Proceedings
6th Annual National Science Foundation Alliances For Minority Participation Student Research Conference

"Lakota Woman Dancer" By Kevin Red Star

Hosted By
All Nations Alliance for Minority Participation
at
Salish Kootenai College
July 16-20, 1998

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Sixth Annual National Science Foundation Alliances for Minority Participation Student Research Conference

OVERVIEW

The Alliances for Minority Participation (AMP) Program is a multidisciplinary, comprehensive undergraduate program designed to substantially increase the quantity and quality of minority students receiving baccalaureate degrees in science, engineering, and mathematics (SEM) and, subsequently, to increase the number of minority students entering graduate school to attain the doctorate in SEM fields supported by the National Science Foundation (NSF). To utilize the knowledge, resources, and capabilities of a board of organizations within the SEM community, AMP encourages the formation of coalitions among leaders throughout academia, government, industry, and other organizations. The program is maximizing the potential for making a significant, positive impact on minority participation over the next decade. Success of the AMP Program will be measured by the program's ability to bring about a significant increase in the number of under-represented minorities graduating with a baccalaureate degree in SEM fields supported by NSF.

AMP facilitates achievement of the long-term goal of increasing the production of minority doctoral students in SEM fields, especially those who choose to take faculty positions on college and university campuses. This goal is being accomplished through the formation of Alliances in partnership with NSF. Full participation by the SEM community is essential to the achievement of program goals.

GOALS

The goals of the conference are:

1. *to provide an opportunity for Alliance students to meet and share successes and solutions to problems faced by minority students in the pursuit of careers in science, engineering, and mathematics;*
2. *to provide a forum to showcase AMP student research;*
3. *to motivate AMP students to pursue Ph.D. degrees in science, engineering, and mathematics; and*
4. *to expose AMP students to successful minority scientists, engineers, and leaders in the scientific community.*

"The National Science Foundation provides a stimulus whereby educators and all who support education can contribute to the production of contemporary, agile, and competitive workers. The nation's wealth, and thereby quality of life, is increasingly dependent upon effective and sustained progress in addressing our existent scientific and technical challenges. Stay the Course, and Welcome to the Eighth Day of Creation."

Dr. Luther S. Williams
Assistant Director
Directorate for Education and Human Resources
National Science Foundation

ALL NATIONS AMP
ALLIANCE FOR MINORITY PARTICIPATION

SALISH KOOTENAI COLLEGE
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Pablo, Montana 59855
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Dear AMP Research Conference Participant,

On behalf of Salish Kootenai College and the All Nations AMP, I would like to welcome you to the 6th annual AMP Research Conference "Completing the Circle through Education and Research." It is an honor and a pleasure to have all of you on the SKC campus.

As you consider your path, I would like you to remember the value of education. Throughout all of its settings, meanings and cultures, education has empowered all of us to be here today. From a small beginning and with a large dream, Salish Kootenai College was founded over 20 years ago. Guided by a strong leadership and wisdom, SKC has grown to become a nationally recognized college where people from many cultures meet. Much the same is our experience with the Alliance for Minority Participation programs. Our alliance strives not only to bring more people into the SMET fields, but to also include and maintain the traditions of Native cultures in the world of academia.

Welcome to the beautiful Flathead Valley, home of the Salish & Kootenai Tribes. As you make your way through the warm days and cool nights of Western Montana, please take the time to learn about the cultures of our people and the ways we are different so that we may celebrate our commonality as sacred beings on this, our mother, earth.

As you move through this weekend journey with us, I hope you come to appreciate the world around you and perceive the individual contribution that you can make. Strive to move through your world with an insightful understanding of the past, a firm and respectful hold on today, and hopeful vision of tomorrow. Enjoy all that the conference and your education have to offer.

