with a major Hispanic Serving Institution (HIS) to address the severe disparity of African Americans and Hispanics in STEM doctoral education. The combined strengths of the two institutions are a particular advantage of the partnerships. In addition to expanding the range of doctoral disciplines offered by either University, the HUTEP Alliance provides students with additional academic, research and cultural exchange opportunities. The HUTEP Partnership has aggressively pursued initiatives that benefit and engaged the other AGEP Alliances. Two

Programs that have been promoted by the Alliance and have gained national recognition are the "Preparing Future Faculty Summer Institute" and the "National Postdoctoral Symposium" cosponsored with the National Postdoctoral Association. Both Programs are designed around major thematic units of preparing for the professoriate and the necessity and importance of the postdoctoral experience as part of this preparation.

Liv Detrick Poster Number: **28**
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Making your Website More Effective: Broadening Participation through Networking and Recruitment via the Web

The web has become a primary tool not only for students researching programs, summer research opportunities, and funding resources, but also for faculty and staff seeking to network with others pursuing diversity in STEM education. The Institute for Broadening Participation (IBP) is a non-profit organization whose staff have worked with National Science Foundation programs since 2001 to assist the foundation to support diversity in its STEM education programs and to increase networking between funded programs seeking to increase the diversity in their projects. IBP has developed a successful model for increasing the participation of underrepresented minorities in STEM that involves a unique combination of web-based tools paired with virtual and face-to-face outreach. The poster presentation focuses on website content basics and will provide a checklist of elements for making a website more effective in attracting students and answering students' questions. In addition, it includes information on website evaluation and usability and highlight ways in which a website can be evaluated both for reporting purposes as well as for improving the usability and effectiveness of the site. Finally, it outlines the web-based resources, including student support services, available on IBP websites that assist a diverse audience to pursue STEM education and career opportunities. www.pathwaystoscience.org

Mario Diaz Poster Number: **29**
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Gravitational Wave Astronomy: A Status Report

The LIGO observatories have recently finished more than a year of observation at design sensitivity. They will be going through an upgrade that will enhance their sensitivity by a factor of two and start a new period of observation in 2009. Following this period, work to install the major upgrades that constitute Advanced LIGO will begin. Subsequently, the LIGO observatories will start operating with an order of magnitude enhanced sensitivity. This poster will review the most recent results obtained during the last observation period, scientific run number 5. These results, although null, provide interesting upper limits in observational astrophysics. Implications for the nascent field of Gravitational Wave Astronomy will be addressed.

Catherine Didion Poster Number: **30**
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Engineering Departments Gender Diversity Efforts

The Engineering Equity Extension Service (EEES) project aims to increase the number of women who graduate with baccalaureate degrees in engineering, with a specific focus on the two largest engineering disciplines with the lowest female enrollments, electrical and mechanical. By bringing together expertise in gender studies, the research base on science and engineering education and project management, EEES seeks to enhance the academic preparation, social interactions, and engineering knowledge and skills attainment of girls and women. In 2008, EEES competitively selected 14 engineering departments (4 Electrical, 10 Mechanical) and provided them access to experts in gender equity research as well as small grants for project development. The departments proposed specific activities by which to further the goals of EEES. The departmental projects are ongoing and varied. The poster will focus on the types of activities developed by the departments including: 1) outreach programs for high school girls to encourage their interest in engineering, 2) programs for providing faculty training in gender equitable teaching, and 3) projects focused on the development of curricular or recruiting materials attractive to women and men. This poster will discuss the results and lessons learned in the various programs.

Amanda Diekman Poster Number: **31**
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Communal Goals as Inhibitors of STEM Careers

Women's continued underrepresentation in STEM careers is puzzling, particularly given their increased representation in other formerly male-dominated careers, such as medicine or law. This study proposed that the critical difference between STEM careers and other formerly male-dominated careers is that STEM careers are perceived as failing to fulfill communal goals. This perception would particularly inhibit women's STEM career pursuits, because helping and working with others continues to be a primary aspect of the female gender role. Consistent with hypotheses, STEM careers were perceived as less likely than male-dominated or female-dominated careers to fulfill communal goals. In addition, women in particular held this belief. Moreover, personal endorsement of communal goals was negatively related to STEM career interest. These findings provide initial evidence that the perception of STEM careers as inhibiting communal goals may dissuade women from selecting and persisting in STEM fields.

Barbara Dougherty Poster Number: **32**
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A Study of the Effectiveness of Texas Instruments Navigator Technology on the Algebra I Achievement and Attitudes of Students Who Have Learning Disabilities or Who Are 'At Risk' for Academic Failure

The goal of this project is to determine the effectiveness of the Texas Instruments Navigator technology with students who have been formally identified as having a learning disability and with students who are at risk for academic failure. This research involves a quasi-experimental study with Algebra I classes in three schools to date in North Mississippi, with sites randomly assigned to intervention and control groups. The control classes use calculators alone, and the intervention classes use calculators in conjunction with the TI-Navigator technology. The poster presentation gives information regarding the instruments used to collect data to determine the impact on student learning as well as to document teacher aspects. These instruments include classroom logs for the teacher component and achievement data on standardized tests for the student component. Student attitudinal data are linked to achievement data as well. Additionally, the professional development used in this project will be linked to initial or preliminary data analyses. These initial data report trends that are noted across instruments.

Dennis Doverspike Poster Number: **33**
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STEM Summer and Academic Year Team Workshops for Middle School Students on IEPs at The University of Akron

This project used hands-on workshops to encourage middle school students on IEPs, originally those with special learning disabilities (SLD), to pursue further classes in STEM and consider STEM careers. Specifically, the project involved a one week summer workshop and six Saturday workshops during the academic year. The unique features of this project include: 1) hands-on learning experience for both teachers and students, 2) diverse student participation, 3) teaching various engineering topics, and 4) offering opportunities to improve communication skills of the students.

Elaine Dowell Poster Number: **34**
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MI-LSAMP

The Michigan Louis Stokes Alliance for Minority Participation aims to double the annual number of minority students earning baccalaureate degrees in STEM. To achieve this goal, four partner universities are sharing and implementing retention best practices in the following areas: research, mentoring, high school-to-college transition support, pre-freshman year summer programs, all student events, and a comprehensive student support services delivery system.

Margaret Duden Poster Number: **35**
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SciGirls en Espanol

SciGirls is a national outreach program of DragonflyTV coordinated by Twin Cities Public Television and made possible by the National Science Foundation. SciGirls empowers science centers, schools, and girl-serving organizations in cities across the nation to deliver hands-on science encouragement and career guidance to middle school girls. Now in its fourth year, SciGirls is offering bilingual DVDs, Activity Guides, mini-grants, and professional development training to nine organizations serving girls from Spanish-speaking households. SciGirls en Español programs are being implemented by these partner organizations in spring, summer, and fall 2009.

Randy Duran Poster Number: **36**
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The LSAMP Center for International Research

Following up on presentations at JAM meetings in 2006 and 2008, and a strong positive response from the nationwide community, NSF funded its first "center-level" program in support of international undergraduate research for LSAMP. As such, the LSAMP Center for International Undergraduate Research Experiences (LSAMP-INT) was initiated in 2008. In this pilot year, funding was provided such that 16 participants could be recruited from LSAMP programs nationwide.

Jyotsnamoy Dutta Poster Number: **37**
North Carolina Central University (CREST & HBCU-RISE)
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THz Dielectric Loss and Point Defects in HPSI SiC

Data are presented on high purity semi-insulating (HPSI) SiC of various grades for their dielectric loss values at millimeter wavelengths to explore their potential for various RF technology related applications. In order to identify the impurities or electrically active defects that give rise to the excess loss, temperature-dependent conductivity and DLTS measurements are being undertaken on SiC. Dielectric loss measurements over a wide range of temperatures are in progress to verify the results obtained from electrical methods and help to determine the primary loss mechanisms for SiC in the millimeter wave length range. Experimental results and their implications to loss properties will be presented.

Lisa Elliot Poster Number: **38**
National Technical Institute for the Deaf,
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RDE-FRI: Supporting Deaf and Hard-of-Hearing Undergraduate Students in STEM Field Settings with Remote Speech-to-Text Services

This project addresses an unmet need for deaf and hard-of-hearing (d/hh) students and those students who are d/hh with low vision to have wireless access to real-time speech-to-text services (RT-STS) in varied outdoor and indoor settings. Two goals of the project are to: 1) develop assistive technology that allows d/hh and d/hh-low vision students to view RT-STS in remote field science settings using a handheld device, such as a cellular phone or personal digital assistant, and 2) evaluate the extent that RT-STS aids students' communication and learning in remote science field settings.

Poster session objectives are to: 1) illustrate the technology that has been developed, 2) discuss the findings from focus groups, 3) describe trials that have been conducted to date in field settings associated with STEM college courses, and, 4) share qualitative and quantitative findings from data collected as a result of the field trials.

Steve Fadden Poster Number: **39**
Landmark College Institute for Research and Training (RDE)
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Participatory Design...To Support People with Learning Disabilities

Universal Design in College Algebra Landmark College is engaged in a project (NSF HRD-0726252) to identify techniques that can be used to improve understanding for struggling students learning algebraic concepts in developmental and other foundational mathematics courses. This poster highlights information about the participatory design process and how engaging students with learning disabilities and attention disorders can improve the development of accessible and usable learning resources for students. Also included are information about the prototyping process used to develop the final resources, and ancillary materials such as design patterns and a universal usability checklist for instructors and students.

Ana Feliciano Poster Number: **40**
University of Puerto Rico (LSAMP)
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Puerto Rico-LSAMP and Bridge to the Doctorate Programs

Initiated in 1991, the Puerto Rico LSAMP program is in its second year of Phase IV. PR-LSAMP in an alliance of the University of Puerto Rico System, the Inter-American University System, and the Pontifical Catholic University of Puerto Rico. Through PR-LSAMP, participating institutions have successfully worked at increasing the number of BS graduates in STEM fields and the number of BS graduates that continue on to graduate school and complete a

doctoral degree. Results show that undergraduate STEM enrollment has increased from 12,572 to 23,975 in the Fall of 2007, and that the annual BS degree production at PR-LSAMP institutions has increased from 1,709 in 1991 to 2,625 in 2008. At the graduate level, 18.4% of the Hispanics that obtained a PhD in science or in engineering nationwide, from 2001 to 2006, obtained their BS degree at a PR-LSAMP institution.

Eva Fernandez Poster Number: **41**
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The Florida-Georgia Louis Stokes Alliance Program at the University of South Florida
This poster presentation highlights the activities, outcomes, and achievements of the NSF Florida-Georgia LSAMP program at the University of South Florida (FGLSAMP). The programmatic evolution of FGLSAMP beginning in 1992 as a scholarship and retention program to its present status and institutionalization as "the FGLSAMP Club" at USF will be presented.

Merle Froschl Poster Number: **42**
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Great Science for Girls
Great Science for Girls: Extension Services for Gender Equity in Science through After-School Programs (GSG) is building the capacity of after-school centers to deliver programming that will broaden and sustain girls' interest and persistence in STEM. This poster will describe the strategies and different components of the GSG project, including partnerships, evidence-based curriculum, research and evaluation, and the unified program of change.

Amy Fruchtman Poster Number: **43**
Midwest Alliance in Science, Technology, Engineering and Mathematics (RDE)
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The Perfect Storm: Students with Disabilities and STEM
Barriers to students with disabilities pursuing and/or choosing STEM education and careers must be understood in order for solutions to be devised that include responsive programs, system changes and other effective supports. This poster will discuss three important components, which in some cases create a "perfect storm" of deterrents and may influence participation in STEM by people with disabilities.

Sangeeta Gad Poster Number: **44**
University of Houston-Downtown (LSAMP)
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Recruitment, Retention and Enrichment Programs at the Univesrsity of Houston-Downtown
From the onset of the LS-AMP grant, the team at the University of Houston-Downtown (UHD) engaged in aggressive recruiting of students. The objective of this recruiting was to make junior high school and high school students aware of potential STEM careers and the fellowship support and mentoring available at UHD, and to persuade students from low-income neighborhoods and underperforming high schools that they can succeed in challenging STEM majors and careers. For years, the UHD team has worked closely with a social worker, in the belief that the social problems associated with poverty can not be separated from academic achievement. The LS-AMP program provides the academic and financial support mechanisms necessary to help students remain in school and succeed. It uses and enhances the institutionalized UHD Scholars Academy resources with collaborative learning environments, Peer-Led Team-Learning methods, investigative experiences using the Affinity Research Group model, and structured internships with NSF REUs and industrial partners. The research experiences for undergraduate students have facilitated the transition to graduate studies. Together these approaches create the ideal environment for students to see a future in STEM areas, and give them the support to meet those goals.

Bryan Gould Poster Number: **45**
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What's Up at WGBH: Creating Accessible Multimedia and Digital Libraries
WGBH's National Center for Accessible Media has two NSF-funded projects working to improve the accessibility of online educational materials for STEM. The first is publishing Guidelines for Describing STEM Images. Producers of DAISY books are using the guidelines to make diagrams, charts, and other STEM material accessible. The second project is building a User-Centered Digital Library. We are embedding the capacity to transform and customize presentation of content based on individual user profiles within WGBH's Teachers' Domain, a K-12 library of rich media science resources, and adding accessibility to the collection for Life Sciences classes in grades six to eight.

Laura Graves Poster Number: **46**
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The Effects of Teaching with Tablet PCs with Asynchronous Student Access in Post-secondary STEM Courses on Students with Learning Disabilities (TTASA-SWLD)
TTASA-SWLD is a three-year study on students with learning disabilities including ADD and ADHD by analyzing attitudes toward STEM courses at the post-secondary level, academic success in STEM courses, and academic persistence. Partnering institutions included Tennessee

State University, an Historically Black University, Nashville State Community College, and Roane State Community College, all located in the state of Tennessee.

Misty Green Poster Number: **47**
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Signatures of Quantum Chaos In Semiconductor Quantum Dots

Nanosized quantum objects, such as quantum dots, manifest atom-like electronic structure due to their size confinement. The electronic structure of such objects is typically restricted to a few well-separated electron/hole levels. We model InGaAs/GaAs and Si/SiO2 quantum objects, such as quantum dots (QD) and quantum wires, based on the single band effective mass approximation. We show that the electron energy level spectrum exhibits chaotic properties (Brody-parameterization). The strength of the effect depends on the QD geometry and the ratio of the anisotropic effective masses in QD.

Stephanie Gross Poster Number: **48**
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Studying the Relationship between Odontotaenius Disjunctus and its Gut Yeast SchoffersoMyces Stipitis Using inVivo Yeast Curing and Replacing Experiments

Scheffersomyces stipitis is a xylose-fermenting and assimilating yeast consistently isolated from the gut of Odontotaenius disjunctus (Passalidae). Gallery walls of white-rotted wood in which the beetles inhabit are lined with the yeast. S. stipitis is filamentous which allows it to take advantage of a niche in the beetle gut by forming a holdfast with the posterior hindgut. Yeast and yeast-like fungi can benefit insect hosts by enriching the substrate with digestive enzymes, sterols, amino acids, and vitamins lacking in decaying wood. The aim of this project is to study the relationship between the passalid beetle and S. stipitis with the use of in vivo yeast curing and replacing experiments. Curing was performed with miconazole-nitrate a fungicide with limited antimicrobial properties. Replacing experiments were performed with S. stipitis guild members (Candida boleticola, Spathaspora passalidarum, and Candida jeffriesii) with similar physiological traits. After the curing and replacing experiments, the beetle guts were harvested and sectioned. DNA was extracted from each section and species-specific primers were used to amplify gut contents to determine if S. stipitis was successfully removed or if the guild members colonized the gut. The combination of curing and replacing experiments may provide great insight into the tightly linked relationship between the beetle and its yeast.

Luisa Guillemard Poster Number: **49**
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UPRM ADVANCE IT Catalyst Project: A Self-assessment Study to Identify Issues Affecting Recruitment, Retention and Promotion of Women Faculty in STEM Fields

The University of Puerto Rico, Mayaguez Campus, (UPRM) IT-Catalyst Project is designed to gather information for understanding the current status of female faculty members in STEM. UPRM is a Hispanic institution known for its rigorous undergraduate and graduate programs in science and engineering, and a high percentage of female students in each of these fields. Regardless of UPRM's leading role awarding engineering degrees to women, women faculty recruitment and advancement is considered low when compared to what seems to be a significant number of potential candidates for faculty positions. There is also a disproportionate ratio between female faculty and female students in STEM programs. In order to understand the variables that generate this disproportion, we will look into: 1) possible factors that inhibit female students from continuing into a career in academia, 2) points of attrition during career advancement, and 3) conditions that affect recruitment, retention, and advancement of female faculty at UPRM. Findings will be used to develop intervention programs to increase the number of STEM female faculty in UPRM. Activities conducted during 2008-09 point to a lack of awareness on issues faced by female faculty, and a need to develop mechanisms to gather information on indicators that could describe the status of women in UPRM.

Amy Hamlin Poster Number: **50**
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Enhancing Visualization Skills-Improving Options aNd Success (EnViSIONS)

Spatial visualization skills are vital to many careers and in particular to STEM fields. Materials have been developed at Michigan Technological University (Michigan Tech), Pennsylvania State University at Erie, and The Behrend College to assess and develop spatial skills. The EnViSIONS (Enhancing Visualization Skills-Improving Options aNd Success) project is combining these materials and testing them with pre-college and college students at seven institutions: Michigan Tech, Penn State, Behrend, Purdue University, University of Iowa, Virginia State University, Virginia Tech, and a "Project Lead the Way" course in south-central Arizona. By removing a barrier to success for students with low visualization skills, particularly women, the project leaders hope to improve the retention of these students in STEM disciplines and to enhance their success. This poster will give a brief overview of the implementations at the university level and the findings.

Sandra Hanson
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Poster Number: **51**

Gender, Race, and Science: Asian American Women as Model Minority

This poster will be made up of examples of vignettes and findings represented in bar charts. The project examines race and gender effects on science experiences among the model minority. These sections of the poster were made using WORD and will be pinned to the poster area allowed.

Jill Harp
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Poster Number: **52**

An Integrated Model for STEM Student Development

Winston Salem State University (WSSU) is a historical minority-serving liberal arts institution focused primarily on undergraduate education. The university also has a distinguished record in undergraduate research and promoting community scientific outreach to K-12 students through student development programs such as Center of Excellence for Research, Teaching, and Learning, (CERTL), Health Careers Opportunity Program, (HCOP), Science Careers Enrichment Program, (SCEP), and SciTech. Hands-on activities and didactic enrichment in laboratory methodologies, presentation skills, and critical thinking have been the central learning objectives collaboratively developed by the partnering institutions. The student-centered summer programs are an ongoing collaboration with Winston-Salem Forsyth County Schools, (WSFCS), area churches, and Wake Forest University School of Medicine (WFUSM). Support is provided by NIH, HHMI, HRSA, Burroughs Wellcome Fund, and private/public partnerships. Performance outcome measures include, but are not limited to, the number of students pursuing admissions into college and community college, especially in the sciences. Of the students matriculating at WSSU and WFUBMC, the outcomes focus on numbers of students pursing degrees in nursing, biology, chemistry, mathematics, computer science, and clinical laboratory science. Five STEM faculty and departmental staff persons facilitate and support student enrichment activities, thus creating a model that enhances the training and mentoring of college and high school students to increase the pipeline of STEM graduates. Briefly, the model empowers students to take on leadership roles in training and mentoring other students. After certain aspects of the laboratory-based training have been completed, the college students teach high school and middle school students in a research setting. The high school students also teach middle school students in a research setting. Over 100 students have been impacted by this model in an attempt to steer students towards STEM careers. This model, along with its former successes and future directions in an age of limited funding will be discussed.

Marcia Harrison Poster Number: **53**
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Developing Faculty/Administrative Partnerships to Drive Institutional Change

The MU-ADVANCE Program was created to address the major barriers to women's advancement at Marshall as identified through a pilot climate survey of 16 female faculty from STEM departments. Responses indicated shortcomings in the following areas: 1) senior faculty involved in mentoring junior faculty, 2) promoting successful careers by providing competitive start-up packages, and 3) providing clearly stated policies about child care and dual career options. MU-ADVANCE thus developed three initiatives; Recruitment, Faculty Development, and Policy Change, to improve faculty development and networking practices, enhance research capabilities, and stimulate change to attract and retain female faculty. MU-ADVANCE successfully established faculty-administrator partnerships to steer program initiatives and have subsequently improved and/or established several university-wide recruitment and retention activities and built strong working relationships among university entities that can institutionalize sustainable change. The MU-ADVANCE Program has witnessed an overall increase in the number of female faculty within STEM departments. All participating colleges have improved gender equity, while nine departments hired female faculty. More than 50% of offers went to women, and women represented 42% of new hires. MU-ADVANCE's development of recruitment resources and advertising assistance, and the establishment of the Dual Career Service have been critical in this effort. The Faculty Development Initiative, focused on fostering faculty scholarship, collaboration, and retention, provided 59% of STEM pre-tenure tenure-track women faculty with financial support for research, travel, start-up and summer salary, and stimulated interdisciplinary interactions among 71% of female STEM faculty through networking, workshops, and mentoring. The Policy Committee developed two policy proposals that have been approved by the Faculty Senate and will, if signed by the University President, become institutionalized university-wide practice. MU-ADVANCE's faculty-administrative partnerships have proved to be an effective model for driving change at all levels of the institution.

Comas Haynes Poster Number: **54**
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FACES: Changing the 'Face' of Academia

FACES endeavors to increase the number of under-represented minorities (URMs) that attain science and engineering doctoral degrees, as well as those that enter academia. Primary focus is placed upon impacting the recruitment, retention and professoriate preparation of students spanning undergraduate research experiences to doctoral programs of study. The target group is comprised of select scholars (undergraduates) and fellows (graduates) associated with the following metro-Atlanta academic institutions; Georgia Tech, Emory University, Morehouse College, and Spelman College. Based upon these constituents, the demographical impact is naturally weighted toward African-Americans, but other URMs (e.g., Latino) are also beneficiaries.

Xudong He Poster Number: **55**
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Center for Innovative Information Systems Engineering – Research Activities
Florida International University's (FIU's) second-phase CREST, the Center for Innovative Information Systems Engineering is housed in the School of Computing and Information Sciences and the Department of Electrical and Computer Engineering. The Center's four research thrusts bring together a multidisciplinary group of researchers, large-scale collaborative relationships, and a broad ecosystem of partners to perform research that will lead to information technologies that help to solve critical societal problems of national priority.

Tania Hicks Poster Number: **56**
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The Role of Reactive Oxygen Species and Insulin in the Modulation of Pyruvate Dehydrogenase Kinase 4 Expression in Adipocytes
Pyruvate dehydrogenase kinases (PDK) are a family of kinases that negatively regulate the activity of the pyruvate dehydrogenase complex. PDK 1-4 are the four tissue specific isoforms that have been identified in mammals. Each of these isoforms has a different pattern of gene distribution. The long term regulation of PDK that occurs in starvation and diabetes involves an increase in the amount of PDK protein. This increase results in a stable increase in PDK activity. PDK4 induction leads to decreased glucose oxidation, which results in hyperglycemia. Various studies indicate that PDK4 expression is associated with decreased glucose uptake and/or insulin resistance in a variety of conditions. Studies have shown that prolactin, growth hormone and the synthetic glucocorticoid dexamethasone, induce PDK4 expression in adipocytes. In this study, it was observed that the induction of PDK4 mRNA by DEX, prolactin and growth hormone can be substantially attenuated by a one-hour treatment with 5nM insulin in 3T3-L1 adipocytes. Pretreatment with the antioxidant N-acetyl cysteine partially rescued the inhibitory effect of insulin on the hormone induced expression of PDK4 mRNA levels. These results suggests that the inhibitory effect of insulin may involve the generation of reactive oxygen species (ROS). Additional experiments are ongoing to determine if the ability of insulin to attenuate the induction of PDK4 in adipocytes involves ROS.

Zachariah Hildenbrand Poster Number: **57**
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The Inhibitory Interactions of The Yeast V1-ATPase
Vacuolar ATPases (V-ATPases) are molecular machines responsible for creating electrochemical gradients and preserving pH-dependent cellular compartments by way of proton translocation. Dissociation of the intact V-ATPase into the respective V_O- and V_1-domains is thought to regulate catalytic activity, as ATP hydrolysis by the free V_1-ATPase has lethal

consequences for the cell. In an effort to elucidate the method by which the free V_1-ATPase regulates ATPase activity, the structure has been studied revealing an inhibitory DFB interaction in which the central stalk is held motionless, resulting in the dissipation of the rotary mechanism. Furthermore, subunits C and H are found to provide a platform for three peripheral stalks, forming a sub-complex that outlines the likely procedure for the assembly of the V_1-ATPase.

Oliver Hill Poster Number: **58**
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Improving the Mathematics Performance of Minority Students

The purpose of the current study was to determine the efficacy of three cognitive interventions for improving the performance of minority middle school students in mathematics. Students from twenty-seven middle schools attending a summer enrichment program were randomly assigned to one of three interventions: one-on-one cognitive training, a web-based version of the same training, and innovative math pedagogy (the Algebra Project). Participants were given pretests and posttests on mathematics proficiency and a comprehensive cognitive assessment. Regression analysis found that the measure of cognitive skills was the most significant predictor of mathematics standardized test performance out of a battery of psychosocial factors [b=.552, t(25)= 4.39, p<.001], explaining 43% of the variance in the math scores. After a three-week intervention using the same cognitive training methodology that will be used in this project, both mathematics standardized test scores [t(26)=3.36, p<.01] and cognitive skills assessment scores [t(26)=7.35, p<.001] were significantly improved. Despite the small sample size (N=27), the effect sizes were robust (eta^2=.30 and eta^2=.68, respectively). This project is continuing and the larger sample size will allow a more rigorous test of the efficacy of these interventions. These methods hold promise for improving math performance in inner-city schools with large minority populations, where standardized test scores tend to be low.

Judith Iriarte-Gross Poster Number: **59**
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Girls Raised In Tennessee Science (GRITS) IS a New Southern Tradition

Girls Raised In Tennessee Science (GRITS), advances knowledge of STEM education and careers for girls throughout Tennessee. Since the start of GRITS in January 2007, GRITS has educated over 56,000 Tennesseans on STEM education and careers for girls and young women. In November 2008, a new Expanding Your Horizons (EYH) Conference was held in Memphis. The thirteenth EYH for middle Tennessee will convene in October 2009. The GRITS recipe includes a Traveling Road Show with topics that focus on best practices in STEM education, live video conferences on STEM, and an interactive website (www.mtsu.edu/~grits) for girls, parents, teachers and counselors. GRITS is also the home for the GRITS Collaborative, part of the National Girls Collaborative Project. GRITS positively affects STEM education, training, and the workforce to improve economic conditions for women and their families in Tennessee.