Sincerely,

Joseph F. McDonald

Dr. Joseph F. McDonald, President
Salish Kootenai College
All Nations AMP Principal Investigator

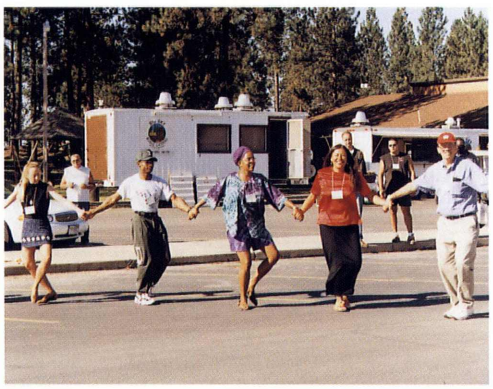
Completing the Circle through Education and Research
6th Annual NSF AMP Research Conference

Welcome to Salish Kootenai College

AMP Students and Faculty prepare to make the circle

The drum beat begins

The circle formation continues



The tempo picks up

We are almost there

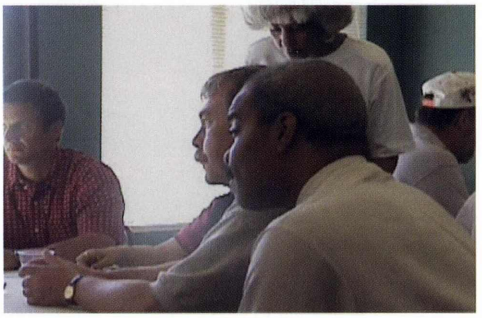
The circle is complete

Thursday, July 16, 1998 Koostahtah Room, KwaTaqNuk

9:00 - 4:30 National Science Foundation Project Directors' Meeting
Dr. Roosevelt Calbert, National Science Foundation

AGENDA

9:00	Call to Order	A. James Hicks
9:05	Introductions	
9:15	Current Federal Environment and Realities (New NSF Dir., S&T Advisor to President Clinton, & Federal Budget Projections, Etc.)	Roosevelt Calbert
9:45	GPRA & AMP Project Expectations	Roosevelt Calbert
9:55	New AMP-WEB Data Collection & Monitoring System	Kathleen McCarty Chris Pietras



11:00 Break

11:15 Virtual Institutes:

Pablo Arenaz	T. Smith
Tony Garcia	Rita Caso
Al McHenry	Sally Andrade
Debbie Moore	Larry Muller

12:30 Lunch

2:15	AMP Program Business ('99, Yr. 2000 ARC Sites, Nat'l Publ., etc.)	A. James Hicks Lou Dale
3:00	New HRD Programs	Roosevelt Calbert A. James Hicks
3:20	Graduate Fellowship Programs	Susan Duby
3:35	Other AMP Program Business	A. James Hicks
3:55	"Status of Minority Student	Theresa Smith Retention at Colleges and Universities"
4:20	Host Institution	Joe McDonald
4:25	Closing Remarks	R. Calbert & A. J. Hicks
4:35	**Adjournment**	

6:00 - 8:00 Project Directors' Social and Dinner -- Ruth Quequesah, Chair, Salish Kootenai College Board of Directors - The People's Center

Friday, July 17, 1998 KwaTaqNuk

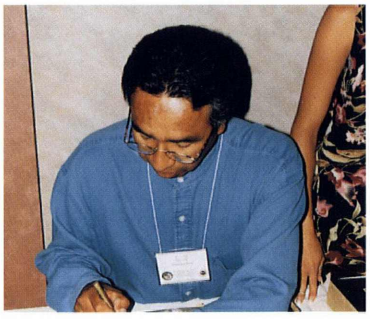
9:00 - Noon Project Directors' Meeting - Charlo Room
1:00 - 4:00 Evaluators' Meeting - Charlo Room
12:00 - 6:00 Registration - Alexander Room