Ashanti Johnson Pyrtle Poster Number: **60**
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Minorities Striving and Pursuing Higher Degrees of Success in Earth System Science (MS PHD'S)

This program, based at the Institute for Broadening Participation, was established by minority scientists and MS PHD'S staff members to promote the advancement of underrepresented minorities (African Americans, Hispanic Americans, NativeAmericans-American Indians and Alaskan Natives, Native Pacific Islanders-Polynesians and Micronesians) committed to achieving outstanding Earth systems science careers. This track's two full-scale proposal was submitted in response to the NSF Opportunities for Enhancing Diversity in the Geosciences program solicitation (NSF 04-590) for the purpose of obtaining funds to support MS PHD'S Professional Development Program student cohorts and build the infrastructure necessary to support the long-term continuation of MS PHD'S activities. Over the past five years, the MS PHD'S professional development effort has engaged over 100 minority undergraduate and graduate students in a series of activities designed to: increase exposure to the Earth system science community via participation in scientific conferences, mentoring relationships, virtual activities, and fieldtrips; enhance professional skills, grantmanship, oral and written communication; provide resources regarding future funding, education and career opportunities; facilitate networking opportunities with established researchers and educators; and provide on-going interaction, communication and support via membership within a virtual community comprised of peers, junior- and senior-level researchers, and educators committed to facilitating full participation of minorities in Earth system science and engineering fields. These activities, conducted in three phases, occur during MS PHD'S Organizational Partner meetings, field trips, and a capstone event at the National Academies. At the conclusion of this project, it is anticipated that a minimum of 150 Earth system science and engineering undergraduate, graduate minority students, and recent graduates will be better prepared to achieve their academic and professional goals. It is also expected that as a result of mentor-mentee partnerships, research exposure, professional development and networking activities, MS PHD'S participants will remain actively engaged in their fields of specialization and respective professional societies.

Bernadette Kelley Poster Number: **61**
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The STEM Learning Community at Florida Agriculture and Mechanical University

This project proposes to move Florida Agricultural and Mechanical (A&M) University to the next level of STEM student achievement by applying a holistic approach to education. The project goal is to improve the overall quality of STEM education at the University by increasing its efficiency in producing STEM students who are prepared for graduate study. This change will be achieved through the introduction of a STEM Learning Community at Florida A&M. Learning communities have been shown to improve retention rates, increase student learning and achievement, increase faculty engagement, and lessen the feelings of isolation some students feel

on large campuses. It is anticipated that up to 200 STEM students per year would fully participate in the project. The effectiveness of the project will be measured by examining the main research question: Do Florida A&M University STEM students who participate in the Learning Community attend graduate school at a statistically significant higher rate than a cohort group of Florida A&M University STEM students who do not participate in a Learning Community?

Frankie Laanan Poster Number: **62**
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Pathway to a STEM Baccalaureate Degree: From Community College to University

The objectives of the Pathway to a STEM Baccalaureate Degree dissemination project are to: 1) develop media presentations in the form of educational videos that educate the public and college students about the pathway to a STEM baccalaureate degree from two-year colleges, 2) develop a "Pathway2STEM Degree: Transfer Student Guide" (TSG) for prospective students attending two-year colleges that educates students about the transfer process, and 3) develop a web site that will be used to disseminate educational resources to educators (two- and four-year institutions), academic counselors/advisors, Transfer Center coordinators, students in two-year colleges, business and industry, researchers, policymakers, and the public. The significance of this work comes in the understanding that community colleges enroll a significant number of women and ethnic minorities in American higher education. Over one half of all students enrolled in American higher education attend community colleges. These institutions play a prominent role in the educational experiences of college students. In particular, the transfer function in community colleges provides the vehicle to prepare pre-STEM majors in providing the first two-years of a general education prior to transferring to a four-year college or university. This poster will highlight efforts of the dissemination project to increase participation among female students in STEM fields. Having reviewed numerous support programs that are currently funded by NSF to increase numbers of traditionally underrepresented student population in STEM fields, the authors will highlight exemplary transfer programs that are specifically aimed to increase participation among female students in STEM fields. Thus, the purposes of this study are to: 1) understand how gender influenced learning experiences among female students in pre-STEM programs at a community college, 2) provide students the opportunity to reflect on and share their academic and personal experiences, and 3) identify factors that facilitate female students to pursue transfer from a community college to a four-year university in STEM majors.

Peggy Layne Poster Number: **63**
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NSF ADVANCE Portal Website

The National Science Foundation's (NSF) ADVANCE Institutional Transformation program seeks to increase the participation and advancement of women faculty in science and engineering. Through 2008, the NSF has funded 39 universities as part of this program.

Communication among the ADVANCE institutions and with the broader community about program activities and outcomes is critical to the success of ADVANCE. One key mechanism for effective dissemination and information sharing is through the world-wide web. In addition to each ADVANCE institution maintaining its own web page, Virginia Tech received funding in July 2004 to establish the ADVANCE Portal Web Site, www.advance-portal.net. The site is currently being upgraded to improve both content and usability. The ADVANCE Portal Web Site brings together knowledge generated by the various ADVANCE Institutional Transformation Award grantees and makes it available to the broader community of individuals and institutions working to increase the participation and success of women in academic science and engineering careers. The collective experience of the participants in the NSF ADVANCE program will further understanding of the impact of university policies and processes for faculty searches, promotion and tenure, work-life balance, mentoring, leadership development, and other aspects of academic life on female faculty in the sciences and engineering. The enhanced portal web site employs the latest web development techniques to compile and present the information to the user in an intuitive and accessible manner. Conference participants will have the opportunity to try out the ADVANCE Portal Web Site and provide feedback on recent enhancements and suggestions for additional features.

Gretalyn Leibnitz Poster Number: **64**
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WA State University's NSF ADVANCE Funded EXCELinSE (Excellence in Science and Engineering) Center: Foundational Cohort and COACHE Analyses

WA State University was recently awarded a NSF ADVANCE Institutional Transformation grant (NSF # 0810927). The goal of the ADVANCE program is to increase the representation/advancement of women in academic STEM careers. The WSU EXCELinSE (Excellence in Science and Engineering) project has four major initiatives: 1) preparing and recruiting a diverse faculty, designed to encourage new women STEM PhD graduates to consider academic careers, 2) work/life, to address institutional and individual barriers to retention and advancement for all university faculty members, 3) leadership training which addresses climate and leadership barriers to recruitment, retention and advancement, and 4) institutionalizing transformation which is aimed at organizing, monitoring and assessing institutional progress, and disseminating best practices to the broader academic community. Although many sources of research were gathered for the winning proposal this presentation will showcase a limited number of items including: 1) cohort analysis of tenure track faculty, 2) the 2006 WSU COACHE (Collaborative on Academic Careers in Higher Education) Tenure-Track Faculty Job Satisfaction Survey data, and 3) preliminary data from subsequent COACHE re-analysis that we wish to showcase. The cohort analysis focused on the cohorts of tenure-track faculty members hired in each of the five years from 1995 to 1999. Hire and retention data were analyzed by gender. The 2006 report of the COACHE data included analysis of gender and race. Recent subsequent re-analysis of the COACHE data explored junior faculty's perception of WSU policies and climate. Highlights of these analyses will be presented as part of foundational research for and preliminary work of the EXCELinSE Center.

Susan Lord Poster Number: **65**
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Gender, Race, and Engineering Persistence

Using a longitudinal, comprehensive data set of more than 135,000 students who matriculated at nine universities in the southeast region of the United States, this study examines the persistence of women in engineering disaggregated by race/ethnicity. Females are underrepresented in engineering majors, have parity or better in other Science, Technology and Mathematics majors, and are overrepresented in arts and humanities, social sciences, and other majors. This pattern holds for all ethnic groups. Findings reveal that for Asian, Black, Hispanic, Native American, and White students, women who matriculate in engineering are most likely to persist in engineering to the eighth semester compared to other eighth-semester destinations and, except for Native Americans, do so at rates comparable to those of men. Eight-semester persistence is a reasonable predictor of six-year graduation, with some noted exceptions. The validity of eight-semester persistence as a predictor of six-year graduation varies significantly among institutions, but females and males at each institution tend to have similar experiences.

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The STEM Equity Pipeline

The STEM Equity Pipeline project is designed to impact the capacity of the formal education community to act as a vehicle for female students to enter careers in STEM. The project's goal is to increase the participation of females in secondary and postsecondary STEM Career Cluster programs and the related academic courses necessary for successful secondary-postsecondary transition and degree completion. The education community is struggling with increasing the participation and completion of students in programs that prepare them for nontraditional careers. Although females have made strides in their academic performance and participation in STEM courses, they still are not proportionately entering STEM-related career fields, limiting their access to high skill high wage careers. Female students participating in STEM Career Cluster programs can develop an awareness of STEM careers, explore their interests, and become motivated to pursue a higher degree in a STEM field. The confluence of pressures from educational accountability and workforce development make the formal education community a prime arena for expanding the pipeline for females into STEM careers. An Extension Services Group (ESG) of gender equity in STEM research and practice experts will provide consulting and professional development services to state extension agent teams. State Teams will include: education professionals that provide technical assistance, professional development and pre-service education to high school and community college administrators, faculty and staff; community-based organizations (CBO's) serving women and girls in the state; and leaders of statewide professional organizations committed to involving females in secondary and postsecondary STEM education. It is the conscious intent of the composition of the State Teams to include both formal and informal educational partners in an attempt to bridge and connect the efforts being made in both arenas. Throughout the project's life, thirteen State Teams will be

trained to provide extension services to local education (LEA) and CBO staff to implement an institutional change process (USDOE, 2002). The institutional change process includes five steps: 1) analyze existing data, 2) identify root causes, 3) choose best strategies, 4) implement selected strategies, and 5) evaluation. The ESG's training for State Teams will include: 1) an annual seminar where best practices will be shared and State Teams will receive training in the institutional change process and research-based strategy implementation, 2) professional development webcasts on data analysis for program improvement, effective strategies, exemplary programs, "how to" topics, and equitable instructional strategies using Generating Expectations for Student Achievement, 3) a web-based Virtual Learning Community where the National Advisory Board, the ESG, State Teams and local educators can form common-interest-based learning communities and chat rooms, network electronically via a listserve, post relevant documents, archive webcasts, and participate in online courses and tutorials, and 4) on-going consulting with State Teams by ESG consultants. The ESG will compile existing comprehensive research literature reviews and identify and evaluate exemplary projects, research-based learning tools, pedagogical approaches, and service or support programs into a Best Practices Handbook to be used by State Teams for effective extension services with local educators. The projects resources and expertise include: a National Advisory Board of twenty-four national education and gender equity organizations and STEM businesses, ESG consultants with extensive research and practitioner experience and access to a wide array of resources, the principal investigator, a national expert in educational equity, who has over twenty five years experience providing consulting services to local educational agencies and managing state and federal grants, and the project evaluators who are experts in data analysis and project evaluation with significant national experience. In the first year of the project, starting October 1, 2007, five states participated; California, Illinois, Missouri, Oklahoma, and Wisconsin. In the second year, two states were added; Iowa and Minnesota. Each state has taken different implementation processes with the common central professional development component of the Five Step Program Improvement Process outlined above. Implementation strategies have included regional professional development consultants working with local educational agencies, development of a diverse state team to act as dissemination agents, training of local education agency representatives to take the professional development back to their schools to implement, identification and supplemental funding to pilot sites to implement the process, and integration into existing professional development and funded initiatives in the state. Each state has submitted baseline data to the project that includes the participation and completion rates of females in STEM related career cluster programs at each LEA in the state. This data will be used to evaluate impact over the life of the project. Process and reach evaluations are also being conducted to determine the extent of the use of the training by "extension agents" (those who received the training) with others in both formal and informal settings. In addition to extensive outreach activities in each state the project has provided professional development at many national education conferences.

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Update on a STEM Honors Program at Norfolk State

This paper combines the results from a longitudinal evaluation study of an honors program in STEM over a twenty-year period as well as the three-year implementation of a pilot integrated curriculum for freshmen students in engineering at Norfolk State University (NSU). A comprehensive formal evaluation of the NSU STEM honors program, called the Dozoretz National Institute for Mathematics and Applied Sciences, admits students with high school GPAs of 3.2 and SAT scores in mathematics and verbal of 500 or better. There is considerable history of minority STEM enrichment programs that have largely reported success anecdotally and have not disseminated their findings in a manner that can help others to systematically adopt educational strategies and philosophies that contribute towards the creation of a significant increase in the number of underrepresented students pursuing STEM training and career entry. This research project examines all of the obvious and not-so-obvious features of the training environment.

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Computations in Support of the North Carolina Central University Neutron/Deuteron Break-up Experiment

We are developing models and computational support for the neutron-deuteron (ND) breakup experiment being carried out by North Carolina Central University and Duke University collaborators. Accurate computer simulations are needed in the ND elastic and ND breakup analyses of the experimental data to account for effects such as finite geometry, beam-energy spread, and detector time and energy resolution. We are developing simulations using the GEANT4 computer code developed by CERN, and using our own Monte Carlo based codes. We will present our efforts in this direction in addition to the educational and training activities associated with the project.

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WEPAN Knowledge Center -A New Online Resource

The WEPAN Knowledge Center (WKC) is an online resource for research, best practices and professional communities dedicated to advancing all women in engineering. Thanks to a generous grant from the National Science Foundation and support from corporate sponsors, the days of searching all over the Web for information related to women in engineering are over!

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The STARS-Plus Project at Norfolk State University

The STARS-Plus Project broadens the participation of underrepresented groups in STEM activities by partnering with three local high schools, one community college, and one local corporation. The partnership provides an innovative solution to improve the diversity of the scientist and engineering workforce by reaching into the high school through a series of activities to increase the retention of students in science and engineering programs once they are enrolled in college. It particularly targets disadvantaged students as science and technology faculty have considerable experience and expertise in addressing the deficiencies of disadvantaged students in the sciences and engineering. This initiative is in keeping with the University's mission and will help prepare participants for the challenges in the highly technological workplace of the 21st Century.

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Advancing Diversity through the Alignment of Policies and Practices (ADAPP) at Michigan State University (MSU)

Michigan State University's (MSU) ADVANCE program (ADAPP, Advancing Diversity through the Alignment of Policies and Practices) has been established to promote MSU's values of quality and inclusion by enhancing the alignment, consistency, transparency and objectivity of academic human resource practices across the STEM fields. Specifically, ADAPP addresses policies and procedures related to: 1) tenure and promotion, 2) the annual review process, 3) new faculty recruitment/ search processes, 4) faculty leadership development, and 5) mentoring. Research has shown that by developing objective, transparent criteria and practices in these five areas and consistently applying them across individuals and units, potential bias, both intentional and unintentional, is reduced. In addition, ADAPP institutes Faculty Excellence Advocates (FEA) who will assist with successfully implementing best practices, and a University electronic portfolio system that will serve as a central repository for information on faculty accomplishments and will provide clarity, transparency and accountability to policies, and practices. Faculty benefits from such a system will also include the ability to enter data a single time to automatically generate multiple university forms related to review and advancement. The ADAPP strategies will ultimately promote MSU's core values of quality and inclusion. These strategies will enhance the opportunity for all faculty to thrive within a rich, intellectually stimulating and supportive community in which expectations are clear, there is equitable access to resources, and achievement is fostered and rewarded.

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Combining Online Resources to Tell STEM Stories

The STEM Stories project is building a free online collection of digital resources to introduce students in intermediate and middle-school grades to STEM careers through the compelling personal stories of scientists and engineers, especially women (www.stemstories.org). It highlights individuals in diverse STEM fields using a variety of media, including images, audio interviews, personal photo albums, video clips, interactive experiments, and text biographies. The site includes a searchable database of media clips, biographical profiles of scientists and engineers past and present, and a Spotlight section with an in-depth look at the different facets of the lives and work of featured individuals. The site builds on the Content Clips System Framework for assembling and customizing online resources and presentations (www.contentclips.com) which grew out of a targeted research study funded by the NSF's National Science Digital Library program. This poster will show the range of resources available at the STEM Stories web site and share the results of formative evaluation activities carried out with students involved in an after-school club for at-risk girls in Northern California. Other projects that have developed related materials are invited to collaborate with STEM Stories to distribute and publicize their own digital content through this web portal.

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Bound States and Low-Lying Resonances of 7(HE)L and 9(BE)L

The ${}^{7}_{\Lambda}He$ and ${}^{9}_{\Lambda}$Be hypernuclei are considered within the cluster model (${}^{5}_{\Lambda}He$+n+n and $\alpha+\alpha+\Lambda$). The calculations of the hyperon binding energy for the bound and resonance states are based on the Faddeev equations in configuration space. Excited states of ${}^{7}_{\Lambda}He$ can be classified as an analog of the corresponding states of the ${}^{6}He$ nucleus by allowaning the clustering of the ${}^{5}_{\Lambda}He$+n+n system in ${}^{6}He$ (Jπ)+Λ(s) form. We have shown that the spectral properties of ${}^{9}_{\Lambda}Be$ can be classified as an analog of the ${}^{9}Be$ spectrum, with the exception of several "genuine hypernuclear states". Energy splitting of (5/2+, 3/2+) and (9/2+,7/2+) levels have been evaluated.

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Identification and Characterization of FKBP52-Specific Inhibitors

Studies in cellular behavior have found that the FK506 binding protein FKBP52 preferentially regulates glucocorticoid, androgen, and progesterone receptor-mediated signal transduction. These results have been corroborated in mouse knockout models which exhibit specific phenotypes directly linked to androgen, progesterone, and glucocorticoid resistance. Thus, FKBP52 represents an attractive therapeutic target for the treatment of hormone-dependent diseases. A modified receptor-mediated reporter assay in yeast and mammalian cells was used to screen a diversified natural compound library for FKBP52 inhibitors. These studies are aimed at assessing the ability of the compounds to inhibit endogenous androgen-dependent gene expression and to inhibit FKBP52 association with the receptor-chaperone complex. AR LBD-compound cocrystallographic structures were performed in order to determine the binding of the compounds to the Androgen receptror. Two compounds were identified that displayed specific inhibition of FKBP52-enhanced receptor function. Through the analysis of structure/activity relationships, 15 compounds were identified that potently and specifically inhibit FKBP52-mediated potentiation of receptor function, allowing characterization of the structural components that confer FKBP52-specific inhibition. Currently the inhibitory effects of the candidate compounds in the MEF 52 KO and Hela cell lines are being assessed. In addition, toxicity assays were performed in these two cell lines to determine the half maximal lethal dose (LD50). None of the compounds displayed cellular toxicity within the effective concentration range. Furthermore, it was observed that the small molecules that were identified as possible therapeutic drugs considerably decreased PSA (prostate specific antigen) secretion in prostate cancer cells. In collaboration with Dr. Fletterick, it was discovered that the inhibitors compounds bind a surface on the androgen receptor hormone binding domain which has been characterized as a putative FKBP52 interaction surface. These studies will lead to FKBP52-receptor interaction models and allow for the development of selective FKBP52 inhibitors for use in the treatment of hormone-related diseases such as prostate cancer.

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Building Community Capacity with a Web Portal

The Appalachian Information Technology Extension Service (AITES) is a five-state comprehensive, research-based extension program of training and consulting services that seeks to promote underserved females' interest in jobs requiring information technology skills. A web portal has been created to build community capacity by providing workflow, networks, collective competence and resources among national and state partner boards, the administrative structure, and the Community Cohort Teams in Appalachian counties of Virginia, Kentucky, Tennessee, North Carolina, and West Virginia. A description of the portal and its functionality will be displayed.

Ed Meyen Poster Number: **76**
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Preparing Students with Learning Disabilities in Math to Achieve Curriculum Standards
The focus of this study is the Blending Assessment with Instruction Program (BAIP) model that includes 276 online lessons for teachers and 417 cognitive tutorials for students aligned with curriculum standards in Mathematics. The overall objectives are to: 1) reduce the achievement gap between the performance of students with learning disabilities and their non-disabled peers in math, and 2) enhance the math preparation of individuals with LD to pursue STEM careers. Data from two years of program testing will be presented as well as lessons learned in the areas of development, implementation, and evaluation.Implications for future work in this area and in science will be shared.

Deborah Mitchell Poster Number: **77**
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Michigan AGEP Alliance: A Transformative Approach to Graduate Education
The Michigan AGEP Alliance (MAA) brings together the University of Michigan, Michigan State University, Wayne State University and Western Michigan University. Combining recruiting, retention activities and preparation for academic careers, the alliance has been successful in increasing the number of underrepresented STEM students who enter and complete graduate school and pursue positions in academia. MAA academic programs provide high-quality PhD education for the full spectrum of the NSF AGEP STEM and SBE fields. MAA institutions have a long-standing tradition of academic excellence and cutting-edge research coupled with a firm, unwavering commitment to diversity.

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Push-Pull Overexertion Injuries
It has been established by the National Institute on Occupational Safety and Health (NIOSH) that seventeen to twenty percent of overexertion injuries can be attributed to pulling and pushing tasks. However, pulling and pushing tasks have been studied within a very limited scope. This pilot study examined the effects of pushing and pulling tasks on the trapezius and sternocleidomastoid neck muscles. Four subjects performed static arm push and pull tasks at 50 and 75 percent of their maximum voluntary contraction (MVC). The objectives were to: 1) observe activity across the two muscles, 2) compare activity of the two muscles across push and pull tasks, 3) analyze the differences between push and pull tasks across the two muscles, and 4) use biomechanical modeling for correlation and validation of results obtained in the study. It was hypothesized that an increase in maximum voluntary contraction would result in an increase in electromyography (EMG) activity which would render some evidence of possible muscle fatigue

in the two muscles. The four objectives provided the framework for testing the hypothesis. Although there was significant activity found in each muscle, there was no statistical evidence to support the idea that there is a difference between push and pull activities in relation to muscle activity. However, the activity observed in the two muscles suggests that there may be a possible indication of musculoskeletal disorder risk associated with push and pull activities. It was concluded that further study regarding the two tasks should be conducted to obtain a deeper understanding of this discovery.

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Milestones and Danger Zones for STEM Women

Underrepresentation of women in STEM continues despite more than 40 years of research on this issue. Research has focused on different variables for those beginning the path to STEM careers versus those already in STEM careers, preventing generalizations and the full development of effective models. Research on students preparing to enter STEM careers have focused on internal factors, for example, self-efficacy. This limits the ability to understand external factors that may be influencing students' persistence in STEM career preparation. Examples of understudied variables include issues such as distance from the center of privilege and power and the impact of gender relations. Partially based upon Noble, Subotnik, and Arnold's (2000) Model of Female Talent Development, this study examined the person and environment variables, with a focus on the variables of distance from privileged status and gender relations. This study used a sample of college women from three universities representing different portions of the U.S. with differing cultural and race/ethnic mixes in order to examine differential patterns of impact by race/ethnicity. The universities included in this study are state-funded, public institutions. One is located in the Southwestern United States and is a minority-serving institution (primarily Native American and Hispanic), the second a predominantly white institution in the Midwestern United States, and the third is a Historically Black Land Grant institution in the Southeastern United States. This three-year NSF grant included three distinct phases. During the first year, two new measures were developed and the psychometric properties were examined with a large sample of both college women and men. In the second phase, workshops were conducted for women interested in STEM majors and data were collected at those workshops. The last phase is the collection of qualitative data and the analysis of both qualitative and quantitative data. The poster will very briefly summarize the major results.

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Targeted Infusion Project: Implementation of a Bioengineering Concentration in the Department of Chemical Engineering at Prairie View A&M University

With the emergence of newer technologies, many of which are steeped deeply in chemical engineering principles, the chemical engineering profession has witnessed an increased decline

in the number of students who choose this field of study. To address this issue, many chemical engineering programs have updated their curricula to reflect the emergence of biotechnology and nanotechnology to which chemical engineering is a natural fit. Hence, a number of chemical engineering departments have changed their names and curricula to reflect a shared focus on biology and chemistry, while others see fit to maintain their original name and have "bio-concentrations/tracks" or offer a biochemical degree within the Chemical Engineering Department. Consistent with these trends, the Department of Chemical Engineering at Prairie View A&M University sought to update it's curricula and effective fall 2008, implemented a Bioengineering concentration as a option within its degree program with the assistance of funding from the National Science Foundation HBCU-UP Targeted Infusion Program. This poster presents an overview of the accomplishments to date of this project, future work and lessons learned.

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The Role of Gender in Language Used by Children and Parents Working on Mathematical Tasks

Over 100 parent-child dyads participated in a study on the role of gender in language used by children and parents working on mathematical tasks, a project conducted by the Curriculum Research & Development Group at the University of Hawai'i. Third and fourth grade children and their parents were videotaped as they worked on tasks in number, geometry, and algebra. The poster will share data from these dyads. The data was analyzed for gender-related differences in the use of cognitively demanding language by parents and their children

Jorge Ortiz Zayas Poster Number: **82**
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Sensing Climate Change in an Ephemeral Coastal Pond: Implications to the Conservation of Biodiversity in a Subtropical Dry Forest

There is concern that climate change may reduce rainfall in the Caribbean and increase sea levels thus altering groundwater supplies and coastal habitats. The potential effects of such change will likely be more evident in dry lowland subtropical forests which are susceptible to fires and sea level variations. In order to improve management decisions, a systematic monitoring program of surface and groundwater levels was established in 2005 at an ephemeral coastal pond located in the Guánica Biospheric Reserve in Southwestern Puerto Rico. The program has provided invaluable data in support of conservation of endangered wildlife. The data suggest that ephemeral coastal ponds are critical habitats highly susceptible to climate change and to storm surges drastically altering habitat conditions and posing stresses to freshwater endangered fauna.

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Working Class Women Using Community College Pathways for Four-Year STEM Degrees
To cultivate a diverse student body poised to contribute to science and technical fields, we need to better understand how women from diverse socioeconomic and ethnic backgrounds persist in their STEM career goals. Toward this end, we must target the educational pathways used frequently by this group. Thus, this project focuses on the community college pathway to four-year STEM degrees. The project examines how women, with a focus on first-generation college from working-class backgrounds get "on track" to transfer, as well as the individual strategies and contextual supports that facilitate individuals as they strive to persist.

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DEAF-STEM: A Community of Many Serving Very Many
DEAF-STEM (http://www.shodor.org/deafstem) has rapidly become the leading on-line resource for vocabulary in math and science, and in particular, computational science. A community of educators with experience in deaf and hard-of-hearing education has produced new suggestions for vocabulary to eliminate finger-spelling from interactive education. All signs are videoed for dissemination via the web-site. Full lesson plans with signed vocabularies and concepts are also being developed and disseminated through both DEAF-STEM and the National Science Digital Library.

Karen Peterson Poster Number: **85**
National Girls Collaborative Project (GSE)
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National Girls Collaborative Project
Numerous programs and initiatives to create gender equity in the areas of STEM have been implemented only to lose effectiveness or fade away. Had these programs had the benefit of collaboration with other girl-serving projects, organizations and institutions, and tools to assess and evaluate the impact of their efforts, their capacity for continuation and/or broader impact could have been substantially increased.The vision of the National Girls Collaborative Project (NGCP) is to bring together organizations throughout the United States that are committed to informing and encouraging girls to pursue careers in STEM. NGCP currently supports 14 regional collaboratives across the United States. The goals of NGCP are to: 1) maximize access to shared resources within projects and with public and private sector organizations and institutions interested in expanding girls' participation in STEM, 2) strengthen capacity of existing and evolving projects by sharing promising practice research and program models, outcomes and products, and 3) use the leverage of a network or collaboration of individual girl-serving STEM programs to create the tipping point for gender equity in STEM.

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Synthesis of Prostaglandin for Use as PGE2 Inhibitor Using Hetero-Pauson-Hkand Reaction
Prostaglandins play an active role in the suppression of tumor progression, treatment of glaucoma, and as an anti-inflammatory drug. Current anti-inflammatory drugs - nonselective NSAIDS, COX-1inhibitors, and COX-2 inhibitors - are responsible for exacerbating the development of inflammatory bowel disease, reducing coronary vasodilator, and slowing the growth of muscle after injury. The research objective is to design a PGE2 synthase selective inhibitor to serve as a new antiinflammatory which alleviates pain and inflammation without causing digestive and cardiac complications. The strategy for synthesizing the prostaglandins incorporates the hetro-Pauson-Khand reaction to form a lactone carbonyl and the adjacent sidechain needed to serve as sites of olefin attachment for the alpha and omega chains.

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High School Students' Masculine and Feminine Gender Ideology and College STEM Aspirations
Cross-sectional survey data from a longitudinal study of STEM attrition and persistence in five high schools within a large urban school district was used to examine the association between students' masculine and feminine gender ideologies and future aspirations for college STEM. Including a gender-by-gender ideology interaction, controlling for science and math self-concept and salience, high school girls who had internalized more conventional beliefs about masculinity ideology were almost 70% less likely to report aspirations for college STEM compared to male peers. Femininity ideology measures were not significantly related to aspirational outcomes. School context also played a part, where students in schools with fewer resources were less likely to aspire to college STEM compared to more affluent schools, even if the poorer schools were STEM magnet programs.

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Oklahoma LSAMP Providing Opportunities for Science, Technology, Engineering, and Mathematics Since 1995—FIFTEEN YEARS OF SUCCESS!
OK-LSAMP provides an overview of the accomplishments of the undergraduate and graduate statewide programs highlighting 15 years of outstanding LSAMP Scholar accomplishments. Examples include: Daniel Wilson, University of Tulsa undergraduate alumnus, now popular TV host and author; Paul de la Cerda, an Oklahoma State University alumnus who is now an established inventor and businessman, and Heather Hannah, East Central University alumnus and current faculty member. The Oklahoma partnership is supporting four Bridge to the

Doctorate cohorts at present for a total of 36 Fellows. Fellows from Cohorts I and II have completed and continue to complete PhD and M.S. degrees; Fellows from Cohort III, are completing their first year of the program. Cohort IV will begin in Fall 2009.

David Porush Poster Number: **89**
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"What Does Mentoring Really Mean?" How to Genuinely Fulfill the NSF Requirements for Mentoring in STEM Fields

All studies of career success in STEM fields cite mentoring as one of the key factors in producing success, especially for women and underrepresented minorities. As a result of this recognition and the America Competes Act [PUBLIC LAW 110–69—AUG. 9, 2007], NSF requires that funded projects include a strong mentoring component. However, in discussion with NSF officials and grant proposers, it is clear that there is no coherent definition of what constitutes effective mentoring. MentorNet, an educational non-profit, in part supported by grants from the NSF, has created an e-mentoring program of proven efficacy based on fundamental research over a period of ten years. The e-mentoring program has paired more than 24,000 mentors in the STEM professions with student protégés in STEM disciplines at the college, graduate and postdoctoral level for guided one-on-one mentoring. The poster will describe: 1) the components of this effective mentoring as measured by our research, 2) outcomes of research on its efficacy, especially among women and underrepresented cohorts, and 3) proposals for incorporating these successful mentoring components in NSF projects to fulfill the NSF requirements for mentoring.

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An Investigation of African American Girls' Positionality in Science and Mathematics

Despite recent progress in science and mathematics education, the underachievement among low-income African American girls remains a challenge when compared to their white counterparts. This investigation researches longitudinally how African American girls living in impoverished communities position themselves in relation to science and mathematics learning, and the impact of teachers, counselors and parents' positionality, if any, on the girls' science and mathematics learning. In this poster session, research activities to date along with findings and profile members of our NSFGender Research Team will be presented.

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Determination of Regeneration Capabilities of The Fabricated Scaffolds In Vivo

A statistical survey showed that in 2000, 7.3 million injury-related visits due to open wounds included many injuries associated with the peripheral nerve. This type of injury may cause reduction in motor function and can include persistent pain. The purpose of this study is to investgate if bioactive multi-lumen and multi-material poly ethylene glycol (PEG) hydrogel nerve guidance conduits (NGC) will offer important improvements in healing for peripheral nerve regeneration. This would be achieved by providing a greater surface area on which the support cells can attach. By using stereolithography (SL), a rapid prototyping (RP) technique, and photopolymerization PEG, it is believed that improved bioactive NGCs can be produced. An advantage of using SL for this process is that mechanical and bioactive properties can be varied throughout the scaffold. It is also important that they exhibit the sufficient tensile strength and mechanical toughness to withstand the mechanical forces that take place inside an organism. The investigation of tensile properties is necessary to develop the appropriate NGCs. Suturability and mechanical testing of sutured conduits produced with SL will be performed so that the final NGC can be tailored for suturability and conformity of matching at the nerve stumps. Results will provide the information that is required to alter the design of the conduit if necessary and perform more in depth studies inside an organism. The research may improve the quality of life for those suffering from peripheral nerve damage as well as open markets for stereolithography and tissue engineering. It will serve to advance the understanding of multi-material stereolithography and the fabrication of bioactive hydrogel tissue constructs for different applications.

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Embodiment Awareness, Mathematics Discourse, and the Blind

Mathematics instruction and discourse typically involve two modes of communication: speech and graphical presentation. For the communication to remain situated, dynamic synchrony must be maintained between the speech and dynamic focus in the graphics. In those not visually impaired, vision is used for two purposes: access to graphical material and awareness of embodied behavior. This embodiment awareness keeps communication situated with visual material and speech. The goal is to assist blind students in the access to such instruction / communication. The typical approach of sensory replacement for the missing visual sense is employed. Haptic fingertip reading can replace visual material. For the embodied portion of the communication, the goal is to enable awareness of the teacher's deictic gestures performed over the graphic in conjunction with speech. This is achieved by employing computer vision to detect the student's reading hand and the teacher's pointing activity, and using a haptic glove to convey direction and distance signals to the student. The system demonstrated an ability to convey directional information, that conveyance does not interfere with the student's ability to read a tactile document, and that the cognitive load of fusing auditory information, raised-line tactile

reading, and embodiment awareness is manageable. A 'phrase charade' experiment was designed and conducted to test the system's support for situated communication in a collaborative problem-solving task. Initial experiments showed that the device was able to convey the mechanics of the conversation, but that too much communication resources were expended on the embodiment awareness activity itself. Thus, the study posited that blind students needed far more familiarity with the technology before they are capable of fluid situated discourse. A computer game to support skill acquisition was designed and deployed, and made available to the students. Experiments with the game showed that the students developed effective strategies in using the device, and that significant improvement in proficiency was achieved. In subsequent tests with the 'phrase charade' experiments, these gains are persistent, and the students were able to complete the game in a third of the time taken in the initial experiments. Actual mathematics instruction in 'inclusive classrooms' are planned as the next phase of the research.

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First Results from Applied Optics Program at the University of Texas at Brownsville

Last year the Center for Gravitational Wave Astronomy at the University of Texas at Brownsville (UTB) began expanding its research portfolio into experimental and applied physics directions. The new applied physics program will be focused on optical resonators and high-precision laser interferometry. Its first phase was funded by the NSF under a supplement to the existing CREST grant to UTB, and was aimed at supporting optics research in LIGO (the Laser Interferometer Gravitational Wave Observatory). Operated jointly by Caltech and MIT, LIGO is the largest project currently funded by the NSF. UTB has been an active participant and a major player in the analysis of data from LIGO detectors. Beginning last year, UTB became a participant in experimental effort in R & D for LIGO, opening new possibilities for research at the Center and new opportunities for students. The construction of an applied optics laboratory on campus is currently underway. The lab will be used for conducting research in high-precision interferometry utilizing optical resonators and techniques for Fabry-Perot cavity locking. The lab will also serve as a training ground for students majoring in physics and engineering. This educational component has already proven useful for UTB. The students involved in the applied optics program are building and characterizing optical ring resonators (pre-modecleaners) which are utilized in LIGO for improving the mode content of the laser beam. Stringent requirements set by LIGO allow only very low-loss performance for such resonators in order to be used with high-power (35-watt) Nd:YAG lasers. The first resonator was built by the UTB students in the Summer and Fall of 2008. Two different techniques have been utilized to show that it has very low losses. Its optical losses were measured at the level of 8 ppm per mirror. This is approximately three times better than the resonators currently available at the LIGO detector sites. The UTB students will continue this work and will build additional resonators for LIGO during the Summer.

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Gold Nanomaterial-based NSET Ruler for RNA Sensing and RNA Folding

This study investigates the size and distance dependent NSET properties of gold nanoparticles in recognizing hepatitis C virus HCV RNA sequence sensitively and selectively (single-base mutations) in a homogeneous format. The experimental results shows that the distance dependent quenching efficiency is highly dependent on the particle size, and the distance at which the energy transfer efficiency is 50%, ranges from 8 nm, which is very close to the accessible distance of conventional FRET, to about 40 nm by choosing GNPs of different diameters. This distance dependence phenomenon can be engineered by choosing the size of the nanoparticle and serves as a nanoscopic ruler for measuring distances beyond what is accessible to FRET. By designing more efficient optical nanoantennas and tailoring their plasmon resonances, one could considerably enhance the sensitivity of this method. This study also reports for the first time that gold nanoparticle based NSET can be used for probing the transition states of an RNA unfolding reaction. The result shows that time dependent NSET can clearly distinguish structural transitions between unfolded to folded states. Experimental observation point out that NSET can be used for the design of optical based molecular ruler to track RNA folding transition states at distances more than double the distances achievable using traditional dipole-dipole Columbic energy transfer based methods.

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Voices of Women in STEM Fields: An Intergenerational Participatory Conference

In this poster the authors present information on the history, rationale, participatory methods used, the development process and the format and outcomes of an invitational working conference designed to promote intergenerational dialogue regarding past and present realities, and future directions of four related themes: Educational Pathways for Women in STEM; Job and Organizational Factors; Work-life Balance; and Work-related Discrimination. Fostering intergenerational and interdisciplinary dialogue on workplace factors associated with women's success in STEM via this participatory conference led to a collective effort to discuss research priorities for the years to come. The conference format moved from the conventional 'lecture' or 'panel session' mode to a systematic and balanced arrangement of eight working groups that worked together on trying to articulate priorities for future research and policy. All groups were guided by a trained facilitator. Participants were asked to outline 'Concept Papers' addressing future research, public policy, and workplace action. Some key questions posed by concept papers from these groups included the following: How have certain support structures been constructed to overcome educational barriers? Where have daily practices been put into place to insure an equal playing field for those working in labs, classrooms and IT centers? What public policies have made a difference in overcoming discriminatory practices?

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Synthesis and Characterization of Dinitrophenyl Functionalized Conductive Polymers Capable of Biospecific Binding

A series of DNP (2,4-dinitrophenyl) functionalized polypyrrole polymers that are specific to antibodies and immune receptors on cell have been synthesized and characterized. This is a terpolymer composed of three monomers; monomer 1 (M1, pyrrole), macromonomer 2 (M2, pyrrole with pendant ethylene glycol) and macromonomer 3 (M3, pyrrole with pendant DNP). These polymers are expected to be useful for controlling receptor binding and cell activation, and with eventual application in biosensors. Conductivity measurement indicate that the terpolymers are conductive; without adding external doping agents, conductivity values of 5 x 10-6 S cm-1 (at 25 oC) were obtained. Binding studies with anti-DNP IgE studies are promising, fraction of binding sites occupied vs. concentration indicates specific and efficient binding at nanomolar concentration. Therefore, DNP functionalized polypyrrole are excellent materials for preparing nanowires in biosensors for detecting biomarkers. It was also determined that these polymers are biocompatible. Nanowires are currently being fabricated using the functionalized conductive polymers. In addition to synthesis and characterization, the thermal properties of the functional polymers will be discussed with regards to the fabrication of nanowires for biosensing applications.

Catherine Riegle-Crumb Poster Number: **97**
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Gender, Science, and Life Beyond High School Course-Taking

This poster presents results from two different studies, both of which consider gendered patterns of science course-taking in high school and their relation to life outside of the high school classroom. The first study explores the association between extra-curricular sports participation and science course-taking in high school. Analysis of a nationally representative longitudinal sample of adolescents from the National Longitudinal Study of Adolescent Health as well as the Adolescent Health and Academic Achievement transcript study shows that the association between sports participation and course-taking is strongest for girls' Physics coursework, suggesting that sports may provide girls with a unique opportunity to develop the skills and confidence to persevere in the masculine domain of science. The second study utilizes data on the most recent cohort of college completers available from the National Education Longitudinal Study to provide a new examination of gendered disparities in postsecondary STEM fields, and considers the role of high-school course-taking in producing such disparities. This study finds that in general, indicators of prior academic preparation and attitudes do little to explain gender differences in entry into either biological or physical science majors. It appears that a focus on early decision-making may be most informative in understanding gendered patterns of STEM choices in college.

Jan Rinehart Poster Number: **98**
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Rice University ADVANCE Gender Research

The Rice ADVANCE Program sponsors an annual Mini-Research Grant opportunity. It has awarded a total of five grants with two receiving renewals for longitudinal studies of PhD students and entering first year students. One grant examines prestigious national opportunities for female ecologists while another considers the equity of local teaching awards. In addition to the Mini-Research Grants, a letter of recommendation study and a faculty leave study have been completed by organizational psychologist, Dr. Michelle Hebl. Results of these research studies will be presented briefly.

Rose Rodriguez Poster Number: **99**
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Research on Environmental Sustainability of Semi-arid Coastal Areas

Texas A&M University's Center of Research Excellence, CREST-RESSACA (HRD-0206259 and HRD-0734850) promotes research opportunities for undergraduate and graduate students focusing on the sustainability of semi-arid coastal areas. The Center enables hands-on experience with state-of-the-art instrumentation and methodologies within laboratories and at various field sites. Being located in the heart of predominantly Hispanic South Texas, a major part of CREST-RESSACA's mission is to increase the representation of minorities attaining doctoral degrees within the field of environmental engineering. During the project's six years, the Center has used South Texas as a test-bed. Research at CREST-RESSACA aims to generate knowledge necessary to tackle the challenges threatening the sustainability of semiarid regions. CREST-RESSACA faculty and students have published or presented 363 items. Of those 363, 160 were publications, 130 were presentations, 46 were poster presentations, and 27 were theses or dissertations. The co-PIs and senior investigators, along with the students and collaborators in partnering institutions, continue to make strong progress in their respective research endeavors within the framework of the three sub-project areas through increased scholarly activities and research productivity. The faculty members were also successful in garnering related external research contracts worth over $7,893,649 (Phase I - $6,771,011 and Phase II - $1,122,638) from federal and state agencies. Over the same period, the Center has supported 72 undergraduates and 45 graduate students, of which 62% were Hispanic. Support for both graduate and undergraduate students has averaged over $300,000 per year as assistantships, tuition, fees, and stipends.

Rodrigo Romero Poster Number: **100**
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Cyber-ShARE Center of Excellence: Sharing Resources to Advance Research and Education Through Cyberinfrastructure

The Cyber-ShARE Center brings together experts in computer science, computational mathematics, education, earth science, and environmental science. The team addresses the challenge of providing information to scientists and other users of cyberinfrastructure (CI) that will enable them to make informed decisions about retrieved resources and to have confidence in using results from CI-based applications. The Cyber-ShARE team conducts innovative research to facilitate the development of CI-based applications and increase their use among scientists by enhancing CI results with provenance information, trust recommendations, and uncertainty levels (areas that are recognized as essential for the success of CI), creating scientist-centered tools and artifacts, and contributing CI resources to appropriate CI portals. The Center's mission is to advance and integrate education and research in uncertainty, trust, and optimization in support of cyberinfrastructures and to develop scientist-centered software services and tools that encourage collaborative and interdisciplinary research approaches.

The Center has three interdisciplinary subprojects in which researchers and students, both undergraduate and graduate, from the Departments of Computer Science, Geological Sciences, Environmental Science, Mathematical Sciences, and Teacher Education participate in a synergistic environment to advance the state of the art in their corresponding disciplines. Subproject 1, entitled "Believing and Accepting Cyber-Results" and led by Dr. Pinheiro from the Department of Computer Science, has as a main goal to gain user's confidence in workflow execution results by enhancing results with provenance information, trust recommendations, and levels of uncertainty. Subproject 2, entitled "Integrated Analysis for Development of 3-D Models of Earth Structure" and led by Dr. Velasco from the Department of Geological Sciences, has as a main goal to determine physical properties of the Earth by advancing data fusion of distinct information sources and by studying and developing techniques and approaches for integrating data with varying accuracy and sensitivity. Subproject 3, entitled "Advancing the Utility of Cyberinfrastructure in Environmental Science" and led by Dr. Tweedie from the Department of Environmental Science, has as a main goal to address the challenge of optimizing data streams and sensor arrays in ecological and environmental networks through case studies targeting improved characterization of environmental phenomena and processes. In addition, the Center has an education and training component which is focused on developing the next generation of scientists and engineers as proficient CI users. To reach this goal, the Center offers research experiences for undergraduates, organizes a Distinguished Lecture Series, offers workshops, participates in outreach activities, and performs other educational activities.

Carla Romney Poster Number: **101**
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A Model for Inclusion of Students with Disabilities in Laboratory Science

This poster will present the results of work over the past five years with high school science teachers in Massachuetts. It has been found that students with disabilities are often excluded from science laboratories due to teachers' lack of confidence in working with students with disabilities in a lab setting and/or due to fear of untoward consequences. However, most scientists, state, and national standards agree that the laboratory experience must be a core component of high school science classes. In fact, we have seen that many students with disabilities, particularly those with language or decoding disabilities, often excel in inquiry-based laboratory investigations. Thus, science and special educators need to work together to successfully implement opportunities for students to learn science. This study has developed a model graduate course for teachers to provide them with effective strategies for creating inclusive science classes that serve the needs of all students. The course includes Universal Design for Learning (UDL), models for collaboration and co-teaching, and provides teachers with a guided practicum experience to implement what they have learned. Preliminary assessments have demonstrated the utility and perceived value of this approach.

Kimi Ross Poster Number: **102**
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Efficacy of Parasite Control Methods in Canines in Alaska

Sled dogs are an integral part of Alaskan culture, both currently and historically. Western veterinary medicine and commercially produced dog food is now readily available in even the most remote parts of Alaska, replacing traditional methods of dog care. While this has indisputable benefits, effective holistic methods for managing dog health may be lost in the process. One area of concern is the management of internal parasites. Western medicine's reliance on chemical methods of control has resulted in increased resistance of parasites in livestock and possibly in sled dogs. The study objectives are to determine if: 1) chemical wormers are being used effectively by mushers, 2) alternative methods of parasite control are effective, and 3) if there are seasonal fluctuations in parasite populations that should be taken into consideration when developing a kennel management plan for controlling internal parasites. Two holistic, alternative methods are examined. First is the Athapascan and Inupiaq Native use of caribou or moose hide to cleanse the digestive tract through mechanical action, in addition to regulated ingestion of locally available foods. Second is the use of the native plant, Artemisia. Plants of this genus are among the most widely used in traditional medicine around the world. Uses include treatment of malaria, digestive problems, pain, inflammation, and as an antiparasitic and insecticide. Study dogs are placed in three groups. Group 1 dogs are from kennels that regularly use conventional chemical wormers. Group 2 dogs are from a kennel that uses a commercially prepared herbal formula that utilizes A. absinthium as one of its primary ingredients. Group 3 dogs are from a tradition-oriented village that does not utilize antiparasitics, managing infection primarily through diet and mechanical cleansing of the digestive tract. Fecal

samples will be taken from each group on a monthly basis over the course of one year and examined using standard fecal examination techniques such as McMaster egg counting technique for parasite eggs and protozoan oocysts (giardia and coccidian). Results will be analyzed for presence and load of parasites, and compared across groups as well as over time to determine the effectiveness of various methods of control as well as fluctuations/cycles in parasitism.

Don Sawyer Poster Number: **103**
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Upstate Louis Stokes Alliance for Minority Participation

This poster presents selected accomplishments of the Upstate LSAMP for the 2008-2009 academic year. The Upstate LSAMP is a new alliance and has continued to strengthen and improve alliance-wide relationships which allows the institutions to serve students in a more effective and efficient manner. The Upstate LSAMP consists of the following institutions: Clarkson University, Cornell University, Monroe Community College, Onondaga Community College, Rensselaer Polytechnic Institute, Rochester Institute of Technology, and Syracuse University.

Matthew Schneps Poster Number: **104**
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Scientists with Dyslexia Exhibit Visuospatial Strengths

Important advances in science and mathematics have come from visionaries who also happened to be people with learning "disabilities" (LDs) such as the Nobel laureate, Baruj Benacerraf, whose different ways of looking at the world have led to powerful and surprising insights, thus revolutionizing their fields. This fact has led some to speculate whether associated neurological differences may be linked to visuospatial advantages allowing people to perform at high levels in some domains. This hypothesis recently gained momentum thanks to new evidence suggesting that some LDs (e.g. dyslexia) are associated with advantages for spatial learning and global visual processing, and are advantageous in science and mathematics learning. This poster reports preliminary results of a study that carried out behavioral, psychological, and oculomotor tests in a population of 30 professional astrophysicists, to investigate whether dyslexia was linked to advantages for tasks important in their research. For example, one task measured noise-limited threshold abilities for detection of spectra associated with black holes. Observations found that scientists with dyslexia show clear advantages for this task (β □= -0.285, SE = 0.09). These results have important implications for MBE because they imply that neurological differences associated with LDs may provide advantages for children studying topics in science, engineering, or mathematics. This work demonstrates that learning "disabilities" are not necessarily an impediment to learning, and that in some cases may even provide an advantage.

Reba Scott Poster Number: **105**
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Preliminary Characterization of Environmental Estrogens Wastewater Effluents

In this study, the objective is to identify estrogens in sewage effluents. Estrogens are a group of steroid compounds that function as the primary female sex hormone. Estrogens are used as oral contraceptives and estrogen replacement therapy in postmenopausal women. Sewage effluents may contain many different estrogens, including estrogens that are endocrine disrupting compounds (ECDs). ECDs are both natural and man-made and they can interfere with the endocrine glands and their hormones that alter the functioning of the endocrine system. It is important to identify theses estrogens to improve understanding of the effects of theses estrogens in the environment. The procedure includes a solid-phase extraction (SPE) of approximately 500 milliliters of water samples. The SPE absorbent used for sample preparation was an octadecyl (C18)-bonded silica sorbent. High Performance Liquid Chromatography with ultraviolet detector (HPLC - UV) was used to characterize the estrogens in the sewage effluents. HPLC - UV was used for its specific detection and potential identification of estrogens in the presence of other chemicals. The preliminary analysis showed the presence of three compounds at levels between .0206 mgL-1 (estradiol) to .2257mgL-1 (ethinyl estradiol). The EPA does not regulate the levels of estrogens that are released into the water but even at low concentration levels the estrogens have been observed harmful on the reproduction, growth, and development of certain species of wildlife.

Jaetae Seo Poster Number: **106**
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Doctoral Research on Multifunctional Optical Nanomaterials

Hampton University's Research Infrastructure for Science and Engineering (RISE) program aims to strengthen doctoral research and education in multifunctional optical nanomaterials. The program includes interdisciplinary components in physics, chemistry, and mathematics. Its educational efforts also include research experiences for undergraduate students and outreach to pre-college programs in order to build a pipeline in nano-optics. The research trust areas in this RISE program are focused on the development and characterization of nanoscale, nano-structured, and nano-composite optical materials for photonic applications in full-color displays, solid-state white lights, biomedical sensing, and chemical sensing. Since October 2007, eight faculty members in physics and chemistry participated and collaborated with eleven national and international partners. The research productivity of the current RISE program at Hampton University is reflected in more than twenty-five journal publications and conference articles.

Betty Shanahan Poster Number: **107**
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Improving Engineering Outreach with SWE-AWE Tools
SWE-AWE (Assessing Women and Men in Engineering) makes quality outreach assessment tools within reach. JAM attendees can improve and validate the impact of their engineering outreach programs with AWE's integrated suite of assessment products. This poster introduces AWE's programs to: 1) make outreach more effective and less time consuming, 2) identify and integrate best practices, 3) collect results that underpin guided decision making, 4) access expert-developed surveys that are off-the-shelf, and 5) collect data on intended outcomes.

Pamella Shaw Poster Number: **108**
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The Midwest Crossroads Alliance for Graduate Education and the Professoriate (AGEP)
Since its inception in 2004, the Midwest Crossroads AGEP has developed and enhanced student opportunities in the effort to complete its primary mission of collaboration to broaden participation in the STEM graduate education. The Midwest Crossroads Alliance partnership of Purdue University, Indiana University, and Northwestern University draw upon the strategic Indiana-Midwestern sector to: 1) create a supporting regional BS-to-PhD infrastructure in STEM disciplines, 2) leverage STEM PhD programs and initiatives, and 3) create and strengthen pathways to the professoriate. Our alliance has developed a knowledge base of successful strategies that include mechanisms to significantly increase minority student admissions, ensure effective mentoring, increase rates of retention and position a greater number of minority graduate students for successful degree completion. Some highlights of our portfolio of cross-alliance initiatives include: dynamic university partnerships, leveraging of alliance partner resources, expansion of summer undergraduate research opportunities, bridging students from college to graduate programs, collaborations with other AGEP alliances, expansion of institutional change initiatives among alliance members, and enlisting the support from 369 AGEP professors across the alliance. As the program completes the fifth year, key elements of programmatic operation that include building partnerships with LSAMP and regional undergraduate and minority-serving institutions, conducting off-campus visits, coordinating undergraduate summer research programs for graduate recruiting, building peer networks through minority student organizations, acclimating new students academically to graduate school, organizing study groups, creating joint conferences, promoting Preparing Future Faculty programs, and leveraging GEM faculty preparation activities will be continued.