Yawncut Drum

Dr. Joseph McDonald

Johnny Arlee

6:00 - 8:30 Welcome Reception - Convention Center
Prayer – Johnny Arlee, Salish Elder
Flag Song – Yamncut Drummers
Welcome – Dr. Joseph McDonald, President, Salish Kootenai College;
Dr. Roosevelt Calbert, National Science Foundation;
Michael Pablo, Chair, Confederated Salish & Kootenai Tribes
Medicine Wheel Ceremony – Theda New Breast - Blackfeet



Kevin Red Star

Dr. Roosevelt Calbert

Michael Pablo

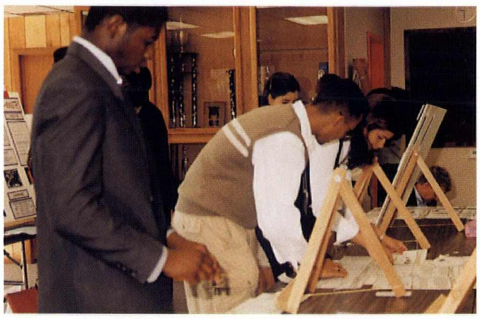
6:30 - 8:30 "Lakota Woman Dancer," Poster Signing - Convention Center
Kevin Red Star, International Crow Artist
8:30 - 10:00 AMP Games and T-shirt Swap - Convention Center
8:30 - 11:00 Standing Arrow Pow-wow - Elmo (Buses leave from KwaTaqNuk)

Saturday, July 18, 1998 Salish Kootenai College

7:00 - 8:30 Breakfast - ARC Big Top
8:30 - 9:00 Opening Ceremony & Prayer -- Theda New Breast - ARC Big Top
9:00 - 10:30 Student Poster Set-Up (see attached schedule) - John Peter Paul Lounge
9:00 - 5:00 Student Oral Presentations (see attached schedule) - Michel Building

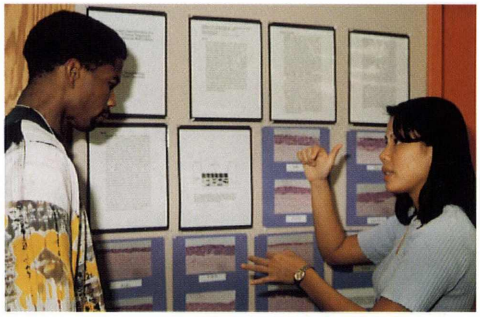
Registration


Students Set-Up Posters


Students Preparing Posters

9:00 - Noon Career Fair Set-up - Two Eagle River School
9:00 - Noon Registration - Convention Center, KwaTaqNuk
9:00 - 10:30 Workshop Session #1 (see attached schedule)
Integrating Culture in Science Curriculum
Calculus Reform and Cooperative Learning
Integrating Environmental Science into the Curriculum
Reform in Biology, Culture in the Stars
The Importance of Research and Its Cultural Relevance
10:30 - Noon Workshop Session #2 (see attached schedule)
Effective Teaching Practices for Native Students
Integrating Science Across the Curriculum
Right Brain Math, Culture in the Stars
The Importance of Research and Its Cultural Relevance


An Oral Presentation


Students View Posters


Students Listen to an oral Presentation


Lunch at the Big Top

Noon - 1:30 Lunch - ARC Big Top
1:30 - 3:00 Workshop Session #3 (see attached schedule)
Assessment for Evaluators, Physics Reform
Calculus Reform and Cooperative Learning
Calculus Reform, Native Plants, Culture in the Stars
3:00 - 4:30 Career Fair - Two Eagle River High School


More Students View Posters

5:00 - 6:30 Dinner - ARC Big Top
Dr. Roosevelt Calbert, National Science Foundation
Conrad Burns, Senator, Montana
Dan Goldin, National Aeronautics & Space Administration


Dan Goldin


Dinner Participants


Senator Conrad Burns


Platform Party


Greeting from Judy Gobert


Students Greet Guest

7:00 - 10:30 Standing Arrow Pow-wow - Elmo (Buses leave from KwaTaqNuk)