Clark Shingledecker Poster Number: **109**
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Ohio's STEM Ability Alliance (OSAA): STEM Degrees and Careers for Ohioan's with Disabilities

Ohio's STEM Ability Alliance (OSAA) was established in December 2008 as an alliance of Ohio four- and two-year postsecondary institutions, public secondary schools, and STEM industries/government laboratories focused on creating a significant increase in the number and quality of students with disabilities who receive STEM degrees and who enter the science and engineering work force. Working in two regional "QUADS" led by Wright State University and Ohio State University, OSAA is integrating a variety of proven interventions and innovative student support techniques to prepare high school students for transition to STEM college studies, retain college students in STEM majors, and provide them with high quality research and work experiences that will maximize their readiness for STEM employment or graduate studies.OSAA initiatives include peer and professional mentoring, learning communities, internships, and a unique Ability Advisor Program that provides comprehensive college student monitoring and customized access to a full range of academic, physical, technical and personal support services that will enable individuals with a disability to reach their STEM career goals. Using the leverage provided by NSF OSAA support, Wright State University won a $3 million Choose Ohio First Scholarship award in March 2009 that will support scholarship.

Marie Shoffner Poster Number: **110**
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Engagement, Supports, Barriers and Math Interests

The researchers examined the role of student engagement, belonging, and teacher, parent and peer supports on mathematics interests. Results from the first two years of a three-year longitudinal study will be presented. Theoretical foundations, quantitative results suggesting predictors of math interest, qualitative results on student belonging, engagement and perceived barriers and supports, and implications for practitioners, educators, and researchers will be provided.

Brandy Snowden Poster Number: **111**
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Development of High Throughput Near IR Fluorescence Assay for Monitoring ENL1 Activity via Use of Phthalocyanine (Pc)-Based Fluorophores

Endonuclease LINE1 (ENL1) is a key component of retrotransposition. It prompts the formation of a double strand break which is toxic to cells and may lead to the onset of certain diseases. The development of an inhibitor of ENL1 activity would be salubrious to estimate ENL1-associated damage and to develop adequate therapeutic procedures. High throughput screening of

components of combinatorial libraries for a potential inhibitor is an important step towards this goal. Pc -based near-IR fluorescence assay to monitor affects of potential inhibitors on ENL1 activity were developed. This approach provides superior sensitivity and coupled with Pc's exceptional photo- and chemical stability, will be beneficial for this application.

Joe Song Poster Number: **112**
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SNP-SNP Interactions in Association Studies by Generalized Logical Network Modeling Through Reconstruction and Comparison

This study created a generalized logical network (GLN) using a reconstruction method, based on chi-square testing, to isolate a subset of SNP that have significant association with the complex trait of Parkinson Disease (PD). Overall, the study proposes to identify if and how SNP-SNP interactions vary when the dataset is separated into two sections: subjects with PD and subjects without PD. Differences in SNP-SNP interactions between the two datasets will be identified using comparison methods based on heterogeneity testing. The primary focus is to identify a subset of SNPs that have statistical associations with the complex trait, and then report any SNP to SNP associations (haplotypes) that differ between subjects with and without PD. Access has been granted to the LEAPS dataset provided by a collaboration between Mayo and Perlegen1. The results are based on version 1 of the dataset; and the information provided in Tier 1. The Tier 1 study is a section of the LEAPS dataset in which 443 sibling pairs had roughly 198,000 SNPs documented, as well as information about each subject's gender and age onset of PD. A sibling pair includes one subject that contracted PD paired with its sibling that did not contract the disease. A generalized logical network is the formation of nodes in a network with node associations linking one or several node values to other node values in the network. A node with values linked to other node values is called a parent node; and the node that is being linked to associations is called a child node. Parent node values are tested for statistical associations with child node values. To implement the GLN approach, all SNPs in the dataset are formed into nodes that can have 3 values {0, 1, 2} (2 values {0, 1}, if biallelic). Other information about the subject (e.g., gender {0, 1} and age onset {0, 1}) are quantified and represented as other nodes in the network. For each subject in the dataset, a trajectory is formed using the subject's genotype information; and thus, one instance of a network of SNP, gender, and age onset nodes, with some set value per node, represents a subject. Song's reconstruction method searches all possible parent combination for each child node; builds a contingency table for each parent combination; and then computes the statistical association of the contingency table using chi-square. The parent combination that provides the lowest p-value will be the best association found for the child node. Within reconstruction, this study considered the child node to be the quantified value of the age onset. Associations are found for the values of the age onset node using other nodes in the network as possible parents.

Gerhard Sonnert Poster Number: **113**
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Persistence Research in Science and Engineering
Project PRiSE (Persistence Research in Science and Engineering) has examined the factors that predict beginning college students' career intentions. Having collected a nationally representative sample of approximately 7,000 Introductory English students, the project examines differences in background and high school experiences between the "science persisters" and "non-persisters" among students who have just entered college. This will enable the identification of factors that might contribute to a student's decision to pursue or not pursue a STEM field in college. This poster presents preliminary findings about students' educational pathways, as well as gender differences in course-taking patterns in high school, and racial/ethnic differences in the choice of intended careers and in sources of career satisfaction.

Jo-Ann Sowers Poster Number: **114**
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A Randomized Study of the Impact of STEM Mentors with Disabilities on High School Students with Disabilities: An investigation of the Impact of Mentoring by Adults with Disabilities on Youth with Disabilities in STEM
The first aim of this project is to conduct an exploratory randomized clinical trial investigating the extent to which systematic interaction with STEM mentors with disabilities promotes the STEM-related career planning knowledge, self-efficacy, engagement and performance of high school students with disabilities. The study will feature three-independent groups, utilizing a randomized block, repeated measures design with multiple agents, multiple methods, and established protocols and measurement methods. The study includes a three-group comparison: 1) high school students with disabilities exposed to STEM mentors with disabilities, 2) high school students with disabilities exposed to STEM mentors without disabilities, and 3) and high school students with disabilities who are not exposed to mentors.

Barbara Sprung Poster Number: **115**
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Science: It's a Girl Thing!
The Science: It's a Girl Thing! poster will demonstrate how the project is harnessing the power of social media to connect with parents and educators on how to foster girls' interest in science and technology, and why that is important. The program offers web-based and easy-to-use resources for parents to conduct science activities at home with their young daughters. It posts regular updates, comments, videos, and links to materials on its Facebook page and other websites, which add interactive and dynamic features to the lessons. The target audience is

parents who blog and use other social media—such as Twitter and Facebook—to find and share information.

Ingrid St. Omer Poster Number: **116**
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Phase I LSAMP: Kentucky – West Virginia Alliance for Minority Participation
The KY - WV LSAMP alliance is a collaboration among ten academic institutions, the KY-NSF Experimental Program to Stimulate Competitive Research (EPSCoR), the WV-NSF EPSCoR, two state agencies, and the initial stage of a developing industrial support base. The partnership institutions are: Bluegrass Community & Technical College, Lexington, KY; Centre College, Danville, KY; Kentucky State University, Frankfort, KY; Marshall University, Huntington, WV; University of Kentucky, Lexington, KY; University of Louisville, Louisville, KY; Western Kentucky University, Bowling Green, KY; West Virginia State Community & Technical College, Institute, WV; West Virginia State University, Institute, WV: and West Virginia University, Morgantown, WV. This Phase I LSAMP project is designed to reach the goal of creating diverse campus environments and increasing minority STEM baccalaureate degree production using an approach that incorporates the six identified characteristics of successful programs in a manner tailored for the Alliance institutions and the two states.

Jocelyn Steinke Poster Number: **117**
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Adolescents' Identification with Scientists on TV
This research project examined portrayals of scientist characters on television using a content analysis to determine how scientist characters are portrayed in television programs most likely to be watched by adolescents. In addition, this research project assessed adolescents' wishful identification or wanting to be like scientist characters after viewing television clips of scientist characters. The findings from this research document the public image of scientists conveyed to adolescents through television and provide information about adolescents' preferences for scientist characters on television. These findings have implications for promoting girls' interest in science, engineering, and technology.

Oscar Marcelo Suarez Poster Number: **118**
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Nanotechnology Center at University of Puerto Rico
The University of Puerto Rico at Mayagüez (UPRM) has established a Nanotechnology Center for Biomedical and Energy-Driven Systems and Applications seeking to secure the institution's national competitiveness in materials engineering research and nanotechnology. The Center's

fundamental mission is to integrate ongoing research and education efforts on engineered nanostructured materials focused on two strategies: biomedical and energy-driven systems. Within this framework, the Center's faculty are to broaden and strengthen graduate and undergraduate education throughout the institution by supporting existing and upcoming pertinent graduate programs and developing new ones. The result would form a cadre of lifelong-learning materials professionals with robust interdisciplinary training. To achieve the aforementioned goals the Center was organized into four interdisciplinary research groups (IGRs) and one interdisciplinary educational group. The Center's transformative research focuses on fundamental and applied aspects of nanomaterials encompassing: IGR1) multifunctional nanoparticles for magnetically actuated siRNA delivery; IGR2) quantum dot systems for cancer therapy; IGR3) nanoporous materials for separations and catalysis; and IGR4) nanoengineered composite materials for energy efficient devices and applications. In addition, the Center is fostering the incorporation of Hispanics in the workforce pipeline leading to advanced degrees in engineering areas related to Nanotechnology.

Dawn Tamarkin
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Poster Number: **119**

Efficacy of a UDL Learning Community for Biology Students at a Community College

The goal of our RDE project was to develop a learning situation that would improve achievement for all students taking a STEM course, especially students with disabilities. The learning situation combined three approaches that should each increase success for students in STEM classes: 1) teach the STEM course within a learning community (LC), 2) use universal design for learning (UDL) approaches in the LC, and 3) teach STEM-specific studying and learning strategies in the LC. We ran our first LC within this project in the fall of 2008 to include an introductory biology course as the STEM course along with a college success seminar course. Half of the students in LC were also students with disabilities. Results showed a significant improvement in student success: none of our students withdrew from or failed the biology course, whereas approximately 25% of students in regular biology sections withdraw or failed. This result is encouraging and we hope to repeat it this fall in this LC and in LCs at partner community colleges that combine algebra with college success seminar.

Yongan Tang
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Poster Number: **120**

Advance Metallic Structures for Surface Plasmon Biosensors

Metallic nanostructures were designed and patterned by electron beam lithography and E-Beam Metal Evaporator on the silicon wafer, the optical characterization was carried out by Fourier transform infrared spectroscopy. The properties of the transmittance spectrum of the metallic nanostructures were investigated. Surface plasmon biosensors were designed based on the extraordinary optical transmission property of the metallic nanostructures. The Finite-difference time-domainmethod and finite element method were applied to model the metallic

nanostructures for the biosensor performance. This simulation can be utilized to optimize design and fabrication and to find the ideal parameters of the biosensors.

Sandra Thomas Poster Number: **121**
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AGEP: Connectivity and Implementation Project

This project was developed to help strengthen the national network of partnerships and resource sharing for the NSF's Alliance for Graduate Education and the Professoriate (AGEP) through the services of the Institute for Broadening Participation (IBP). IBP staff has worked with the Division of Graduate Education on diversity-focused projects at NSF for the past seven years. IBP has developed an implementation model for supporting a national network in an effort to increase the number of underrepresented minorities and women in STEM fields. An extensive infrastructure has been built for gathering, storing and exchanging information between programs, potential students, minority serving institutions and organizations and student mentors, with a resulting increase in the number of students who successfully navigate the transition from their undergraduate programs to graduate school. IBP has developed an infrastructure to assist graduate students in the next steps in their career paths, including post doctoral opportunities, faculty and other positions. This new national model demonstrates how educational initiatives designed to achieve significant cultural and structural change can be implemented by a small staff dedicated to the overall objective of broadening participation in STEM. IBP assists AGEP in strengthening and extending its national network of program leaders, students, potential students, and student mentors. An enhanced national network increases the visibility and capabilities of this effort, attracts entry level scientists to STEM careers, and produces a diverse new cadre of scientists and leaders for the public and private sectors by increasing the number of underrepresented minorities in the academy.

Robert Todd Poster Number: **122**
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SciTrain: Science and Math for All

Funded by a grant from the National Science Foundation, SciTrain helps high school science, computing, and math teachers provide quality education for all students, including those with disabilities. The project includes research and instruction for teachers on how to make courses, classrooms and labs more accessible. As a result of a formative survey of teachers' needs and focus groups, this training is delivered to K-12 teachers in a "just-in-time" format - participants receive modular content on the web organized by disability type and by subject area, so they can refer to it easily when they find a student with a particular disability in their class. SciTrain uses Universal Design for Learning as a basis for all instruction materials. It includes modules specifically targeted at addressing the needs of students with: learning disabilities, ADHD, mobility and dexterity disabilities, deafness and hearing issues, and visual impairment and blindness. In order to judge the effectiveness of the SciTrain learning materials, the project

initiated a series of longitudinal studies with public high school teachers of STEM. Results of these studies compare the ideal strategies recommended by SciTrain, strategies actually implemented by teachers, and the barriers or learning styles addressed. Results from studies have been used to edit and update the online modules via a continuous, iterative design process.

Lorraine Towns Poster Number: **123**
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CUNY AGEP Alliance: Making Strides Towards The Doctorate and Beyond in STEM & SBES

The City University of New York (CUNY) AGEP Alliance, which consists of the CUNY Graduate Center (Lead Institution), the New Jersey Institute of Technology, Stevens Institute of Technology and Polytechnic at New York University, recruits and enrolls, retains, and prepares for academic careers domestic students receiving doctoral degrees in STEM fields, with a special emphasis on those populations underrepresented in these fields. Phase I (1999-2004) focused on recruitment, enrollment, and retention. In Phase II (2004-2009), the CUNY AGEP STEM Alliance continues to stress these areas, in addition to professional development, degree conferral, career placement at both postdoctoral and professional levels, and creating sustainable institutional cultural changes. To ensure that well-trained scholars emerge from a full range of sciences, CUNY participates in the Social, Behavioral and Economic Sciences (SBES) component of AGEP. The CUNY/MAA Alliance composed of the CUNY Graduate Center (Lead Institution), Michigan University, Michigan State University, and Wayne State University, has worked to develop an infrastructure which supports its activities while taking advantage of the resources within each institution. CUNY/MAA shares resources and best practices, and has worked closely with AGEP STEM alliances in which our schools are involved to incorporate the social, behavioral, and economic sciences into efforts which we know are successful. This combination of STEM/SBES AGEP has been an efficient use of resources. STEM activities have been modified to reflect the unique needs of the SBES fields, and new activities designed specifically for SBES fields have been developed. This poster will report on the progress of CUNY AGEP STEM and SBES to date.

Eileen Trauth Poster Number: **124**
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Gender Stereotypes and IT Skills

This first phase of an empirical study of gender stereotyping in the STEM field of information technology (IT) examines IT job skills listed in scholarly articles, practitioner literature and online job ads. IT job skills are organized into technical, human and business skills. Online advertisements list a mix of these skills while practitioner literature focuses more heavily on technical skills. Recent practitioner literature, however, shows a trend toward requiring business acumen as well as technical skills. The scholarly literature lags in identifying specific, current, technical skills but reports the richest set of IT job skills across the three categories.

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Polyvinyl Pyridinium Phosphate and Indium Tin Phosphate as a Composite Pellet for Fuel Cell Application

Proton conducting fuel cell systems are electrochemical devices that convert hydrogen and oxygen from air to electricity with byproducts of pure water vapor and heat. The electrical power generated from fuel cells has been proven to be more efficient than internal combustion engines or driven magnetic induction generators. As global energy demands increase, there is growing international interest on the role of fuel cells to extend energy reserves. This investigation focused on the electrochemical performance of the hydrogen ion conduction in a solid acid fuel cell that uses a platinum catalyzed H_2 anode and O_2 cathode and an inorganic proton conductor, 10% doped indium tin phosphate (ITP). The ionic conductivity of solid ITP was 0.218 S/cm at 25°C and a H_2/O_2 fuel cell operated at 200°C exhibited maximum current and power densities of 288 mA/cm^2 and 46 mW/cm^2, respectively. The porosity of the solid ITP electrolyte membrane allowed H_2 gas loss, also known as fuel crossover, as evidenced by its fuel cell open circuit voltage of approximately 0.72V. At low current densities, fuel crossover was abated by forming a composite electrolytic membrane of ITP with 30wt% of an organic ionomer, polyvinyl pyridinium phosphate (PVPP) as evidenced by the improvement in the open circuit voltage (OVC) increased from 0.72V to 0.93V at 200°C. Unfortunately, the ITP/PVPP composite had a lower ionic conductivity (0.015 S/cm) as compared to the conductivity of ITP (0.218 S/cm), leading to lower cell voltages under moderate loads. Ongoing work involves optimization of new ITP/polymer blends to retain improvements under load conditions.

Renetta Tull Poster Number: **125**
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PROMISE: Maryland's AGEP - Producing a New Generation of Professors

In this poster, PROMISE: Maryland's AGEP focuses on the outcomes of "preparation for the professoriate" efforts. This program spends considerable time on retention and progression through the cadre of PhD Completion seminars, Dissertation House, and other activities that are designed to assist students with completing advanced degrees. While attention has always been paid to " the professoriate" aspect of AGEP, the last two years has witnessed increased offerings of programs that focus on "training for the professoriate." Some of these programs include student mentoring and advising experiences, participation in partner programs such as SREB's Doctoral Scholars/Institute for Teaching and Mentoring program and RIT's Faculty Career Exploration Program, participation in programs through other AGEPs such as the HUTEP Postdoctoral Institute, continuation of "Toward the Professoriate" panels with faculty at the PROMISE Summer Success Institute, and development of the PROMISE PROF-it (Professors-in-Training) program that trains students in pedagogy and provides classroom teaching experiences at both the four-year and community college levels. In this poster, PROMISE is proud to present three sections that feature alumni. Section 1 provides examples of AGEP-to-

AGEP placements, featuring UMBC STEM PhD alums who are currently serving in faculty or postdoc positions at other AGEP institutions. Section 2 focuses on "Women in STEM" by featuring four AY 2008-2009 female PhD graduates from the UMB campus. Each woman, fully prepared for a postdoc, has published, presented at conferences in her discipline, and served PROMISE through mentoring. Section 3 features nine UM College Park STEM (including SBE) PhD alums who chose academia. The former College Park students either have postdoctoral fellowships, are in visiting professor positions, or on the tenure-track. The graduates featured in these three sections represent a subset of the STEM PhD graduates who have participated in the PROMISE program at University of Maryland Baltimore County, University of Maryland Baltimore, or University of Maryland College Park. PROMISE will continue to strengthen interventions that will encourage students to pursue academic careers.

Tandra Tyler-Wood Poster Number: **126**
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Project SETS (Simulation-Enhanced Training for Science Teachers)

Project SETS (Simulation-Enhanced Training for Science Teachers) seeks to improve training for elementary level science teachers using a simulated classroom (simSchool) as a laboratory experience. Future teachers can practice teaching in an inclusion classroom with a variety of divergent learners including students with disabilities. The project seeks to train elementary level teachers in effective teaching strategies so that young learners have the opportunity to experience effective teaching strategies early on in their educational careers. In the simulated classroom, divergent populations and students with disabilities, particularly gifted students who have a disability can be emulated. The "simSchool" program provides pre-service teachers with a "virtual practicum" to develop their teaching skills prior to teaching in real classrooms. The program aims to enable users to develop skills in differentiating instruction, classroom management, special education and adapting teaching to multiple cognitive abilities. Currently in the second year of a three-year project, data has been collected to determine if participation in simSchool impacts the skill level and knowledge base of pre-service teachers. This poster will present an overview of the project and a summary of the data collected.

Susie Valaitis Poster Number: **127**
Institute for Broadening Participation (AGEP)
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The Maine Pathways and Connection to STEM Project

The Institute for Broadening Participation (IBP) was founded to design and implement strategies to increase access to science and education for diverse underrepresented groups, including, but not limited to, underrepresented minorities, socio-economically challenged populations, populations in remote locations, women, first-generation college students, and others. In conjunction with its national projects, IBP has expanded its mission in the past year by becoming involved with the STEM education community in Maine through a new project: Maine Pathways and Connections. The Maine Pathways and Connections to STEM project was designed to

strengthen the Maine network of STEM education, research, and industry through the services of a small coordinating team at IBP. This has been accomplished by creating, maintaining and expanding a web-based interface, with accessibility features, providing up to date resources for students, parents, educators and other professionals. The website and related outreach activities provide information 'pathways' for pursuing studies and related careers in science, technology, engineering and mathematics, specifically relevant to Maine residents. It also functions as a forum to bring together diverse user groups such as students, educators, parents, researchers, businesspeople, policymakers for presentations about STEM programs, events, institutions, and careers in Maine.

IBP piloted the Maine STEM website, http://www.mainestem.org, populated with data on Maine STEM programs, events, institutions, contacts, leadership and student profiles. It also includes content associated with the statewide STEM initiative, which was introduced to the public with a STEM Summit in January 2008. The IBP Maine STEM director serves as a member of the Leadership Team for the Maine Girls Collaborative Project, sits on the Maine STEM Initiative Planning Committee, and the IBP coordinating team partners on projects with other Maine organizations, including University of Maine's Center for Science and Mathematics Education Research, The Challenger Learning Center, the Bigelow Laboratory for Ocean Sciences, Zooey's Room/Platform Shoes, Coastal Studies for Girls, the Wabanaki (Native American) Center, Maine Mathematics and Science Alliance, Mount Desert Island Biological Laboratory, and the Maine Space Grant Consortium.

The Maine Pathways Project takes a strategic approach to improving the STEM education community in Maine. It seeks to contribute to an increase in STEM participation at all levels, to make STEM education and careers more accessible to Maine residents, to increase awareness among policymakers and business leaders about the importance of STEM workforce issues, to support students with information and opportunities as they make their way through their education and careers in the STEM fields, to increase Maine high school and undergraduate students' awareness of STEM career options, and to increase the participation of underrepresented groups including women, minorities, special needs students, and first generation college students, in science and engineering in Maine. In implementing this approach, the project is significantly contributing to the educational goals of the State of Maine.

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Poster Number: **128**

The Virginia – North Carolina Alliance for Minority Participation (VA-NC AMP)

The Virginia-North Carolina Alliance for Minority Participation (VA-NC AMP) is actively building a strong public-private institutional partnership dedicated to the National Science Foundation's initiative of broadening participation amongst underrepresented populations in STEM disciplines and workforce. The goal of the four Historically Black Colleges and Universities and four Doctorate-Granting Universities that comprise VA-NC AMP; is to double the number of STEM baccalaureate degrees awarded to students from underrepresented

populations by the end of 2012. To accomplish this goal, robust sets of established and innovative recruitment, retention, and enrichment activities featuring LSAMP "best practices" have been implemented at all participating Alliance institutions.

Andrew Van Schaack Poster Number: **129**
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Smartpen Technologies for the Blind: Low Cost Talking Tactile Periodic Table, Scientific Calculator, and More

Limited access to graphical materials has long been a problem facing blind and visually impaired students, and nowhere is this lack felt more severely than in STEM classes. With the development of smartpens that can track their position on a page, as well as record and play digital audio, a new world of possibilities has opened for the rapid creation of portable, low-cost, high-quality accessible graphics and "devices." Smartpens can be used to create and explore audio/tactile graphics – interactive, raised-line figures that provide audio information about diagram elements. For example, a visually impaired science student could explore the Periodic Table of Elements with the properties of each element spoken as the smartpen touches the associated cell. Programmable audio/tactile "devices" are also possible. Conventional talking scientific calculators cost more than $250, but by using smartpen technologies, a talking scientific calculator can be printed on raised line paper. Although audio/tactile graphics have been available for some time, the innovation of using smartpen technologies will have a major impact on the usability, portability, cost, and ease of creating accessible figures and devices which have been clearly shown to improve science learning for blind and visually impaired students.

Gordana Vlahovic Poster Number: **130**
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Creating Diverse STEM Workforce: Geospatial Science Program at North Carolina Central University

This poster presents efforts by the North Carolina Central University (NCCU) to promote relevance of the geosciences by offering students paid career training opportunities in the field. North Carolina Central University is the nation's first state supported public Liberal Arts College funded for African Americans with approximately 95% minority enrollment. Using data gathered from 1975 to 1999, NCCU ranked eleventh among all US institutions based on the number of black, US citizen PhDs who received their baccalaureate degree from this institution. Therefore, successful creation of research and internship pathways for NCCU students has national implications as it will increase the number of minority students joining the workforce and applying to Ph.D programs. Several related efforts will be described, including partnerships with Fugro EarthData Inc., Center for Remote Sensing and Mapping Science at the University of Georgia, Center for Earthquake Research and Information at the University of Memphis, and the City of Durham. By developing both academic research and industry internship tracks we hope

to be able to accommodate different student career goals. For example, graduate students planning to continue onto a PhD will be more interested in research based opportunities at collaborating academic institutions whereas the industry internship track would be more appropriate for undergraduate or graduate students planning to enter the job market upon graduation. The internships are conducted under the aegis of the Geospatial Research, Innovative Teaching and Service Center (GRITS) housed in the Department of Environmental, Earth and Geospatial Sciences at NCCU. The center was established in 2006 with funding from the National Science Foundation to promote the learning and application of geospatial technologies. Since then, GRITS has proven to be a hub for Geographical Information Science (GIS) curriculum development, faculty and professional GIS workshops, grant writing and outreach efforts. The Center also serves as a contact point for partnerships with other universities, national organizations and businesses in the geospatial arena, and as a result, opens doors into the professional world for our students.

Shannon Walton
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Poster Number: **131**

Texas A&M University Louis Stokes Alliance for Minority Participation (TAMUS LSAMP)

The Texas A&M University System Louis Stokes Alliance for Minority Participation (TAMUS LSAMP) is a partnership comprised of Texas A&M University, Texas A&M University at Corpus Christi, and Prairie View A&M University. The TAMUS LSAMP has been active since the initiation of LSAMP in 1990 and is considered to be a pioneer alliance. The alliance entered its fourth phase of funding in November 2007. In Phase III, the primary focus is on preparing students to engage in research, providing opportunities for qualified students to participate in research projects supervised by faculty members, and encouraging students to present their research results at science and engineering conferences. Phase IV is geared towards building upon the efforts of Phase III, in addition to building stronger ties with community college partners to recruit underrepresented minority (URM) students into STEM majors and provide international experiences for students to increase and diversify the pool of globally trained STEM graduates.

Jennifer Wei
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Poster Number: **132**

Effective Role Model Outreach to Girls in STEM

Research has shown that role models and field trips to worksites are instrumental in encouraging girls to consider careers in the fields of technology and engineering. The opportunities to see real-world applications of technology and engineering and meet with role models who work in these fields are extremely impactful and can have a strong influence on a girl's career path. In this poster, Techbridge will present a "recipe for success" based on years of experience providing training and support to role models in STEM and planning outreach activities to K-12 students. Interactions with role models require the right combination of career guidance and

social engagement. The key is to be personal and passionate, communicating how work in technology and engineering matter. Role models can also fill an important need by giving students practical guidance to help them prepare for a career in technology. The role model guide, "Get Involved. Make A Difference" and accompany CD toolkit will be made available at the poster session. The guide includes practical tips and suggestions as well as case studies profiling successful role model visits and field trips to technology and science companies.

Henry Williams Poster Number: **133**
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Isolation of High Efficient Killing Bacteriovorax

Vibrio vulnificus, a Gram-negative halophilic bacterium, is the leading cause of reported seafood related deaths in the United States. Bacteriovorax (Bx), a group of Bdellovibrio and like organisms (BALOs), are halophilic, predatory prokaryotes that prey on susceptible Gram-negative bacteria including V. vulnificus. Since the host range and predation efficiency of Bx strains vary, selecting the most appropriate strain is important for possible therapeutic applications of the predator. The aim of this study was to isolate from environmental samples high efficient killing (HEK) Bx strains against V. vulnificus.

Water samples were collected from different aquatic systems and filtered through 0.8μm filters. To establish natural mesocosms, 500 ml of filtered sample was spiked with V. vulnificus FLA042 to reach an optical density (OD) of 0.7. Equal volume of prey was spiked into autoclaved water samples which served as controls. The mesocosm flasks were incubated at room temperature on a shaker and monitored for 5 days. At each 24 hour interval, OD values and plate counts for both Bx and prey were obtained. The predominant Bx plaques were selected and analyzed by 16S rRNA gene amplification and sequencing using specific primers. The dynamics of the bacterial community in the mesocosms were examined by denaturing gradient gel electrophoresis (DGGE). With this method, the highest efficient killing Bx isolates against V. vulnificus FLA042 were successfully identified from natural water samples. The results show that the inoculated prey bacteria decreased significantly (ANOVA, $p<0.05$) with a simultaneous thousand fold increase in Bx numbers within 24 to 48 hours, indicating the predation of V. vulnificus by the predator. The results also revealed that Bx isolates of ribotype clusters IX and X were consistently the most efficient for killing V. vulnificus, although other Bx ribotypes were present. This is the first report demonstrating that different ribotypes of Bx exhibit different prey preferences. These results may carry long-term implications for the novel approach of using Bx to eradicate pathogenic bacteria.

Marcia Williams Poster Number: **134**
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North Carolina Louis Stokes Alliance for Minority Participation: Increasing Student Success Through Established Partnerships

In 1991, the National Science Foundation (NSF) established the Louis Stokes Alliances for Minority Participation (LSAMP) through the Education and Human Resources Directorate. The overarching goal of the LSAMP Program is to diversify the STEM workforce through the formation of strategic alliances between academic institutions, government entities, and the private sector; all ranging from regional to national in scope. The success of the LSAMP Program lies in the flexibility of the project designs as each alliance is given the leeway to design projects based on the culture, size, and student profiles at each of the institutions involved in the partnership. These partnerships have been able to significantly impact both the quantity and quality of STEM degrees awarded to those under-represented in these fields.

In 2001, nearly 22,000 minority students who participated in LSAMP activities earned bachelors degrees. In a study conducted by Gives, Zepeda & Gwathmey (2005), they report that "the alliance structure, the emphasis on creating a sense of community among students, and other academic and social support activities have benefited a large proportion of underrepresented STEM students enrolled in the LSAMP program." This program includes many of the elements of Tinto's model of student retention originally proposed in 1975. Tinto's model states that student involvement in campus activities outside of the classroom tend to remain in college. According to Tinto, this is largely due to the student's ability to feel "a sense of belonging at the institution." This poster will provide the philosophy and implementation processes, along with supporting evidence, of the North Carolina Louis Stokes Alliance for Minority Participation: an innovative project designed to increase the retention and graduation rates of under-represented minority students in STEM fields. The priority areas for Phases I-IV as well as their impact on building the pipeline will be discussed.

The partnerships established on each campus involved in the Alliance are pivotal to the success of the NCLSAMP Program. These partnerships, in keeping with the philosophy of NSF, have allowed participating institutions to build their capacity to serve broader groups of students and faculty than would have been possible from direct funding alone. Data, along with student success stories and featured activities, will demonstrate the contribution of the NC-LSAMP Program on the production of STEM degrees in North Carolina since its inception in 1992.

Laquyta Wilmore Poster Number: **135**
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Characterization of Gene and Protein Marker Expression by Human Dental Pulp Stem Cells

Neurodegenerative diseases result from deterioration of neurons or their myelin sheath which over time leads to brain dysfunction and premature death. Cells of the brain and spinal cord do not readily regenerate therefore excessive damage can be devastating. This study focuses on stem

cell-based therapies for brain disorders. Previous studies indicate the potential of stem cells for use in therapies to treat neurodegenerative disorders. In particular, this project deals with dental pulp mesenchymal stem cells (DPMSCs) that are currently being investigated due to their ability to differentiate into multiple cell types, including neural cells. The DPMSCs used in this study are composed of populations of mesenchymal stem cells harvested from normal human third molars (wisdom teeth). The initial goal is to assess the variation of marker expression by the dental pulp mesenchymal stem cells to describe their developmental potentials, particularly neuronal development since neurons are the functional unit of the brain. The results identified expression of neuronal-specific markers (indicative of neuronal precursors and mature neurons) at the gene and protein level by the DPMSCs specifically this study observed expression of nestin, -III tubulin, and GFAP as well as the MSC markers CD 90, CD 73 and CD 44. Based on these findings, it is proposed that human DPMSCs may possess the capabilities necessary for therapeutic treatment of neurodegenerative disorders. In future experiments, it is this project's intent to perform cell transplantations into mouse models with neurodegenerative disorders. Potential results are very significant as they could lead to cures for serious central nervous system disorders.

Matthew Wiswall Poster Number: **136**
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Women in Science from High School to College: Evidence from New York City Public School Students

In the last fifteen years, although more women than men have entered college and completed degrees, great variation by gender remains between the courses of study that men and women select. Specifically, women are substantially less likely than men to major in a STEM related field. Using data from two cohorts of New York City high school students, this study explores the ways in which high schools shape the "stem-readiness" of girls, setting the stage for their entrance into and success in STEM fields in college. Comparisons to male school mates offer insight into the causes and consequences of the STEM gender gap in college. This poster considers three broad questions: 1) do girls go to different high schools than boys and are they less likely to attend specialized STEM high schools? 2) is there a gender gap in STEM course taking? and 3) are there differences in "STEM-readiness" at the end of high school? The results suggest high school choices and curricula are important factors in solving the STEM gender gap.

David Wohlers Poster Number: **137**
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Independent Laboratory Access for the Blind (ILAB)

The goal of the Independent Laboratory Access for the Blind (ILAB) project is to develop tools and techniques that enable a more participatory learning experience for science students who are blind and/or have low vision. The project develops low-cost tools and laboratory techniques to enable students to conduct experiments in high school chemistry and physics laboratories

without sighted assistance. The hypothesis of this study is that hands-on experience in science will encourage students who are blind and/or have low vision to continue in studies that lead to career paths in STEM. New talking tools and adaptive laboratory techniques are being developed and tested at Penn State, Truman State, and Hopewell Valley Central High School, and field tested in laboratory courses at four high schools. Assessment of the effectiveness of the tools and techniques involves attitudinal surveys pertaining to science, interviews with students and teachers, and observations of social interactions with peers and self-efficacy with laboratory tools and procedures. Hardware and software adaptations are important tools for improving laboratory accessibility for students who are blind and visually impaired. Downloadable ILAB scripts interface the screen reader program Job Access for Windows (JAWS) to the full line of Vernier laboratory probes, including devices for measuring temperature and pH. Because many experimental observations are visual in nature, we have designed several new low cost auditory tools. The submersible audible light sensor (SALS) converts light levels into audible pitch in real time. The talking light and color sensors, talking voltmeter and talking stopwatch are being licensed to the National Federation of the Blind for manufacturing and distribution. These audible tools are accompanied by modifications to laboratory procedures that do not alter the content of standard chemistry and physics experiments, but make them more accessible.

Marvin Wu Poster Number: **138**
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Pulsed Laser Ablation Production of Quantum Dots

This poster reports on the effect of variations in laser pulse energy and laser pulse width on the production semiconductor quantum dots by ultrafast pulsed laser ablation. Si and GaAs quantum dots with average sizes ranging from 1 nm to 20 nm, which spans the strong and weak quantum confinement size regions, were produced by varying the laser fluence. Sizes of both Si and GaAs QDs showed similar dependence on laser fluence, and size distributions of both types of QDs were found to be narrower with 2 ps pulses than with 40 fs pulses.

Yevgeniya Zastavker Poster Number: **139**
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Effects of Students' Course Conceptions on Role Differentiation within Project-based Group Work

Group work and cooperative learning have been shown to positively affect students' academic performance, engagement, and retention at all levels of STEM education. This study compares two first-year project-based engineering design courses, in which students work in groups on multi-week projects. Taught at different undergraduate engineering schools, these courses have different emphases. One focuses on student understanding of the engineering design process through the development of functional prototypes inspired by nature. The other emphasizes the use of design problem-solving techniques to address 'real life' questions posed by not-for-profit clients. With the hypothesis that students' role and task differentiation within their working

groups are influenced by student course conceptions, the relationship between these conceptions and the above stated course emphases is examined. A semi-structured open-ended interview protocol is used to interview 12 students in each course. Grounded theory is used for data analysis. Preliminary results suggest that, along with the stated course emphases, students' conceptions of the project purpose are significantly influenced by: 1) the course assessment methodology, and 2) direct faculty intervention. As a result, two different classroom attitudes seem to emerge: a learning-driven attitude in the first school and a product-driven one in the second. Additionally, students' prior experiences and in-situ skill training in cooperative group work seem to further influence classroom attitudes. Early analysis indicates that learning-driven approaches allow students to assign roles within a group based on each team members' learning goals, while the product-driven mind-set calls for role assignments based on the individual members' strengths. Role differentiation may impede the ability of students entering group-work environments to develop technical skills. Such role differentiation seems to have a particularly strong influence on the experiences of women who were found to fill secretarial roles more frequently than men in the product-driven environment. Understanding the factors, which promote learning-focused group work may be important for the successful implementation of group work and cooperative learning as well as improving student academic performance and engagement in STEM.

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Poster Number: **140**

Purdue Center for Faculty Success

The Purdue Center for Faculty Success (PCFS) is part of ADVANCE-Purdue that was awarded to Purdue University in October 2008. PCFS will accelerate institutional transformation through a highly visible infrastructure that offers campus-wide innovations, coordination, and collaboration. The three goals of ADVANCE-Purdue are to: 1) increase the number of women of color in STEM faculty positions, 2) improve the success of women STEM faculty, and 3) engage all faculty in transforming Purdue. The research component of ADVANCE-Purdue is fully integrated into the three goals of the initiative. The focus of examination will be on key factors that impact the recruitment and success of women, especially minority women, in STEM faculty positions at Purdue and help inform institutional policy. Project objectives will include: 1) study the extent to which women's career pathways at Purdue follow the pipeline and chilly climate models, and 2) develop a new boundary model that provides other explanations of career pathway decisions experienced by women STEM faculty members of different ethnicities. ADVANCE-Purdue provides the campus leadership with evidence of program effectiveness and will offer a basis for campus-wide changes to policy and practice.

June 8-11, 2009

POSTER SESSION DESCRIPTIONS

–STUDENTS–

Edgard Almodóvar Poster Number: **143**
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Statistical Analysis of Hawksbill Turtle Eclosion

Critically endangered, the hawksbill turtle (Eretmochelys imbricata) is a species of marine turtles of the family Cheloniidae. It is the only species in its genus. The species is distributed worldwide, but populations of the Atlantic and Pacific are divided into two subspecies. Because of human fishing practices, Eretmochelys imbricata populations around the world are in danger of extinction and the turtle has been classified by the World Conservation Union as critically endangered. Considered a delicacy in several countries, including China and Japan, hawksbills are hunted for their meat. Hawksbill shells (also called tortoiseshell) are used as decorative items and have been used for the manufacture of eyeglass frames, cigars and cigarettes mouthpieces, bags, pipes, and others items. According to the Convention on International Trade in Endangered Species of endangered wild fauna and flora (CITES), the capture and trade of hawksbill turtles and their products are illegal in many nations. This study proposes to investigate different aspects of the hawksbill turtle in order to see possible relations, especially any that may be indicative of positive correlations of survival rate. The investigation will focus on Mona Island.

Diane Alvarez Poster Number: **144**
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Surfaced-enhanced Raman Scattering of λ-DNA*

The ability to engineer metal particles at the nanoscale in which plasmons can be excited, directed, and manipulated has led to the rapid development of the field of "plasmonics". This study demonstrates that the Raman scattering of λ-DNA molecules with colloidal silver nanoparticles is drastically enhanced by surface plasmon excitations. Colloidal silver nanoparticles (~ 90 nm size) were assembled onto DNA molecules using the molecular combing method. Surface-enhanced Raman scattering (SERS) spectra were obtained and compared for different solution concentrations of the DNA/Ag system. It is evident that the SERS peaks were shifted to a lower or higher wavenumber, depending on the concentration of the solution. These different shifts of Raman frequencies may indicate that the different stretching states of DNA

molecules in different concentrations probably influence the Raman frequencies. It is speculated that the coiling states of DNA molecules might be different in different concentrations, thus making it a promising method for the study of DNA functionalities and DNA-nanoparticle interactions.

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The Underlying Dynamics of the Resurgent Syphilis Epidemic

Though syphilis has all of the characteristics of a disease that can be easily eradicated, it has remained a serious health problem in many places in the world. Scientists are aware that humans are the only infected/carrier host, and that syphilis is easily detected and treated with penicillin. T.pallidum has yet to evolve into a penicillin-resistant strand. Contrarily, the number of syphilis incidences has increased in both developed and under developed countries. It has also been proven that syphilis infection contributes to the spread of HIV. Obviously, the discovery and implementation of an effective vaccine in conjunction with present day World Health Organization and the Center for Disease Control and Prevention methods could significantly increase the chance of disease eradication. However, the priority of developing a vaccine is based primarily upon the disease mortality–in which syphilis has none– and whether or not the disease is cyclic (e.g.influenza). Currently, epidemics are thought to be non cyclic and are approached this way. There has been previous mathematical work by both Bryan Grenfell and Sally Blower concerning the cyclic nature of the disease. If epidemics are cyclical, then the current approach to eradication will not work as infective incidence rates will rise and fall with periodicity. For this case, an approach much like that of influenza would be more cost effective to the eradication of syphilis. In this poster, using similar methods applied to both deterministic and stochastic sex-structured SIRS model, the cyclic behavior of syphilis is investigated.

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Carbon Fiber/ZnO Nanowire Interfaces for Improved Reinforced Composite Strength & Multi-functionality

Advancements in material technology will create stronger and lighter materials composed of carbon fibers and polymer matrices for future high performance structures. This project investigates the growth of a zinc oxide nanowire coating on carbon fiber and its affects to the fiber matrix interface. A simple low temperature aqueous solution procedure is applied to chemically bond zinc oxide nanowires to carbon fiber to provide superior fiber matrix interfacial strength within reinforced composite materials. The ZnO nanowires also exhibit piezoelectric effects and useful semiconducting properties, which provide additional material functionality such as power generation and actuation. Strain determines the mechanical and electrical properties of ZnO nanowires. Strain testing is conducted on a single ZnO nanowire coated carbon fiber embedded within an epoxy test specimen to visualize the interfacial strain field in

the nanometer range utilizing an atomic force microscope to exhibit increased interfacial shear strength between fiber and epoxy matrix. Power generation is exhibited by creating a simple experimental carbon fiber dyesensitized nanowire structural solar cell and measuring an electric potential, with a certain solar to electric efficiency. Research will ultimately create a new type of multifunctional, structurally superior composite material for high performance structures such as those utilized in the aerospace industry.

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Hydrology of an Ephemeral Tropical Pond and Breeding Habitat for the Endangered Puerto Rican Crested Toad (Peltophryne lemur)

Peltophryne lemur or Crested Toad is the endemic toad of Puerto Rico. It was declared a threatened species in 1987 but after more than 20 years of research and conservation efforts, the species is now considered stable. Peltophryne lemur is the first amphibian to be part of the Species Survival Program formed by the Association of Zoos and Aquariums. Currently, the only natural breeding habitat is the Tamarindo pond, an ephemeral coastal lagoon located in the Guánica Biosphere Reserve, southwest Puerto Rico. This study was conducted to document habitat conditions after reproduction events and during the growth and development of P. lemur tadpoles. After the heavy rains in August 2008, the Tamarindo pond was divided into five study sites to account for spatial variability within the pond. The pond's physico-chemistry was studied for a period of three months. Three reproductive events were observed during the 2008 rainy season; one in August and two in September. A tropical depression increased water levels a meter in the deepest part of the pond and reduced salinity from 5 to 1 ppt. Water temperature ranged from 24 to 37 ° C. Dissolved oxygen and pH were very variable, and tadpole densities ranged from 100 to 2,000 individuals during the study period. This study has provided important information for the conservation efforts of the Puerto Rican Crested Toad.

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Field Emission Setup Development for Nano-emitters

Electron field emission mechanisms are currently used in many technologies. This study's overall goal is to synthesize nanostructures of greater stability and higher efficiency on field emission applications, to determine relevant physical properties of these materials such as electrical transport properties, thermal conductivity and mechanical stability and to test them for their field emission response. To achieve this goal, it is necessary to leverage the expertise previously developed on two materials: multibranched carbon nanostructures and Chromium silicide. The development of methods for the growth by e-beam irradiation of multi-branched nanoscale materials (carbon nanotrees) and the growth of highly conductive CrSi2 wires has begun among NaSLab students. This project will follow previous studies on these materials, as well as exploit other possible materials, such as cobalt and iron silicide. To fully achieve this

goal, it is critical to first develop a field emission measurement setup, which will enable the conduction of field emission measurements of the materials in 2-D. Currently, this stage of development is underway for further and future usage.

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Initial Implementation of a Comparative Data Analysis Ontology

Comparative analysis is used throughout biology. When entities under comparison (e.g., proteins, genomes, species) are related by descent, evolutionary theory provides a framework that, in principle, allows N-ary comparisons of entities, while controlling for non-independence due to relatedness. Powerful software tools exist for specialized applications of this approach, yet it remains under-utilized in the absence of a unifying informatics infrastructure. A key step in developing such an infrastructure is the definition of a formal ontology. The analysis of use cases and existing formalisms suggests that a significant component of evolutionary analysis involves a core problem of inferring a character history, relying on key concepts: "Operational Taxonomic Units" (OTUs), representing the entities to be compared; "character-state data" representing the observations compared among OTUs; "phylogenetic tree", representing the historical path of evolution among the entities, and "transitions", the inferred evolutionary changes in states of characters that account for observations. Using the Web Ontology Language, this project has defined these and other fundamental concepts in a Comparative Data Analysis Ontology (CDAO). The CDAO has been evaluated for its ability to represent token data sets and to support simple forms of reasoning. With further development, the CDAO will provide a basis for tools (for semantic transformation, data retrieval, validation, integration, etc.) that make it easier for software developers and biomedical researchers to apply evolutionary methods of inference to diverse types of data, so as to integrate this powerful framework for reasoning into their research.

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Synthesis of Newly Identified RSK2 Inhibitors and Analogues

The mitogen-activated protein kinase (MAPK) pathway is a wel lcharacterized signaling system that exists in all eukaryotes. Many upstream components of the pathway exist for physiological responses to extracellular signals. Overexpression or mutation resulting in constitutive activity of these components is found in many human malignancies. One pathway of importance in cancer is the activation of MAPK by the human epidermal growth factor receptor family. The binding of epidermal growth (EGF) to its receptor (EGFR) initiates a protein kinase cascade that leads to the activation of MAPK. EGFR itself is expressed in about 30% of all breast cancers, as well as numerous other human cancers. It has been found that EGFR is overexpressed frequently in breast cancers and produces enhanced tumorigenic responses. Four isoforms of RSK have been identified. Specifically, the isoform RSK2 is of particular interest. Recent data suggests that

RSK2 is overexpressed in approximately 50% of human breast cancers, and that the protein is regulated differently in normal vs. breast cancer cell lines. Newly identified RSK2 inhibitors have recently been identified. The primary goal of this research is to first synthesize the RSK2 inihibitors followed by the development of analogues to increase specificity and potency towards RSK2.

Jason Colomb Poster Number: **151**
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MRI Reporter Gels
This study created a biocompatible MRI reporter gel to detect specific molecules. The results demonstrated that the T2 of the gel increased when the gel was proteolytically degraded, and that the timing of the gel degradation could be controlled precisely using a zymogen cascade amplifier. This work lays the foundation for a new class of hydrogels, based on synthetic polymers with embedded MRI-detectable nanoparticles, that act as sensitive, implantable biosensors.

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The Time Inversion for the Modified Oscillators
This project discusses a new completely integrable case of the time-dependent Schroedinger equation in Rn with variable coefficients for a modified oscillator, which is dual with respect to the time inversion to a model of the quantum oscillator recently considered by Meiler, Cordero-Soto, and Suslov. A second pair of dual Hamiltonians is also found in the momentum representation. The examples in this project show that in mathematical physics and quantum mechanics a change in the direction of time may require a total change of the system dynamics in order to return the system back to its original quantum state. Particular solutions of the corresponding Schr^dinger equations are also obtained. A Hamiltonian structure of the classical integrable problem and its quantization are also discussed.

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Fluctuating Asymmetry and Morphological Variation in Puerto Rican Populations of Papilionidae Butterflies
The powerful enchantment of the butterfly's wings has always captivated the human mind. Their intricate patterns and forms have inspired numerous studies in order to better understand the processes that generate it. Among other things, butterflies have proven to be an excellent model to examine fluctuating asymmetry (FA). FA describes small random deviations from the normal

symmetry of bilateral symmetric traits like the vein pattern in butterflies. Commonly, FA is used as an indicator of stress or disturbances that disrupt developmental processes of an organism. In butterflies, FA can reduce male mating success hence reducing the fitness of these individuals. The goal of this project was to examine patterns of asymmetry in the four species of butterflies that represent the Papilonidae family on the island of Puerto Rico. Additionally, this project aimed to relate the difference in asymmetry with difference in area of origin. The study employed a thin plate spline software to mark homologous landmarks along the internal cell of both the fore- and hindwings of all the specimens. Subsequently, examination of differences in wing size could take place using the centroid size calculated from the landmarks. The specimens used were part of the collections at the Jardin Botánico and University of Puerto Rico at Mayaguez and these were collected around the island from 1914 to 1990. Using GIS tools the centroid size of each individual was related to the location where the specimen was collected. Preliminary results show a tendency for fluctuating asymmetry in both fore- and hindwings for the four species. The study also found specimens that showed clear deviations from the vein pattern shared by the family. A particular specimen showed the addition of a vein and the reorganization of another in one of its forewings while the other one exhibited the normal vein pattern.

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Use of Site Directed Mutagenesis and Reverse Genetics to Create Variants of Sendai Virus, RGV23 and RGV24, to Study the Effects of Mutations in the L and/or P Proteins on the Rate of Virus Production

The emergence of new viral human pathogens from variants of viruses that infect other animals has highlighted the importance of investigations on the genetic basis of viral infections. Wild-type (wt) Sendai virus causes a localized respiratory tract infection in mice, while a mutant, F1-R, causes a systemic infection. This project attributed the difference in type of infection to amino acid changes in the F and M proteins of F1-R. In tissue culture, wild-type virus consistently produces at least 10-fold more viruses than F1-R. Since M is known to be a negative regulator of viral mRNA synthesis, the study attributed the difference in virus production rate to the amino acid changes in the M protein of F1-R. However, studies with reverse genetics viruses generated to identify the amino acid substitutions necessary for the systemic behavior of F1-R proved that amino acid substitutions in F1-R M are not responsible for F1-R's reduced rate of virus production. RGV0, a reverse genetics virus that contains all F1-R F and M amino acid changes produced at least 10- fold more viruses in tissue culture than did F1-R. In mice it caused a systemic infection and preliminary evidence suggests that it is more virulent than either F1-R or wild-type Sendai virus. Therefore, this project suggests that the increased virulence of RGV0 with respect to F1-R is due to the increased rate of virus production in the infected mice. F1-R has a single mutation in each of the P and L genes that encode the viral polymerase complex proteins. Amino acid changes in either or both of those proteins are likely to be the cause of the decreased rate of virus production and decreased virulence of F1-R. This study will test the hypothesis that the mutation in the L and/or P gene(s) of F1-R causes the decreased rate of virus production and decreased virulence of F1-R. To address this hypothesis, the study utilized

reverse genetics to construct two viruses, which were called RGV23 and RGV24, containing the L and/or P gene mutation(s) of F1-R. The RGV23 and RGV24 production rates will be studied in tissue culture via a multiple cycle replication assay and the pathogenicity of RGV23 and RGV24 in mice will be studied using real-time PCR and plaque assays on organ homogenates from infected mice.

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Subtilisin Carlsberg in Organic Solvents: Binding Conformations of Two Active Site Inhibitors

It has been shown that exposure of several enzymes to organic media for prolonged periods of time reduce their initial activity, an effect that is particularly detrimental for synthetic applications. The goal of this project was to help the interpretation of data obtained from Florescence and Electron Paramagnetic Resonance studies aimed at resoling the low stability issue of enzymes in organic solvents. To explain the experimental results obtained with subtilisin Carlsberg, this project used a theoretical approach to study the possible binding conformation of a bound fluorophore and an active site spin label, determining the solvent accessible area of both inhibitors. To accomplish this the software Macromodel in the interface Maestro was used to do the conformational search and other related calculations. The results indicate that two different binding conformations are possible for both the bound unnatural fluorophore and spin label. This is in accordance to the experimental results. Therefore, it can be concluded that it is possible that prolonged exposure of this model enzyme to organic media induces a change in the polarity of the active site, forcing substrates to adopt a different and less productive binding conformation.

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Isolation of Bioactive Secondary Metabolites from the Leaves of Ledum Glandulosum

Ledum glandulosum is also known as Trapper's Tea, Western Labrador Tea, and Glandular Labrador Tea. Trapper's Tea is an evergreen shrub found in the western parts of the United States. Native Americans made an aromatic tea from the fresh or dried leaves of Western Labrador Tea, and indigenous people, such as the Salish, continue to brew the leaves of this plant and refer to the tea as "Mountain Tea." The leaves and young flowering shoots of Ledum glandulosum have agents that can be used as a laxative, cause tissue to contract, induce sweating and urination, and give strength and tone to the stomach. Previous studies performed at Salish Kootenai College, have shown that the polyphenol content of Mountain Tea is comparable to that of green tea. Tea drinking is an ancient tradition and is regarded in some cultures as necessary to maintaining good health. The health benefits of tea are attributed to antioxidant compounds called polyphenols. Polyphenols act as powerful inhibitors of cancer growth by scavenging harmful free radicals before they can cause injury to cells and therefore reduce the incidence and size of tumors. The purpose of this study is to isolate secondary metabolites that

may be responsible for the antioxidant activity and other forms of bioactivity exhibited by the extracts of the leaves of Ledum glandulosum. The dried leaves of Ledum glandulosum were macerated in a blender with a polar solvent. Flash column chromatography was performed on the polar extract of the Ledum glandulosum leaves to obtain several different fractions. Fractions that exhibited high activity were recrystallized and bright yellow crystals were obtained from five of these active fractions. One yellow compound in particular that was isolated is called hyperoside, which is also known as quercetin-3-O-galactoside. Hyperoside has been documented as exhibiting strong radical-scavenging activity.

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Is the Team More Than the Sum of Its Parts? An Empirical Test

Teams are a ubiquitous part of many work domains. Understanding the factors that predict team performance is critical for designing effective teams. The methods suggested by two theories of team cognition (a knowledge-based theory and an interaction-based theory) make very different predictions about the factors that predict team performance. This work empirically explores the relationship between the constructs and methods set forth by these two differing theories of team cognition with the goal of determining how to best predict team performance.

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Quantum Optics Phenomena in Atomically Doped Carbon Nanotubes

This study focuses on the theoretically ultrafast quantum dynamical processes, such as spontaneous decay, optical absorption, and entanglement, for the two two-level atoms (qubits) located close to, or encapsulated inside, a carbon nanotube. The research is motivated by the recent progress in growth techniques of cm-long single-walled nanotubes, single atom encapsulation into nanotubes, and the need for new nanomaterials with long quantum coherence lifetimes for advanced applications in modern optoelectronics. The project demonstrates the strong coupling of the atomic qubits to nanotube's surface virtual photon modes, which, via the virtual photon exchange, results in the two-qubit entanglement of the two spatially separated atoms (or ions) encapsulated into the small-diameter (~1 nm) metallic nanotubes. This poster will discuss how to employ Eu3+ ions to test such predictions as they are known to be excellent local probes to study quantum optical effects in spatially confined systems, owing to the dominant 5D0–>7F2 electric dipole transition that essentially creates a two-level (qubit) system.

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A Tale of Two Regions

This study models the epidemiological interactions between two animal populations: one with a virulent strain of Trypanosoma cruzi, which causes Chagasí disease, and the other with a non-virulent strain that provides cross immunity against the disease. The virulent strains of T. cruzi are predominantly found in Latin America. The increased spread of Chagasí disease from its endemic habitat in Latin America to the north, which has recently been observed, has been linked to climate change and deforestation. As a result, a large part of the southern United States is at a higher risk for the disease. The twopatch model presented herein describes the effects of the migrating virulent strains on the prevalence and/or possibility of endemicity of Chagasí disease in the United States. This project uses an epidemiological modeling paradigm and an analytical framework of nonlinear dynamics to describe the behavior of the two populations and their interactions. Depending on certain conditions imposed on reproductive numbers, it was found that there are six different scenarios for the two-patch system as a whole. It was further found that the principle of competitive exclusion prevails in either strain when there is no migration, with the exception of infinitely, many stable non-isolated steady states of coexistence on the bifurcation line in the R21 - R22 plane. When the migration term is nonzero, it was observed that there are two possible situations for patch 2: endemic equilibrium for the virulent strain or coexistence of both strains.

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A Multidisciplinary Approach towards Understanding the Distribution and Abundance of the Blue Land Crab, Cardisoma Guanhumi, in Puerto Rico

The blue land crab, Cardisoma guanhumi, is commonly found in coastal areas in the tropics and sub-tropics. The population size of C. guanhumi in Puerto Rico has never been estimated but it is believed it is declining due to excessive harvesting and habitat loss. The objectives proposed for this project include: 1) developing a map showing the distribution of the burrows of the blue land crab in the San Juan Bay Estuary area, 2) evaluating the relationship between the distribution and location of C. guanhumi with the habitat vegetation type at a landscape level, and 3) evaluating the relationship between the distance of the burrows that C. guanhumi inhabits and the coastline. Using coordinates obtained by Govender (2007) from the population established in the SJBE, maps were constructed using ArcGIS 9.2 to show the spatial distribution of the land crab, to classify the vegetation and land cover type per burrow and to construct distance buffer zones from the coastline. Urban and barren land cover types contained the majority of the burrows (25 %). This suggested that blue land crabs posses a resilient adaptation to disturbed areas where vegetation cover is limited or nonexistent. The majority of the burrows (48 %) were constructed within a distance of 1,000 m from the coast. This observation suggested that factors such as the shallow water table level, larvae saltwater requirements and a reduction in their reproductive cost, influence the distance and location of the burrows.

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Two-phase Digital Microfluidic Biomarker Detection

Serum-based biomarker detection can be quite difficult due to the fact that proteins of clinical significance are typically present at very low concentrations. Detection limits for these biomarkers are hindered by high abundance serum proteins such as albumin and fibrinogen. In order to improve biomarker detection, current analytical techniques include additional steps which may involve centrifuging, washing, and filtration. The purpose of this research is to develop a method which reduces the intermediate steps required for assessment. A mixture of an inorganic salt and polymer is used to establish a water based phase separation within a drop on a super-hydrophobic surface. This Aqueous Two Phase System (ATPS) is designed to partition the biomarker of interest into the top phase whereas the masking proteins will reside primarily in the bottom phase. Subject to an oscillating magnetic field, rotating paramagnetic micro-particles are used in conjunction with traditional immunoassay techniques to enable detection of the biomarker without the need of a subsequent wash of the unbound fluorescently labeled antibodies. This method creates a lock-in amplifier which distinguishes the signal emitted from the rotating paramagnetic-bound fluorescent tags from those which are unbound. The research demonstrates that with the use of a portable spectrometer, this biomarker detection method can be faster and require a much smaller sample size. In the future, this research may lead to the development of a point of care device capable of detecting low abundance serum proteins.

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Study of Edwards Curves Over Finite Fields Of Characteristic 2^m and Their Zeta Functions

Edwards curve over a finite field K of characteristic 2 is called the Binary Edwards Curve and is defined as the affine curve satisfying the equation $d_1(x+y)+d_2(x^2+y^2)=xy+xy(x+y)+x^2y^2$ where d_1, d_2 are elements of the field K with $d_1 \neq 0$ and $d_2 \neq d_1^2+d_1$. Ordinary elliptic curves over finite fields of characteristic 2^m are bi-rationally equivalent to Edwards curves over finite fields of characteristic 2^m. This poster will highlight a description of Edwards curves over finite fields of characteristic 2^m, present some of their properties and calculate their zeta functions.

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Water Quality Index Levels on Drinking Water

The objective of this experiment was to test several types of water (city tap, private well and bottled water) for nitrate/nitrogen levels, phosphate levels, turbidity, total dissolved solids, alkalinity, hardness and temperature. Using the recorded data from the water tests, the results were evaluated using a water quality index. The assigned number was then used to compare to

the water quality index ranges and descriptors. The water quality determines the type and number of living organisms that a body of water can support, as well as the water's suitability for human use. Nature and humans themselves affect various characteristics of water, such as levels of nitrate/nitrogen, total phosphorus, turbidity, alkalinity, total dissolved solids and hardness. Using the range from the water quality index, it is then possible to compare results for each type of water, thus deciding which type of water best suits human use.

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Poster Number: **164**

Epidermal Growth Factor Receptor (EGFR) Gene Expression and Its Related Biomarkers in Head and Neck Squamous Cell Carcinoma (HNSCC)

Oral cancer refers to any cancerous growths in the mouth and may appear as lesions in oral tissues. Oral lesions can metastasize from various sites in the mouth, such as, oral cavity, larynx, pharynx, nasopharynx and hypopharynx, and spread to lymph nodes in the neck. On average there are 30,000 new cases of oral cancer with 8,000 deaths reported each year in the United States. However, African-American males have a two-times higher prevalence of oral and pharynex cancer incident rate and lower five-year survival rate in comparison to Caucasians males. The disparity in oral health and oral health outcomes is the result of environmental and genetic influences. Epidermal growth factor receptor (EGFR) overexpression has been shown to be an indicator of poor prognosis and survival in oral cancer patients; however, little is known about copy number variance and its relation to gene expression. The goal of this project is to establish an accurate and sensitive testing system for detecting EGFR expression and copy number that can transition from the laboratory to a method of diagnostic testing. To pursue this goal the specific aims are to: 1) prepare and collect sufficient head and neck squamous cell carcinomas (HNSCC) samples for EGFR testing, including DNA, RNA, protein isolation and purification, 2) design unique primers for EGFR testing and evaluate current quantification methods for establishing a sensitive and reliable method for analyzing EGFR expression in HNSCC, and 3) determine the variation of EGFR gene expression in HNSCC cell lines compared to a hTERT transformed human oral keratinocyte cell line (OKF6). Six different human HNSCC cell lines (JHU-06, -011, -013, -019, -022, -029) from the Johns Hopkins University and a non-cancerous cell line (OKF-6) from Harvard University were collected. Sufficient DNA samples were prepared from cultured HNSCC and non-cancerous cell lines. The EGFR gene copy number and the levels of EGFR gene expression were determined by classical PCR, quantitative real-time PCR (qRT-PCR), and confirmed by Western blot. The overall copy number of EGFR gene was 2.0 among all cell lines, but the levels of EGFR expression were varied among the cell lines. The majority of HNSCC cell lines showed an overexpression of EGFR gene except JHU-06 and JHU-011. The cell line JHU-013 was isolated from lymph node metastases and was found to have the highest level of overexpression amongst all cell lines at 16.3 fold increase gene expression. The non-cancerous cell line (OKF-6) expressed an unusually high level of EGFR gene expression. Therefore, in future studies, a non-cancerous cell line with lower EGFR expression is needed as a control to determine EGFR gene expression. In conclusion, qRT-PCR proved to be a sensitive and reliable method in detecting EGFR gene expression and the expression of EGFR is not a reflection of copy number variation in HNSCC

cell lines. Further studies are needed in determining both a suitable normal control for EGFR gene expression, and whether other regulators are involved in EGFR gene expression in HNSCC.

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Sharing Space in Merging Areas Using the Joint Merge Design: When Everyone is Equal, Everyone is Happy

To increase the efficiency and safety of traffic flow in the vicinity of lane reductions, such as those used in construction work zones, engineers around the world have begun to use the alternating merge concept with increasing frequency. The alternating merging concept fosters a cooperative attitude between drivers that permits merging to be accomplished in a more orderly fashion. This poster discusses this concept and how it is applied to the unique and innovative technique of the joint merge. The key feature of the joint merge design is its use of a two-sided taper. In it, both lanes approaching a lane reduction are simultaneously tapered into a single lane, with neither lane having a priority, thereby influencing drivers to merge in an alternating pattern. The joint merge is theorized to result in a safer and more efficient design than the current design used in practice and illustrated in the Manual for Uniform Traffic Control Devices. This poster discusses the reasons why this is believed to be true based on data from a full-scale joint merge field study.

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Mapping My Ancestors Footsteps: Historical GIS and the Trail of Tears

Thousands walked the northern route of the Trail of Tears. The aim of this study is to determine the precise route in Tennessee. Considerable research and documentation has been established by members of the Tennessee Chapter of the Trail of Tears Association. Their research enabled rough estimates as to the route walked, however many gaps and uncertainties still exist. In May of 2008, this study began a historical geographic information system (GIS) investigation to more accurately map the northern route of the Trail of Tears through Tennessee. Scanned historic topographic maps were georeferenced in order to overlay them onto modern digital raster graphics (DRG) and aerial photos. In addition, archive documentation was utilized to identify and locate old road beds across present-day terrain. Finally, digitized old road beds and hand-drawn historic maps were used to evaluate and support this project's claims. Some areas of the trail require fieldwork in order to precisely locate old road beds. These areas have been identified and will be visited to map them using GPS. Additionally, this project anticipates additional archive research in order to more precisely map these still-uncertain areas. The final goal for this project is to create an interactive map. Through such a use of GIS, history can become a shared experience. Viewers will be able to see historic information, terrain and elevation changes, and fully experience the northern route of the Trail of Tears through Tennessee.

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The Role of Mathematics and High-achieving Young Women's Educational Choices

High-achieving young women in this investigation are not choosing to study mathematics at the college level, despite being in advanced high school and college level mathematics courses throughout their high school careers. This study looks at their perceptions of mathematics and the role it plays in their educational and career decision-making processes. Interviews were coded using six different themes of mathematics as a tool. Each of the themes are supported from quotes from the participants. The results of this study may provide additional insights as to why high-achieving young women are not pursuing advanced mathematics at the college level.

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Arsenic Exposure Perturbs EMT in Chick Embryo AV Canal Explants

Arsenic is a naturally occurring metalloid and environmental contaminant. Exposure to this metalloid in drinking water is reported to cause cancer of the liver, kidneys, lung, bladder and skin. Previous reports also link arsenic to vascular disease. While the toxic effects of arsenic during embryogenesis have been well recognized, the cardiovascular consequences of arsenic exposure are unknown. The complex molecular and cellular activities early in development make it a common target for toxicants to induce malformations. One key cellular activity occurs in the atrioventricular canal and the outflow tract, where epithelial cells differentiate to form heart valves via epithelial-mesenchymal cell transition (EMT). The effect of arsenic on EMT was examined in a collagen gel invasion assay using explanted tissues from embryonic hearts. Atrioventricular canal explants from chick embryos, treated with arsenic (12.5-500 ppb) showed a loss of mesenchymal cells. As TGFß signaling regulates EMT in this system, this project examined TGFß isoforms expression. Real time RT-PCR investigation of TGF-B3 showed only a mild down regulation under acute arsenic exposure. This suggests that other molecular regulators of EMT are affected by arsenic. Altered gene expression in treated explants were investigated by microarray analysis. This study identified a set of genes whose expression was altered consistently at exposure levels of 10, 25, 100 ppb and showed that a dose of 25 ppb in vitro were particularly effective. Approximately 270 genes were significantly altered at this exposure level. Cytoscape analysis of the micro array data identified a cluster of cellular adhesion-related genes as greatly affected under arsenic exposure. Further analysis with GOminer showed that the MAPK signaling as well as mTor signaling pathways were altered under arsenic exposure. These studies identify components of EMT or other cellular processes that are sensitive to arsenic exposure and that may produce birth defects or fetal death.

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Probing DAFO using FT-Raman Studies and DFT Calculations

4,5-diazafluoren-9-one (DAFO) is an exocyclic ketone derived from the oxidation of 1,10-phenanthroline (phen). In this work, DAFO and a silver complex of DAFO were synthesized, solid Raman spectra of both were obtained, and the Raman bands of DAFO were fully assigned based on Density Functional Theory (DFT) calculations. X-Ray crystallography of the silver DAFO complex shows that coordination to the ligand involves one weak and one strong Ag-N bond, 2.2071Å and 2.697Å, respectively. This observation is attributed to DAFO having a larger chelate bite (2.99Å) compared to phen (2.56 Å) which is due to the replacement of one of the six member rings in phen with a five member ring in DAFO. Additionally, spectroscopic data and quantum molecular theoretical calculations are utilized to determine the orientation of DAFO adsorbed on silver nanosurfaces.

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A Web Data Mining Service for FDA Adverse Event Reporting System

The Adverse Event Reporting System (AERS), held by the U.S. Food and Drug Administration (FDA), is a post-marketing safety surveillance program for all approved drugs. AERS began in 1997, and contains more than 30 years of data and over 2 million reports. It provides information about patient demographic, drug information, reactions to the drugs, patient outcome for the event, start and end date of the drug therapy, etc. More importantly, FDA AERS data is available publicly from a FDA supported website. However, the raw data available on FDA's website is not user friendly. It is desirable to develop a web service such that user can search adverse events for the drug of interest and educate themselves on safety issues related to the drug from the post-market surveillance. For example, a user might take several drugs simultaneously and would like to know if there are any interactions among those drugs. This study has implemented a web-based service to analyze the FDA AERS system. Services provided include fast database searching, disproportionality analysis, and trend analysis. Drug-drug interaction analysis will also be discussed.

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Identifying Edges in Irregular Data by Combining the Essentially Non-oscillatory (ENO) and Edge Detection Methods

Edge detection has a fundamental importance in applications such as imaging analysis and image reconstruction. This study proposes an improvement of the Edge Detection technique by incorporating into the essentially non-oscillatory (ENO) method. The task of ENO is to choose a

local region such that the function being interpolated is smooth, based on the comparison of the amplitude of the highest degree divided differences among all possible stencils, and picking the one with the smallest absolute value, thus choosing the ``smoothest'' stencil. Upon which, this project applied the polynomial annihilation edge detection to determine the locations and magnitudes of the jump discontinuities on scattered data (regular/irregular) in any domain. The results show clearly how efficient these methods are for the one dimensional case.

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Modeling Transmission Dynamics for the Fall Wave of the 1918-1919 Influenza Pandemic in Montreal and Winnipeg

In recent years, communicable diseases, such as the Avian Flu and SARS, have dominated the news, and in the process, they have had tremendous impact on public health policies. This project introduces a mathematical model that is used to study epidemics and pandemics. The work is motivated by data on the 1918-1919 influenza pandemic in the cities of Montreal, Canada and Winnipeg, Canada. The study estimated model parameters for the two cities using 1918 fall wave epidemic data through least square fitting. Additionally, this study explored the role of heterogeneity via a two-patch (city) model, and derived a formula for a final size epidemic and the basic reproduction number R0. It was found that infectivity is inversely proportional to final epidemic size. For the single-patch version of the model, R0 is found to be 9.97 for Montreal and 5.52 for Winnipeg. It is interesting to see that reduction in the infectivity of infected individual in the low socio economic region increases the proportion of final epidemic size in that region. The number of asymptomatic cases in Montreal and Winnipeg were found to be approximately 19,000 and 60,000, respectively. It can be surmised that the low reporting and high number of asymptomatic cases can be explained by a lack of public health facilities and higher severity of the disease during that period.

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Measurement of the Analyzing Power for the Reactions $\vec{p}+(CH_2)_n \rightarrow X$ ***and*** $\vec{p}+(CH_2)_n \rightarrow p$ ***at a Proton Momentum of 2.2032 GeV/c***

This poster will present the analyzing power measurement for the reactions $\vec{p}+(CH_2)_n \rightarrow X$ and $\vec{p}+(CH_2)_n \rightarrow p$ at a proton momentum of 2.2032 GeV/c. The azimuthal angular distribution of polarized protons scattered in the $(CH_2)_n$ analyzer is sensitive to the strength of the spin- orbit coupling or analyzing power of the reaction $\vec{p}+(CH_2)_n \rightarrow X$. Recoiling protons produced in the $\vec{e}+p \rightarrow e'+\vec{p}$ reaction are polarized. The recoil polarization technique, used to measure the ratio of the electromagnetic form factors G_E^p/G_M^p of the proton, involves measuring the induced polarization of the proton with the use of the Focal Plane Polarimeter (FPP). The FPP is composed of two blocks of $(CH_2)_n$ with pairs of drift chambers interleaved. Measurement of the analyzing power to a high degree of accuracy is important since it will significantly reduce the

error in the electromagnetic form factor measurement. Furthermore, knowledge of the analyzing power can be used to optimize the characteristics of the FPP for future experiments. Insight into the electric charge and magnetic dipole moment distributions in the proton can be used to test Quantum Chromodynamics calculations of the proton's quark constituents. The G_E^p-III experiment at the Thomas Jefferson National Accelerator Facility has made measurements of the ratio of the Sachs form factors, G_E^p/G_M^p, up to a four momentum transfer of $Q^2 = 9.00$ GeV^2 via the recoil polarization technique. The work described in this poster supports this experimental program for the $Q^2 = 2.733$ GeV^2 point.

David Murillo Poster Number: **174**
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Towards a Theoretical Framework of Urban Growth

The overwhelming trend is towards growth in urban areas. The challenge is to accentuate the positive impacts of this growth (innovation, art, wealth, etc) while mitigating the negative burdens that often exist (crime, pollution, poverty, loss of biodiversity, etc). There is an inherent complexity as there are multiple physical, biological, and social factors that are interconnected. There are several studies on just one aspect of this problem, but this study proposes a more encompassing approach by looking at the interplay between institutions and ecological processes (topography, economics, etc) using both computational and analytical approaches. This project uses a system of differential equations to model the primary (economic) and secondary (non-economic) driving forces of urban growth to investigate how they contribute to the short and long-term patterns of urbanization.

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Estrogen and HSD2 Neuron Labeling in the Nucleus Tractus Solitarius

11-ß-hydroxysteroid dehydrogenase type 2 (HSD_2) is an enzyme found in neurons of male rats, especially in the nucleus tractus solitarius (NTS) that has been shown to be influenced by sodium need and salt intake. In female rats, salt intake is stimulated during high estrogen conditions. Therefore, the goal of this study was to determine whether estrogen influenced basal levels of HSD_2 in the NTS of female rats. Eight female Sprague-Dawley rats were bilaterally ovariectomized and allowed to recover for seven days. Four rats were injected with oil and four with estrogen on two consecutive days (day 1 and 2) and then perfused 48 hours later (day 4). Rats were adapted to experimental conditions on day 1 and 2 and weighed on day 1, 2, and 4. The brains were removed, post-fixed overnight, and then cut into 40µ sections. Immunohistochemical methods were used to visualize HSD_2 labeling in the NTS: rabbit-anti 11-ß-HSD_2 was used as the primary antibody (1:500 dilution) and Cy2 goat anti-rabbit IgG as the secondary antibody. The sections were mounted onto a slide, cover-slipped, and analyzed using a Nikon microscope and NIS Elements software. HSD_2 labeled neurons were quantified in the caudal, middle, and rostral regions of the NTS. There were no differences between oil and

estrogen treated rats in any of the three NTS regions. However, there were significantly less HSD_2 neurons in the caudal region than in the middle and rostral regions. These results demonstrate that the number of HSD_2 neurons in the NTS was not affected by the presence of estrogen under basal conditions. Thus, estrogen effects on basal salt intake are not attributable to differences in the number of HSD_2 neurons.

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Modeling B Cell Dysfunction in HIV-1 Infection

Even though the progression of the Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) still remains poorly understood, recent evidence has shown the mediators of humoral immunity, the B cells as opposed to cellular, represent a significant factor in the persistence of the infection. Applying well-known mathematical principals of viral infections, several mathematical models were derived to illustrate the dynamics of the infection and the immune system. In addition to B cells, a so-called population of ``dysfunctional B cells" was included in the models which describes B cells improperly activated by HIV, and as a result, promotes autoimmunity and wastes valuable immune resources. Assuming such a population exists, the introduction of the hormone called B cell activation factor, which is essential for the activation and survival of B cells, was included in the equations as the mediator of these dysfunctional B cells. What was observed from the mathematical model when the proposed B cell dependent reproductive number was less than 1 was the eradication of the infection. However, when the reproductive number is greater than 1, the infection is able to persist and progress towards the AIDS stage. The proposed mathematical models revealed not only that a population of dysfunctional B cells exists, but also their deleterious affects on the immune system leads to the progression of the HIV infection.

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Ecological Impacts of the 2006 Post-bleaching Mass Mortality Event on Star Corals Montastraea Annularis and M. Faveolata in Culebra Island, PR

A catastrophic warming event occurred during 2005 throughout the northeastern Caribbean Sea that caused a mass coral bleaching event in Puerto Rico that was followed by an unprecedented mass mortality of among other species, the star coral species complex (Montastraea annularis and M. faveolata). It resulted in a severe net physiological fragmentation of large coral colonies. Permanent photo-stations were established in 4-6 m deep reef terraces dominated by Montastraea spp. At four sites in Culebra Island, Puerto Rico, digital photography was used to document changes in benthic community structure before (2005) and after (2007, 2008) this event. All colonies bleached occurred during the year 2005. Mass coral mortality caused a 66 to 98% decline in percentage of living tissue cover in both species. No significant difference in percentage of living tissue cover loss was documented among sites. Abundant physiological

tissue fragments were formed in each colony, typically ranging from just below 1 to 105 cm2, but generally in mean sizes below 10 cm2. There was no significant difference in mean fragment size among sites. Fragment density was significantly higher ($p<0.0001$) at Carlos Rosario Beach (130/m2) in comparison to other sites (25-40/m2). Fragment density declined from 18 to 28% between 2005 and 2008. Coral mass spawning also collapsed in both species between 2006 and 2008. There are not known precedents through the Caribbean of catastrophic events of this magnitude. The synergistic consequences of climate change and variable local anthropogenic impacts in major reef engineer taxa still remain largely unknown. However, a single warming event was unequivocally capable of causing an acute coral mortality event that resulted in a major ecological collapse. Climate change, in combination with declining herbivory, resulted in a phase shift in benthic community structure favoring macroalgal growth that, coupled with major recurrent failures in sexual reproduction in the near future, may risk coral reef ecosystem resilience.

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How Cyanobacteria Bore

Carbonate boring (excavating) by euendolithic cyanobacteria has been described as a controlled extracellular dissolution process driven by the apical (leading) cell of a boring filament. As small volumes of the mineral substrate are dissolved, the space is occupied by the growing filament. However,the nature of the corrosive mechanism that enables boring is unknown. This study argues the commonly held notion that boring powered by acid excretion is nothing less than a geochemical paradox for cyanobacterial cells and proposes alternative mechanisms that are at least consistent with geochemistry and physiology. One such mechanism uses energy-dependent calcium pumping to transport calcium ions from the interstitial space around the apical cell, aiding in their localized dissolution. The excess calcium is transported intracellularly along the filament and excreted at the lagging end, close to the borehole opening where it can diffuse into the open medium. This study utilized a culture of Fischerella isolated from marine carbonates in Puerto Rico, boring on optically clear calcite chips as a model to study the role of calcium pumping during boring. Calcium-sensitive fluorescent probes were used qualitatively to image free calcium concentrations in the medium, chip surface and boreholes of infested minerals. The results demonstrated the presence of calcium surpersaturation zones in boreholes and in the chip surface, an expected consequence of active calcium pumping. This pattern was reproducible, not found in cyanobacteria-free chips, nor on calcitefree cyanobacteria, and was dependent on the availability of sources of cellular ATP as dark-shift and chemosmotic decoupling inhibitor experiments demonstrated.

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Study of Ionic Strength Effect on Non-covalent DNA-CNT Composite Formation
This poster presents the studies of the effect of ionic strength on the preparation of DNA-carbon nanotubes (CNTs) dispersions in a non-covalent way. These studies were performed at different modification times and at different concentrations of NaCl. The dispersions were first analyzed by Raman Spectroscopy and imaging was done using Transmission Electron Microscopy (TEM). In addition to this, other spectroscopic techniques allowed the observance of the degree of DNA-CNT composite formation as the modification time increased. The results suggest that at higher ionic strengths the degree of functionalization of the carbon nanotubes is smaller due to the neutralization of the negative charges in the DNA phosphate backbone. TEM images suggest that DNA wraps around the carbon nanotubes in the non-covalent way, and Raman and UV-Vis corroborate the presence of the DNA-CNT composite.

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Heterobimetallic Clusters Containing a Redox Active Fe_4O_4 Cubane Core
Iron-sulfur cubane-type clusters have drawn much attention in bioinorganic chemistry due to their role in biological electron-transfer pathways. Model complexes containing Fe_4S_4 have been studied for a long time. Their ability to cycle between two or more oxidation states with minimal change in structure, allows for the rapid transfer of electrons in metalloproteins. An iron-oxygen cluster $[Fe_8(\mu_4\text{-}O)_4(\mu\text{-}pz)_{12}Cl_4]$ (pz= pyrazolato anion, $C_3H_3N_2^-$) containing an allferric $Fe^{III}{}_4O_4$ cubane core, which can reversibly accept four electrons across a potential window of approximately 1.1 V, has been synthesized as part of this study. Preliminary data are consistent with a first one electron step of the reduction process that is localized largely on the cubane core rather than on the peripheral iron centers. The site of subsequent reductions is not clear at all. Comparisons with mixed-metal $Fe_4M_4O_4$ complexes, where the peripheral M-atoms are redox inert, will be crucial in establishing the site of successive redox events. This project anticipates that the reductive coupling of low nuclearity M/Fe-, M- and Fe- complexes may produce the mixed-metal cluster containing a redox and magnetically isolated Fe_4O_4 cubane.

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How to Mark Small Frogs? A New Take on a Previously Used Technique
In general, marking animals is an important tool to advance both study and understanding of animal populations. Small animals present a challenge as most techniques are either designed for large animals or are far too expensive to achieve cost efficiency. For frogs, the challenge is even greater as no technique that involves the surface of the skin can be applied as frogs breathe and

absorb water from the environment through their skin. Techniques exist that involve using color polymers that are inserted under the skin. The challenge with this technique is that the polymers have only a life of an hour which makes its field application complicated. An innovative modification of this technique involves inserting fluorescent tattoo dye in the hind limbs of the frogs on the ventral and dorsal side with a small insulin needle for a total of 10 combinations per color and 12 combinations when applying two colors. During a six month study, the marking technique did not seem to affect growth rates or weight gain of individuals from all age classes and sexes. Individuals have been found with the marks up to five months after its application. This new application will allow for the application of mark-recapture studies of small animals which allows for better and more complete populations studies.

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Landscape Connectivity and Predator-prey Populations

Landscapes are increasingly fragmented and conservation programs are beginning to look at network approaches to maintain populations at a larger scale. This project presents an agent-based model of predator-prey dynamics where the agents are able to move between different patches in a landscape network. This study will analyze population level and coexistence probability given node-centrality measures that characterize specific patches.

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Approximating Markov Noise in the Incompressible Navier-Stokes Equations

Researchers have studied the two dimensional lid-driven cavity and two dimensional vortex breakdown problem widely in recent years. New techniques have been developed which guarantee higher-order accuracy of solutions. Using an O(h3) approximation to the boundary condition for vorticity on the moving lid, this study introduces noise to the system in the form of a Reynolds number dictated by a circulant Markov chain with a small number of possible states. Investigation of the validity of the approximation of an integral Markov process found that for white noise, the approximation captures the dynamics of the system within reasonable error.

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Total Synthesis of the Novel (5Z,9Z)-2-Methoxy-5,9-Octadecadienoic Acid

The novel compound (5Z,9Z)-2-methoxy 5,9-octadecadienoic acid is a natural fatty acid identified in the phospholipid fatty acid composition of the Caribbean sponge Erylus goffrilleri. Compounds from sponges frequently present interesting biological properties, however the low

natural abundance of this fatty acid has hindered further biophysical and biological studies of the compound. This poster presents the first total synthesis of the (5Z,9Z)-2-methoxy-5,9-octadecadienoic acid, accomplished in seven steps and with a 10% overall yield. The synthetic strategy key elements include hydrogenation of a double-alkyne to achieve 100% cis,cis stereopurity and use of the Mukaiyama reaction to incorporate the α-methoxy funcionality.

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A Cluster Dynamic Model of Tuberculosis of Two Strains and Its Applications to Benin
Tuberculosis (TB) is an emergent epidemic in Africa with the number of new TB cases since 1990 quadrupling annually in most African countries, and conistent and continued rise across the continent. Focusing on one region of Africa, this study built a mathematical model for Tuberculosis transmission that incorporates local and individual interactions. This model contains two strains in which individuals are at risk of infection from close contact in generalized household (clusters) as well as from casual contact. The simulation with statistical data was run from Benin,Africa to carry out the local steady state analysis to obtain the basic reproductive number of the model.

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Requirement for Mouse Hepatitis Coronavirus A59 Nucleocapsid Protein Phosphorylation
The coronavirus (CoV) nucleocapsid (N) is a multifunctional phosphoprotein that encapsidates the genomic RNA into a helical nucleocapsid within the mature virion. Studies have previously identified six amino acids (S162, S170, T177, S389, S424, and T428) within the mouse hepatitis coronavirus A59 (MHV-A59) N protein that are phosphorylated during infection. To study the functional significance of phosphorylation at these sites a panel of mutant viruses were generated. Phosphorylated residues were substituted with alanine, aspartic acid or arginine residues. Viable viruses were recovered for most of the mutants. This indicates that phosphorylation of specific sites may not be necessary. If phosphorylation is functionally important, possibly other potential target sites may substitute for loss of the earlier identified sites. Viruses lacking the phosphorylation sites at the carboxy end of the protein exhibited plaque and growth properties like wild-type MHV. In contrast, replacement of S162, S170, and T177 with aspartic acid or arginine was not tolerated. All three residues could not be stably replaced by aspartic acid (D) residues. All recovered viruses had a D177 to alanine change. Viruses could not be recovered when all three residues were replaced with arginine. All six identified phosphorylation sites could be replaced with alanine residues, but the viruses could not be recovered when the residues were replaced with the charged residues. It is possible that introduction of the charged amino acids disrupts the structure of the protein. Labeling experiments indicated that the N protein in the alanine knockout virus is phosphorylated, which indicated that other sites are modified. Preliminary mass spectrometry experiments identified

tyrosine 352 as phosphorylated in the knockout virus. Ongoing studies are directed at determining whether additional sites are phosphorylated in the knockout virus. This study is also determining if the adjacent conserved serine-arginine (SR) rich domain is phosphorylated. The results suggest that phosphorylation of sites on N is flexible and/or that not all target sites were identified in the initial study of the protein where six phosphorylated sites were identified.

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RDE REU Supplement: Fidelity of Implementation
Student investigators researched the fidelity of implementation of the Effects of Teaching with Tablet PCs with Asynchronous Student Access in Post-Secondary STEM Courses on Students with Learning Disabilities. Investigators completed a literature review, interviewed both faculty and team members at Tennessee Technological University, and reviewed access data of web-based recordings to determine fidelity of implementation.

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A Mathematical Model of HIV and Malaria Co-infection in Sub-Saharan Africa
Malaria and HIV are two of the most deadly diseases in Africa. Combined, they account for four million deaths each year. Since the 1980s when information on the co-infections was recorded, malaria has seen a 28% increase in its prevalence and a 5 to 118% increase in death associated with both diseases. This project introduces a system of differential equations linking the host-vector system of malaria with co-infection from HIV. Data from Sub-Saharan Africa, in general and Malawi in particular, are used to motivate and guide the behavior of this model. This study parameterized the co-infection and showed a 25-fold increase in the infection rate due to co-infection yielding a 118% increase in mortality in Malawi.

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Effects of Soil Texture and Prehistoric Agriculture on Ecosystem Properties in the Sonoran Desert
Humans have altered ecosystems through their construction of settlements and wide-ranging agricultural practices. Numerous studies have shown that past land use is important in structuring modern ecological communities in terrestrial systems. However, an important question persists: are all prehistoric activities equal in their long-term impacts, or are there some which "disappear" from the ecological canvas over time? Ecosystem processes in the arid US southwest are influenced by soil properties such as texture that control water availability to plant

communities. Thus, prehistoric agricultural activities that alter soil texture may leave long-lasting ecological legacies. This study explored variation in soil properties, nutrient cycling, and annual plant communities in a prehistoric agricultural settlement in the northern Phoenix basin, Arizona, that was occupied and farmed between 800-1200 CE. In particular, a comparison was made of seasonal soil properties and spring herbaceous plant production and composition in sites that span a range of prehistoric agricultural intensity, including sites that have little evidence of prehistoric human occupation or use (low intensity), fields used for dry farming with rock alignments (medium intensity), and irrigated agricultural fields (high intensity). Prehistoric dry farming in this Sonoran Desert ecosystem left few ecological legacies in soils or plant communities. Soil nitrogen cycling varied across the year, with highest concentrations of inorganic nitrogen occurring in September, after the summer monsoon season. Annual herbaceous vegetation emerged after winter but not summer rains and was similar in growth and composition between control and dry farmed areas. In contrast, soil texture was significantly altered in prehistoric irrigated fields (silty) compared to non-farmed areas (more sandy), and it matched the fine soil textures that occurred in the dry farmed area. However, despite high waterholding capacity and soil organic matter content, irrigated silt fields contained lower concentrations of inorganic nitrogen, cycled nitrogen slower, and supported less annual plant growth than soils of similar texture in dry farmed sites. Lack of subsurface horizon development in built, irrigated fields may limit water availability for ecosystem processes, despite their fine soil texture. Alternatively, long-term prehistoric cultivation of maize may have depleted soil nutrients in this soil over time.

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Ultrasound Noninvasively Activates Neuronal Circuits

The ability to chronically and safely stimulate intact neuronal circuits in a non-invasive manner provides novel insights for experimental and therapeutic neuromodulation. This study shows that ultrasound (US) can remotely activate central brain circuits using intensity levels that are less than the established FDA requirements for diagnostic imaging. This project employed a series of in-vitro studies that unveil a mechanism by which US may interact with intact neural circuits via voltage-gated sodium channels to ultimately produce action potentials. The findings were then extrapolated and applied to an in-vivo model. US successfully activated motor circuits in-vivo, as observed by electromyography These data demonstrate that US may be an ideal avenue for non-invasively modulating central synaptic activity and provide potential for therapeutic and experimental applications. Forthcoming studies will include using pharmacology to confirm mechanisms in in-vivo preparations and to treat animal models of neuro-pathological conditions to reveal its therapeutic potential in human diseases.

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Effects of Microstructure on the Kinematics of Fatigue CrackPropagation in Ti-6Al-4V
High Cycle Fatigue crack kinematics was studied using two different microstructures of Ti-6Al-4V. Tension-tension fatigue tests were performed on standard compact tension specimens for constant stress intensity factor changes (ΔK). A scanning electron microscope was used to perform electron backscatter diffraction (EBSD) analysis of the crack path before and after testing. Taylor and Schmidt factor maps were made from the EBSD data. Crack tip strain fields were made using in-situ loading under a microscope and digital image correlation software. The strain fields were compared to the EBSD maps. The total integrated strain ahead of the crack tip was also calculated from the strain fields, then compared and correlated to the crack kinematics collected during testing.

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Bioassay Guided Isolation of Natural Products from Western Labrador Tea
Western Labrador Tea is an evergreen shrub of the family Ericaceae and is culturally significant to Native American tribes in Montana, Idaho, Washington, Oregon, and Northwest California. This tea is brewed from the leaves of the plant and is called "Mountain Tea" by the Salish, who like many other Native Americans, have consumed this beverage for hundreds of years. Labrador Tea plants have been reported to have medicinal purposes including use as an astringent, diaphoretic, diuretic, and laxative, and was brewed as a prized tea. Drinking "Mountain Tea" could attribute to numerous health benefits as a result of the polyphenols that are present in the tea. Polyphenols act as antioxidants which are molecules capable of slowing or preventing the oxidation of other molecules. "Mountain Tea" has been reported to have comparable amounts of polyphenols to that of green tea. In this research project the compounds responsible for the antioxidant activity and any other form of bioactivity will be identified and isolated. Using a bioassay approach to isolating compounds provides information on the activity of all of the fractions isolated and allows the selection of fractions that show significant purification activity, and thus isolate the active component within the active fraction.

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System-level Simulations for the Design and Operation of Modular Microfluidic Systems for Real-time Molecular Analysis
The focus of this project is to develop a molecular diagnostic strategy including the biomarker panel, assay approach and the necessary hardware, for the point of-care (POC) diagnosis of ischemic and/or hemorrhagic stroke using mRNA expression profiling directly from whole

blood. This study is designed for real-time reporting (<15 min) of molecular signatures using modular microfluidics, which includes the hardware and fluidic components for the optical readout. The use of microfluidics coupled to SMD generates sample-processing pipelines that provide near real-time readout through the elimination of processing steps, as well as enhancing the rate of molecular processing and automation. Due to the complexity and number of modules required for the processing pipeline, the fluidic chip design will use system-level simulations in the design phase to minimize the number of fabrication iterations required to deliver the system taking into account fluid flow, heat transfer, assembly, and material mismatches using HPC-enabled codes.

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
143.	Edgard Almodóvar	University of Puerto Rico	LSAMP-BD	Statistical Analysis of Hawksbill Turtle Eclosion
144.	Diane Alvarez	Louisiana State University	LSAMP-BD	Surfaced-enhanced Raman Scattering of λ-DNA*
1.	Ali Ansari	Virginia State University	HBCU-UP	Graduate Bridge Program
2.	Ariana Arciero	University of Texas System	LSAMP	Bacterial Fractionation of Stable Copper Isotopes
3.	Emiliano Ayala	Sonoma State University	RDE	Universal Design for Learning in the Sciences: Effective Teaching Strategies for all Students
145.	Carl Ballard II	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	The Underlying Dynamics of the Resurgent Syphilis Epidemic
4.	Amanda Bastidos	University of Texas System	LSAMP-BD	Failure Analysis and Materials Characterization
5.	Katrina Battle	Louisiana State University	LSAMP-BD	Integrated Microfluidic System for the Processing of Membrane Proteins Isolated from Biological Cells
6.	Carole Beal	University of Arizona	RDE	Online Math Tutoring for Blind Students
7.	Canan Bilen-Green	North Dakota State University at Fargo	ADVANCE	From Unstructured to Structured: Advance FORWARD
8.	Noel Blackburn	Brookhaven National Laboratory	HBCU-UP	A Synergistic Collaboration: The Department of Energy and National Science Foundation Memorandum of Agreement
9.	Barbara Bogue	Pennsylvania State University	GSE	Assessing STEM Educational Outreach, Retention Programs and Research on Engineering Undergraduates

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
10.	Igor Bondarev	North Carolina Central University	CREST & HBCU-RISE	Electrostatic Field Control of Exciton-Surface-Plasmon Coupling in Carbon Nanotubes
11.	Jodi Boutte	Louisiana State University	LSAMP-BD	Human Health Impact of Nanomaterials that can be Utilized in Construction
12.	Bonnie Bowen	Iowa State University	ADVANCE	Iowa State University ADVANCE Program: An Integrated Approach to Advancing Women Faculty in STEM Fields
13.	Susan Bracken	North Carolina State University	GSE	MOSS: (Markers of STEM Success) An Eleven-year Longitudinal Study of High Achieving Young Women's Interests, Experiences, and Preparation for STEM Careers
146.	Hector Bravo	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Carbon Fiber/ZnO Nanowire Interfaces for Improved Reinforced Composite Strength & Multi-functionality
14.	Monica Bruning	Iowa State University	GSE	FREE (Female Recruits Explore Engineering)
15.	Lisa Bufford	Tuskegee University	CREST & HBCU-RISE	Tuskegee University PhD Program In Materials Science and Engineering
16.	Sheryl Burgstahler	University of Washington	RDE	Longitudinal Transition Study: Tracking Participant Success Across Multiple NSF-Funded Projects
147.	Rita Irene Caceres	University of Puerto Rico at Rio Piedras	LSAMP-BD	Hydrology of an Ephemeral Tropical Pond and Breeding Habitat for the Endangered Puerto Rican Crested Toad (Peltophryne lemur)
17.	Charvon Cade	University of Arkansas at Pine Bluff	HBCU-UP	UDP - Glucuronosyltransferases

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
18.	Rebecca Callahan	University of Georgia	RDE	Disproportionality in the Identification of Students with a Learning Disability
19.	Larry Campbell	University of North Carolina at Chapel Hill	AGEP	NC OPT-ED Alliance Poster
148.	Jennifer Carpena	University of Puerto Rico at Rio Piedras	LSAMP-BD	Field Emission Setup Development for Nano-emitters
20.	Bettina Casad	California State Polytechnic University at Pomona	GSE	Stereotype Threat Effects on Girls' Math Outcomes
21.	Nathan Castro	University of Texas System	LSAMP-BD	Calcium Phosphate Coating of Three-dimensional Titanium Scaffolds via Alkali Heat Treatment
22.	David Chapman	University of Delaware	RDE	Oceanographic Research Vessel Accessibility
149.	Brandon Chisham	New Mexico State University	CREST & HBCU-RISE	Initial Implementation of a Comparative Data Analysis Ontology
150.	Timothy Clore	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Synthesis of Newly Identified RSK2 Inhibitors and Analogues
23.	E. William Clymer	National Technical Institute for the Deaf, Rochester Institute of Technology	RDE	Captioning, Interpreting & Support for Deaf and Hard-of-Hearing STEM Students Using Cyberinfrastructure: A Report
24.	Joanne Cohoon	National Center for Women & Information Technology	GSE	The Systemic Change Approach
151.	Jason Colomb	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	MRI Reporter Gels

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
152.	Ricardo Cordero	More Graduate Education at Mountain States Alliance, Arizona State University	AGEP	The Time Inversion for the Modified Oscillators
25.	Elizabeth Creamer	Virginia Polytechnic Institute and State University	GSE	Effects of the Underrepresentation of Women in Undergraduate Engineering
26.	Carla Cueva	California State University at Los Angeles	LSAMP-BD	Phenotypic and Genetic Characterization of Clinical Isolates of Acinetobacter Baumannii from Los Angeles County Hospitals
153.	Diana Delgado	University of Puerto Rico at Rio Piedras	LSAMP	Fluctuating Asymmetry and Morphological Variation in Puerto Rican Populations of Papilionidae Butterflies
154.	Monica Delgado	California State University at Los Angeles	LSAMP-BD	Use of Site directed Mutagenesis and Reverse Genetics to Create Variants of Sendai Virus, RGV23 and RGV24 to Study the Effects of Mutations in the L and/or P Proteins on the Rate of Virus Production
155.	Yamixa Delgado	University of Puerto Rico at Rio Piedras	LSAMP-BD	Subtilisin Carlsberg in Organic Solvents: Binding Conformations of Two Active Site Inhibitors
141.	Adam Dengler	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Electrophoretic Separation of DNA Nanoarrays from Cell Lysate for Single-cell Proteomics
27.	Kamla Deonauth	Howard University	AGEP	Howard University and the University of Texas-El Paso (HUTEP) Alliance for Graduate Education and the Professoriate (AGEP) HUTEP-AGEP

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
28.	Liv Detrick	Institute for Broadening Participation	AGEP	Making your Website More Effective: Broadening Participation Through Networking and Recruitment via the Web
29.	Mario Diaz	The University of Texas at Brownsville	CREST & HBCU-RISE	Gravitational Wave Astronomy: A Status Report
30.	Catherine Didion	National Academy of Engineering, Center for Advancement of Scholarship on Engineering Education	GSE	Engineering Departments Gender Diversity Efforts
31.	Amanda Diekman	Miami University	GSE	Communal Goals as Inhibitors of STEM Careers
156.	Jessica Dolence	Salish Kootenai College	TCUP	Isolation of Bioactive Secondary Metabolites from the Leaves of Ledum Glandulosum
32.	Barbara Dougherty	University of Mississippi	RDE	A Study of the Effectiveness of Texas Instruments Navigator Technology on the Algebra I Achievement and Attitudes of Students Who Have Learning Disabilities or Who Are 'At Risk' for Academic Failure
33.	Dennis Doverspike	University of Akron	RDE	STEM Summer and Academic Year Team Workshops for Middle School Students on IEPs at the University of Akron
34.	Elaine Dowell	University of Michigan	LSAMP	MI-LSAMP
35.	Margaret Duden	Twin Cities Public Television	GSE	SciGirls en Espanol
157.	Jasmine Duran	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Is the Team More Than the Sum of Its Parts? An Empirical Test

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
36.	Randy Duran	University of Florida	LSAMP	The LSAMP Center for International Research
37.	Jyotsnamoy Dutta	North Carolina Central University	CREST & HBCU-RISE	THz Dielectric Loss and Point Defects in HPSI SiC
38.	Lisa Elliot	National Technical Institute for the Deaf, Rochester Institute of Technology	RDE	RDE-FRI: Supporting Deaf and Hard-of-Hearing Undergraduate Students in STEM Field Settings with Remote Speech-to-Text Services
158.	Joseph Estevez	North Carolina Central University	CREST & HBCU-RISE	Quantum Optics Phenomena in Atomically Doped Carbon Nanotubes
39.	Steve Fadden	Landmark College Institute for Research and Training	RDE	Participatory Design...To Support People with Learning Disabilities
40.	Ana Feliciano	University of Puerto Rico	LSAMP	Puerto Rico-LSAMP and Bridge to the Doctorate Programs
159.	William Feliciano	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	A Tale of Two Regions
41.	Eva Fernandez	University of South Florida	LSAMP	The Florida-Georgia Louis Stokes Alliance Program at the University of South Florida
160.	Cielo Figuerola	University of Puerto Rico	LSAMP-BD	A Multidisciplinary Approach towards Understanding the Distribution and Abundance of the Blue Land Crab, Cardisoma Guanhumi, in Puerto Rico
42.	Merle Froschl	Academy for Educational Development	GSE	Great Science for Girls

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
43.	Amy Fruchtman	Midwest Alliance in Science, Technology, Engineering and Mathematics	RDE	The Perfect Storm: Students with Disabilities and STEM
44.	Sangeeta Gad	University of Houston-Downtown	LSAMP	Recruitment, Retention and Enrichment Programs at the University of Houston-Downtown
161.	Angelo Gonzalez	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Two-phase Digital Microfluidic Biomarker Detection
45.	Bryan Gould	National Center for Accessible Media at WGBH	RDE	What's Up at WGBH: Creating Accessible Multimedia and Digital Libraries
46.	Laura Graves	Tennessee Technological University	RDE	The Effects of Teaching with Tablet PCs with Asynchronous Student Access in Post-secondary STEM Courses on Students with Learning Disabilities (TTASA-SWLD)
47.	Misty Green	North Carolina Central University	CREST & HBCU-RISE	Signatures of Quantum Chaos In Semiconductor Quantum Dots
48.	Stephanie Gross	Louisiana State University	LSAMP-BD	Studying the Relationship Between Odontotaenius Disjunctus and Its Gut Yeast Scheffersomyces Stipitis Using InVivo Yeast Curing and Replacing Experiments
49.	Luisa Guillemard	University of Puerto Rico	ADVANCE	UPRM ADVANCE IT Catalyst Project: A Self-assessment Study to Identify Issues Affecting Recruitment, Retention and Promotion of Women Faculty in STEM Fields
162.	Haydee Guzman	University of Puerto Rico	LSAMP-BD	Study of Edwards Curves Over Finite Fields Of Chararacteristic 2m and Their Zeta Functions

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
50.	Amy Hamlin	Michigan Technological University	GSE	Enhancing Visualization Skills-Improving Options aNd Success (EnViSIONS)
51.	Sandra Hanson	Catholic University	GSE	Gender, Race, and Science: Asian American Women as Model Minority
52.	Jill Harp	Winston Salem State University	HBCU-UP	An Integrated Model for STEM Student Development
53.	Marcia Harrison	Marshall University	ADVANCE	Developing Faculty/Administrative Partnerships to Drive Institutional Change
163.	Heather Harwood	Blackfeet Community College	TCUP	Water Quality Index Levels on Drinking Water
164.	Belinda Hauser	Howard University	LSAMP-BD	Epidermal Growth Factor Receptor (EGFR) Gene Expression and Its Related Biomarkers in Head and Neck Squamous Cell Carcinoma (HNSCC)
54.	Comas Haynes	Georgia Institute of Technology	AGEP	FACES: Changing the 'Face' of Academia
55.	Xudong He	Florida International University	CREST & HBCU-RISE	Center for Innovative Information Systems Engineering – Research Activities
56.	Tania Hicks	Louisiana State University	LSAMP-BD	The Role of Reactive Oxygen Species and Insulin in the Modulation of Pyruvate Dehydrogenase Kinase 4 Expression in Adipocytes
57.	Zachariah Hildenbrand	University of Texas System	LSAMP-BD	The Inhibitory Interactions of The Yeast V1-ATPase
58.	Oliver Hill	Virginia State University	HBCU-UP	Improving the Mathematics Performance of Minority Students

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
165.	Wakeel Idewu	Louisiana State University	LSAMP-BD	Sharing Space in Merging Areas Using the Joint Merge Design: When Everyone is Equal, Everyone is Happy
59.	Judith Iriarte-Gross	Middle Tennessee State University	GSE	Girls Raised In Tennessee Science (GRITS) IS a New Southern Tradition
60.	Ashanti Johnson Pyrtle	Institute for Broadening Participation	LSAMP-BD	Minorities Striving and Pursuing Higher Degrees of Success in Earth System Science (MS PHD'S)
61.	Bernadette Kelley	Florida Agriculture and Mechanical University	HBCU-UP	The STEM Learning Community at Florida Agriculture and Mechanical University
166.	Deborah Kirk	Haskell Indian Nations University	TCUP	Mapping My Ancestors Footsteps: Historical GIS and the Trail of Tears
62.	Frankie Laanan	Iowa State University	GSE	Pathway to a STEM Baccalaureate Degree: From Community College to University
167.	Amanda Lambertus	North Carolina State University	GSE	The Role of Mathematics and High-achieving Young Women's Educational Choices
63.	Peggy Layne	Virginia Polytechnic Institute and State University	ADVANCE	NSF ADVANCE Portal Website
64.	Gretalyn Leibnitz	Washington State University	ADVANCE	WA State University's NSF ADVANCE Funded EXCELinSE (Excellence in Science and Engineering) Center: Foundational Cohort and COACHE Analyses

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
168.	Alejandro Lencinas	More Graduate Education at Mountain States Alliance, The University of Arizona	AGEP	Arsenic Exposure Perturbs EMT in Chick Embryo AV Canal Explants
65.	Susan Lord	University of San Diego	GSE	Gender, Race, and Engineering Persistence
66.	Mimi Lufkin	National Alliance for Partnerships in Equity Education Foundation	GSE	The STEM Equity Pipeline
67.	Arlene Maclin	Norfolk State University	HBCU-UP	Update on a STEM Honors Program at Norfolk State
68.	Diane Markoff	North Carolina Central University	CREST & HBCU-RISE	Computations in Support of the North Carolina Central University Neutron/Deuteron Break-up Experiment
69.	C. Diane Matt	Women in Engineering ProActive Network	GSE	WEPAN Knowledge Center: A New Online Resource
70.	Larry Mattix	Norfolk State University	HBCU-UP	The STARS-Plus Project at Norfolk State University
169.	Rhonda McCoy	Howard University	LSAMP-BD	Probing DAFO using FT-Raman Studies and DFT Calculations
71.	Melissa McDaniels	Michigan State University	ADVANCE	Advancing Diversity Through the Alignment of Policies and Practices (ADAPP) at Michigan State University
72.	Lois McLean	McLean Media	GSE	Combining Online Resources to Tell STEM Stories
73.	Hayk Melikyan	North Carolina Central University	CREST & HBCU-RISE	Bound States And Low-lying Resonances of 7(HE)L and 9(BE)L
74.	Johanny Meneses	University of Texas System	LSAMP-BD	Identification and Characterization of FKBP52-specific Inhibitors

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
75.	Peggy Meszaros	Virginia Polytechnic Institute and State University	GSE	Building Community Capacity with a Web Portal
76.	Ed Meyen	University of Kansas	RDE	Preparing Students with Learning Disabilities in Math to Achieve Curriculum Standards
170.	Gaolin Milledge	North Carolina Central University	CREST & HBCU-RISE	A Web Data Mining Service for FDA Adverse Event Reporting System
77.	Deborah Mitchell	University of Michigan	AGEP	Michigan AGEP Alliance: A Transformative Approach to Graduate Education
78.	Ladesha Moore	Louisiana State University	LSAMP-BD	Push-Pull Overexertion Injuries
171.	Emmanuel Morales	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Identifying Edges in Irregular Data by Combining the Essentially Non-oscillatory (ENO) and Edge Detection Methods
172.	Romarie Morales	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Modeling Transmission Dynamics for the Fall Wave of the 1918-1919 Influenza Pandemic in Montreal and Winnipeg
173.	Omar Moreno	California State University at Los Angeles	LSAMP-BD	Measurement of the Analyzing Power for the Reactions $p+(CH_2)_n \rightarrow X$ and $p+(CH_2)_n \rightarrow X$ at a Proton Momentum of 2.2032 GeV/c
79.	Karen Multon	University of Kansas	GSE	Milestones and Danger Zones for STEM Women
174.	David Murillo	More Graduate Education at Mountain States Alliance, Arizona State University	AGEP	Towards a Theoretical Framework of Urban Growth

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
80.	Felecia Nave	Prairie View Agricultural and Mechanical University	HBCU-UP	Targeted Infusion Project: Implementation of a Bioengineering Concentration in the Department of Chemical Engineering at Prairie View A&M University
175.	Minh Ngo	Oklahoma State University	LSAMP-BD	Estrogen and HSD2 Neuron Labeling in the Nucleus Tractus Solitarius
176.	Loan Nguyen	More Graduate Education at Mountain States Alliance, Arizona State University	AGEP	Modeling B cell Dysfunction in HIV-1 Infection
177.	Maria Ocasio-Torres	University of Puerto Rico	LSAMP-BD	Ecological Impacts of the 2006 Post-bleaching Mass Mortality Event on Star Corals Montastraea Annularis and M. Faveolata in Culebra Island, PR
81.	Melfried Olson	Curriculum Research and Development Group, University of Hawaii	GSE	The Role of Gender in Language Used by Children and Parents Working on Mathematical Tasks
82.	Jorge Ortiz Zayas	University of Puerto Rico	CREST & HBCU-RISE	Sensing Climate Change in an Ephemeral Coastal Pond: Implications to the Conservation of Biodiversity in a Subtropical Dry Forest
83.	Becky Packard	Mount Holyoke College	GSE	Working Class Women Using Community College Pathways for Four-Year STEM Degrees
84.	Robert Panoff	Shodor	RDE	DEAF-STEM: A Community of Many Serving Very Many
85.	Karen Peterson	National Girls Collaborative Project	GSE	National Girls Collaborative Project

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
86.	Amy Pollard	Louisiana State University	LSAMP-BD	Synthesis of Prostaglandin for Use as PGE2 Inhibitor Using Hetero-Pauson-Hkand reaction
87.	Michelle Porche	Wellesley Centers for Women, Wellesley College	GSE	High School Students' Masculine and Feminine Gender Ideology and College STEM Aspirations
88.	Kay Porter	Oklahoma State University	LSAMP-BD	Oklahoma LSAMP Providing Opportunities for Science, Technology, Engineering, and Mathematics Since 1995—FIFTEEN YEARS OF SUCCESS!
89.	David Porush	MentorNet	ADVANCE	"What Does Mentoring Really Mean?" How to Genuinely Fulfill the NSF Requirements for Mentoring in STEM Fields
90.	Rose Pringle	University of Florida	GSE	An Investigation of African American Girls' Positionality in Science and Mathematics
91.	Karina Puebla	University of Texas System	LSAMP-BD	Determination of Regeneration Capabilities of the Fabricated Scaffolds InVivo
92.	Francis Quek	Virginia Polytechnic Institute and State University	RDE	Embodiment Awareness, Mathematics Discourse, and the Blind
93.	Malik Rakhmanov	The University of Texas at Brownsville	CREST & HBCU-RISE	First Results from Applied Optics Program at the University of Texas at Brownsville
178.	Edgardo Ramirez-Reinat	More Graduate Education at Mountain States Alliance, Arizona State University	AGEP	How Cyanobacteria Bore

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
94.	Paresh Ray	Jackson State University	CREST & HBCU-RISE	Gold Nanomaterial-based NSET Ruler for RNA Sensing and RNA Folding
95.	Paula Rayman	University of Massachusetts Lowell Working WISE Project	GSE	Voices of Women in STEM Fields: An Intergenerational Participatory Conference
96.	Darkeyah Reuven	Clark Atlanta University	CREST & HBCU-RISE	Synthesis and Characterization of Dinitrophenyl Functionalized Conductive Polymers Capable of Biospecific Binding
97.	Catherine Riegle-Crumb	University of Texas at Austin	GSE	Gender, Science, and Life Beyond High School Course-Taking
98.	Jan Rinehart	Rice University	ADVANCE	Rice University ADVANCE Gender Research
179.	Nelson Rivera-Vélez	University of Puerto Rico at Rio Piedras	LSAMP	Study of Ionic Strength Effect on Non-covalent DNA-CNT Composite Formation
180.	Kennett Rivero	University of Puerto Rico at Rio Piedras	LSAMP-BD	Heterobimetallic Clusters Containing a Redox Active Fe4O4 Cubane Core
99.	Rose Rodriguez	Texas A&M University at Kingsville	CREST & HBCU-RISE	Research on Environmental Sustainability of Semi-arid Coastal Areas
100.	Rodrigo Romero	University of Texas at El Paso	CREST & HBCU-RISE	Cyber-ShARE Center of Excellence: Sharing Resources to Advance Research and Education Through Cyberinfrastructure
101.	Carla Romney	Boston University School of Medicine	RDE	A Model for Inclusion of Students with Disabilities in Laboratory Science
102.	Kimi Ross	University of Alaska at Fairbanks	TCUP	Efficacy of Parasite Control Methods in Canines in Alaska

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
181.	Francheska Ruiz-Canino	University of Puerto Rico	AGEP	How to Mark Small Frogs? A New Take on a Previously Used Technique
182.	Kehinde Salau	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Landscape Connectivity and Predator-prey Populations
103.	Don Sawyer	Syracuse University	LSAMP	Upstate Louis Stokes Alliance for Minority Participation
104.	Matthew Schneps	Harvard University, Smithsonian Center for Astrophysics	RDE	Scientists with Dyslexia Exhibit Visuospatial Strengths
105.	Reba Scott	Texas Southern University	LSAMP	Preliminary Characterization of Environmental Estrogens Wastewater Effluents
183.	Susan Seal	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Approximating Markov Noise in the Incompressible Navier-Stokes Equations
106.	Jaetae Seo	Hampton University	CREST & HBCU-RISE	Doctoral Research on Multifunctional Optical Nanomaterials
107.	Betty Shanahan	Society of Women Engineers	GSE	Improving Engineering Outreach with SWE-AWE Tools
108.	Pamella Shaw	Purdue University	AGEP	The Midwest Crossroads Alliance for Graduate Education and the Professoriate (AGEP)
109.	Clark Shingledecker	Wright State University	RDE	Ohio's STEM Ability Alliance: STEM Degrees and Careers for Ohioan's with Disabilities
110.	Marie Shoffner	University of Virginia	GSE	Engagement, Supports, Barriers and Math Interests

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
184.	Diana Silva	University of Puerto Rico	LSAMP-BD	Total Synthesis of the Novel (5Z,9Z)-2-Methoxy-5,9-Octadecadienoic Acid
111.	Brandy Snowden	Louisiana State University	LSAMP-BD	Development of High Throughput Near IR Fluorescence Assay for Monitoring ENL1 Activity via Use of Phthalocyanine (Pc)-Based Fluorophores
185.	Edme Soho	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	A Cluster Dynamic Model of Tuberculosis of Two Strains and Its Applications to Benin
112.	Joe Song	New Mexico State University	CREST & HBCU-RISE	SNP-SNP Interactions in Association Studies by Generalized Logical Network Modeling Through Reconstruction and Comparison
113.	Gerhard Sonnert	Harvard University	GSE	Persistence Research in Science and Engineering
186.	Yaralid Sotomayor-Castro	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Requirement for Mouse Hepatitis Coronavirus A59 Nucleocapsid Protein Phosphorylation
114.	Jo-Ann Sowers	Regional Research Institute, Graduate School of Social Work, Portland State University	RDE	A Randomized Study of the Impact of STEM Mentors with Disabilities on High School Students with Disabilities: An investigation of the Impact of Mentoring by Adults with Disabilities on Youth with Disabilities in STEM
187.	Brandy Spears	Tennessee Technological University	RDE	RDE REU Supplement: Fidelity of Implementation
115.	Barbara Sprung	Academy for Educational Development	GSE	Science: It's a Girl Thing!

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
116.	Ingrid St. Omer	University of Kentucky	LSAMP	Phase I LSAMP: Kentucky – West Virginia Alliance for Minority Participation
117.	Jocelyn Steinke	Western Michigan University	GSE	Adolescents' Identification with Scientists on TV
118.	Oscar Marcelo Suarez	University of Puerto Rico at Mayaguez	CREST & HBCU-RISE	Nanotechnology Center at University of Puerto Rico
119.	Dawn Tamarkin	Springfield Technical Community College	RDE	Efficacy of a UDL Learning Community for Biology Students at a Community College
120.	Yongan Tang	North Carolina Central University	CREST & HBCU-RISE	Advance Metallic Structures for Surface Plasmon Biosensors
188.	Shaquetta Tatum	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	A Mathematical Model of HIV and Malaria Co-infection in Sub-Saharan Africa
121.	Sandra Thomas	Institute for Broadening Participation (IBP)	AGEP	AGEP: Connectivity and Implementation Project
122.	Robert Todd	Georgia Institute of Technology	RDE	SciTrain: Science and Math for All
123.	Lorraine Towns	City University of New York	AGEP	CUNY AGEP Alliance: Making Strides Towards The Doctorate And Beyond in STEM & SBES
124.	Eileen Trauth	Pennsylvania State University	GSE	Gender Stereotypes and IT Skills
189.	Jolene Trujillo	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Effects of Soil Texture and Prehistoric Agriculture on Ecosystem Properties in the Sonoran Desert
142.	Telpriore Tucker	More Graduate Education at Mountain States Alliance, Arizona State University	AGEP	Polyvinyl Pyridinium Phosphate and Indium Tin Phosphate as a Composite Pellet for Fuel Cell Application

POSTER SESSION LIST AND TITLE

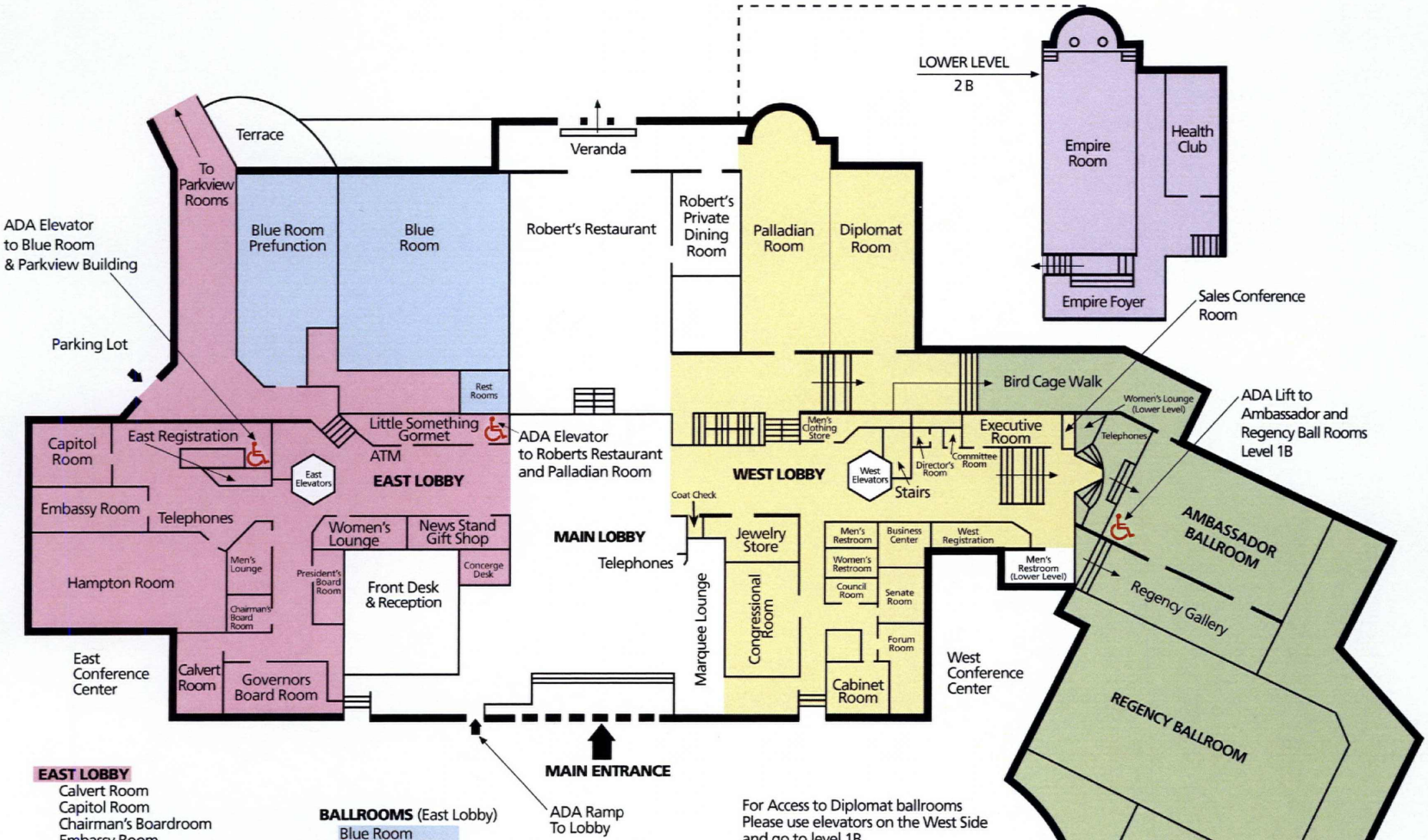
POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
190.	Yusuf Tufail	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Ultrasound Noninvasively Activates Neuronal Circuits
125.	Renetta Tull	University of Maryland Baltimore County	AGEP	PROMISE: Maryland's AGEP - Producing a New Generation of Professors
126.	Tandra Tyler-Wood	University of North Texas	RDE	Project SETS (Simulation-Enhanced Training for Science Teachers)
127.	Susie Valaitis	Institute for Broadening Participation	AGEP	The Maine Pathways and Connection to STEM Project
128.	Carolyn Vallas	University for Virginia, School of Engineering, Center for Diversity in Engineering	LSAMP	The Virginia – North Carolina Alliance for Minority Participation (VA-NC AMP)
129.	Andrew Van Schaack	Vanderbilt University	RDE	Smartpen Technologies for the Blind: Low Cost Talking Tactile Periodic Table, Scientific Calculator, and More
191.	Thomas Villarreal	Western Alliance to Expand Student Opportunities, Arizona State University	LSAMP-BD	Effects of Microstructure on the Kinematics of Fatigue Crack Propagation in Ti-6Al-4V
192.	Corrie Villegas	Salish Kootenai College	TCUP	Bioassay Guided Isolation of Natural Products from Western Labrador Tea
130.	Gordana Vlahovic	North Carolina Central University	CREST & HBCU-RISE	Creating Diverse STEM Workforce: Geospatial Science Program at North Carolina Central University
131.	Shannon Walton	Texas A&M University System	LSAMP-BD	Texas A&M University Louis Stokes Alliance for Minority Participation (TAMUS LSAMP)
132.	Jennifer Wei	Chabot Space & Science Center	GSE	Effective Role Model Outreach to Girls in STEM

POSTER SESSION LIST AND TITLE

POSTER #	NAME	ORGANIZATION	PROGRAM	POSTER TITLE
133.	Henry Williams	Florida Agricultural and Mechanical University	CREST & HBCU-RISE	Isolation of High Efficient Killing Bacteriovorax
134.	Marcia Williams	North Carolina Agricultural and Technical State University	LSAMP	North Carolina Louis Stokes Alliance for Minority Participation: Increasing Student Success Through Established Partnerships
135.	Laquyta Wilmore	University of Arkansas at Pine Bluff	HBCU-UP	Characterization of Gene and Protein Marker Expression by Human Dental Pulp Stem Cells
136.	Matthew Wiswall	New York University	GSE	Women in Science from High School to College: Evidence from New York City Public School Students
137.	David Wohlers	Truman State University	RDE	Independent Laboratory Access for the Blind (ILAB)
138.	Marvin Wu	North Carolina Central University	CREST & HBCU-RISE	Pulsed Laser Ablation Production of Quantum Dots
193.	Brandon Young	Louisiana State University	LSAMP-BD	System-level Simulations for the Design and Operation of Modular Microfluidic Systems for Real-time Molecular Analysis
139.	Yevgeniya Zastavker	Franklin W. Olin College of Engineering	GSE	Effects of Students' Course Conceptions on Role Differentiation within Project-based Group Work
140.	Suzanne Zurn-Birkhimer	Purdue University	ADVANCE	Purdue Center for Faculty Success

HOTEL FLOOR PLAN

Omni Shoreham Hotel Washington, DC



EAST LOBBY
- Calvert Room
- Capitol Room
- Chairman's Boardroom
- Embassy Room
- Governor's Boardroom
- Hampton Room
- President's Boardroom
- East Registration

WEST LOBBY
- Cabinet Room
- Congressional A&B Room
- Council Room
- Executive Room
- Forum Room
- Sales Conference Room
- Senate Room
- West Registration

BALLROOMS (East Lobby)
- Blue Room
- Blue Pre-Function
- Hampton

BALLROOMS (West Lobby)
- Ambassador Ballroom
- Diplomat Room
- Empire Room
- Palladian Room
- Regency Room

For Access to Diplomat ballrooms
Please use elevators on the West Side and go to level 1B.

For Access to the Empire Ballroom and Health Club/Outdoor Pool
Please use elevators on the West Side of the Hotel and go to level 2B.

OMNI SHOREHAM HOTEL

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NEIGHBORHOOD RESTAURANTS

October '07

ROBERT'S RESTAURANT — **2500 Calvert Street** — **(202) 756-5300**
Featuring contemporary American cuisine, the "Art of Breakfast" buffet, and international specialty menus in an elegant, soothing environment. Enjoy terrace seating overlooking Rock Creek Park in season. Open daily.

AFGHAN GRILL — **2309 Calvert Street** — **(202) 234-5095**
Serving unique Afghan cuisine for over 25 years. Open for lunch & dinner daily, 11am-11pm.

CAFÉ INTERNATIONAL — **2633 Connecticut Avenue** — **(202) 265-8333**
Coffee house & deli with breakfast & lunch fare and computer access for a nominal fee.

CAFÉ PARADISO — **2649 Connecticut Avenue** — **(202) 265-8955**
Excellent Northern & Southern Italian dishes. Serving lunch & dinner seven days a week.

CHIPOLTE — **2600 Connecticut Avenue** — **(202) 299-9111**
Casual Mexican Grill, offering freshly made burritos, fajitas, & tacos for lunch & dinner seven days a week.

FUSION'S ALLEY — **2608 Connecticut Avenue** — **(202) 588-7466**
Featuring a wide variety of authentic Asian fare in a comfortable, casual setting seven days a week.

JANDARA THAI — **2651 Connecticut Avenue** — **(202) 387-8876**
Serving excellent authentic Thai cuisine. Specialties include crispy whole flounder, grilled rockfish & soft shell crab.

LEBANESE TAVERNA — **2640 Connecticut Avenue** — **(202) 483-7420**
Known for "family friendly" & "consistently excellent" authentic Middle Eastern fare, as stated in Zagat's restaurant guide.

LITTLE INDIA — **2623 Connecticut Avenue** — **(202) 232-5030**
Exotic Indian cuisine, featuring many vegetarian entrees, as well as lunch buffet seven days a week.

MEDATERRA — **2614 Connecticut Avenue** — **(202) 797-0400**
Offering Mediterranean-American cuisine with an Egyptian flare in a modern art deco setting.

MR. CHEN'S CHINESE — **2604 Connecticut Avenue** — **(202) 797-9668**
Authentic Chinese cuisine using organic vegetables along with a health-conscious cooking style. The "price is right" as cited by the Washington Post. Delivery available.

MURPHY'S IRISH PUB — **2609 24th St** — **(202) 462-7171**
Serving casual lunch & dinner entrees in a convivial setting. Also features TV sports & live Irish music nightly.

NEW HEIGHTS — **2317 Connecticut Avenue** — **(202) 234-4110**
A long-time, upscale DC favorite with award-winning New American cuisine. Open for dinner Monday-Saturday.

OPEN CITY CAFÉ — **2321 Calvert St** — **(202) 332-2331**
Breakfast, Lunch & Dinner in a casual, coffee-house setting. Also features a full-service bar & late-night hours.

PESTO — **2915 Connecticut Avenue** — **(202) 332-8300**
Serving delicious authentic Northern Italian Cuisine in a cozy, intimate setting.

PETITS PLATS — **2653 Connecticut Avenue** — **(202) 518-0018**
Traditional French cuisine in a very nice, relaxing setting with private upstairs dining room and a delightful Sunday Brunch.

RAJAJI — **2603 Connecticut Avenue** — **(202) 265-7344**
Specializing in Northern & Southern Indian cuisine and tandori specialties in a casual atmosphere.

SAKE CLUB — **2635 Connecticut Avenue** — **(202) 332-2711**
Upscale Japanese restaurant & bar with a outstanding sushi & sake selections.

TASTE OF INDIA — **2621 Connecticut Avenue** — **(202) 483-1115**
Extensive selection of authentic homemade Indian dishes, as well as a reasonably-priced lunch buffet.

TONO SUSHI — **2605 Connecticut Avenue** — **(202) 332-7300**
Traditional Japanese cuisine with freshly prepared sushi, teriyaki & tempura dishes. Open daily for lunch & dinner.

OMNI SHOREHAM HOTEL

Hotel Contacts
Key Department Extensions

Name/ Dept	Extension	Duties
Rachel Ross **Senior Convention Services Manager**	5138 Cellular: 202-423-1290	Anything
Kim Ricks **Convention Services Concierge**	Cellular: 202-423-1294	Anything
Milton & Walid **Convention Services Floor Managers**	5142 & 6142 Cellular: 202-423-1273	Room sets, easels, refresh, extra chairs
Audio Visual	6799	AV equipment
Engineering	6151 & 5196	Room Temperature
Security	6177	Lost & found
Front Desk	15	Sleeping Room Needs
Housekeeping	11	Cleaning, extra towels… etc
Banquets	5139	F&B , Banquet Checks, refresh of beverages etc
Shipping	5143	Boxes, Shipping etc
Room Service	12	Amenities, F&B to Sleeping rooms

HOTEL EMERGENCY PROCEDURES: OMNI SHOREHAM

General Emergency Information

In case of an emergency, the phone extension in your facility that should be dialed is #55 or "0" for the PBX Operator.

Ralphaello McKeython, Director of Loss Prevention is primary person responsible for handling emergency procedures for the Omni Shoreham Hotel.

Non-Emergency phone number is 202-756-5177.

The Omni Shoreham's Manager on Duty is trained on the following:

- CPR
- First Aid
- Disaster Preparedness
- Heimlich Maneuver

Fire Emergency Information

When an alarm sounds, Loss Prevention investigates and responds to the source of the alarm. Announcements are made to evacuate or not. Hotel Associates will assist and direct guests out of the building if needed.

The Fire Control panel is located in the main building near the main entrance behind the window display. The Loss Prevention Command Post is located in the main building at the Associates entrance, across from the employee Cafeteria

Demonstrations and Confrontations

Demonstrations are NOT allowed on the Hotel Grounds. Loss Prevention, in conjunction with local Law Enforcement Agencies monitors activities.

All questions from the media are directed to - General Manager.

The public sidewalks are property boundaries and the park, which is federally protected parklands.

Local law enforcement agencies handle illegal activities and assist Loss Prevention in protecting the Building with additional security on an as needed basis.

Lost and Found

The Hotel Loss Prevention department will maintain lost and found items. To find out if an item has been turned in, dial 5177 from any house phone or (202) 756-5177 from a landline/cellular phone.

Medical Emergency Information

Hospitals & 911	Response Time	Distance in miles & Address	Telephone
Ambulance	5-10 Min	1.5 Miles	911
Fire Dept.	5-10 Min	1.5 Miles	911
Police			911 (202) 232-0070
Georgetown	3800 Reservoir Rd. NW	3 Miles	(202) 784-4000 Main
George Washington	900 23rd St. NW	3 Miles	(202) 715-4000 Main
Children's Hospital	100 Michigan Ave. NW	4 Miles	(202) 884-5000

Additional Medical-related information			
Closest 24 Hour Pharmacy	CVS Pharmacy Dupont Circle	(202) 833-5704	1.5 Miles
Closest 24 Hour Pharmacy	CVS Pharmacy Thomas Circle	(202) 785-1466	2 Miles
Closest non-Emergency or "walk-in" type facility	Farragut Medical Travel Center 815 Connecticut Ave. NW	(202) 775-8500	2 Miles

Emergency Procedures are reviewed and revised on an annual basis by the Director of Loss Prevention, Corporate Loss Prevention personnel and with input, recommendations by local law enforcement personnel. The Director of Loss Prevention meets with local law enforcement personnel on a regular basis, as well as federal law enforcement officials due to the number of high profile visitors and dignitaries that come to the Omni Shoreham on a frequent basis. Fie Department officials assist with Fire Alarm Drills and Inspections and recommendations to ensure compliance with fires Safety Codes on an on-going basis.

National Science Foundation
Division of Human Resource Development
Directorate for Education and Human Resources