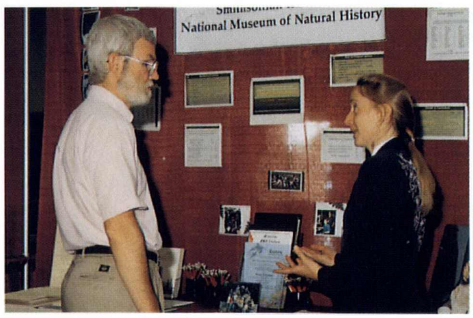

Elmo Pow-Wow Begins


Tepees Under Montana Skies


The Pow-Wow Continues

Sunday, July 19, 1998 Salish Kootenai College

7:00 - 8:30 Breakfast - ARC Big Top
8:30 - 9:00 Opening Ceremony & Prayer
9:00 - 4:30 Career Fair - Two Eagle River School
9:00 - 10:30 Workshop Session #4 (see attached schedule)
Graduate School Preparation
Why National Standards, Geology Tours
Effective Presentation Styles
Preparing for the New Millennium



Career Fair

Students Visit Exhibit

Geological/Historical Field Trip

10:30 - Noon Workshop Session #5 (see attached schedule)
Graduate School Preparation, Physics Reform
Effective Teaching Practices for Native Students
Preparing for the New Millennium
Debt Management
Science & Math Teacher Education

Noon - 1:30 Get to Know You Lunch - ARC Big Top

1:30 - 3:00 Workshop Session #6 (see attached schedule)
Debt Management, Why National Standards
Effective Presentation Styles, Geology Tours
Calculus Reform
Science & Math Teacher Education

Learning about Glaciers

Participants Under the Big Top

Dr. Ron McNeil, President
Sitting Bull College

Dr. Joseph McDonald and
Dr. Roosevelt Calbert

5:00 - 6:30 Dinner - ARC Big Top
Dr. Joseph McDonald, President, Salish Kootenai College
Dr. Ron McNeil, President, Sitting Bull College

7:00 - 10:30 Special Showing - Convention Center (Reception to follow)
"Follow Me Home" - Director/Writer-Peter Bratt

Monday, July 20, 1998 KwaTaqNuk Convention Center

7:00 - 8:30	Continental Breakfast
8:30 - 9:00	Opening Ceremony & Prayer -- Theda New Breast
9:00 - 10:30	Roundtable Discussions
	Undergraduate Student Issues
	Graduate Student Issues
	Post-Doctoral Issues
10:30 - 1:00	Alliance Photos

California

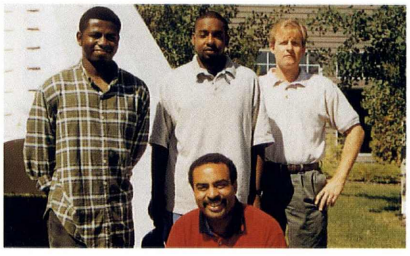
California State

Chicago

Colorado

Florida-Georgia

Louisiana



Detroit

Maryland

Mid-South

Mississippi

All Nations

New Mexico

New York

North Carolina

Oklahoma

Greater Philadelphia

Puerto Rico

South Carolina

SUNY

University of Texas System

Texas A&M

Western Alliance to Expand Student Opportunities

Noon Box Lunch
1:00 - 5:00 Hiking
Whitewater Rafting
Science Cultural Tours of the Reservation
6:00 - 8:00 Awards Banquet

Dr. A. James Hicks

Poster Award Winners

Oral Award Winners

Students Confer

8:00 - 9:00 Closing Ceremonies -- Theda New Breast

9:00 - 1:30 Student Dance
Leslie Caye (Red Eagle Productions)

Competition Winners

Oral Presentations

	First Place	Second Place	Third Place
Life Sciences	**Brian Turner** Maryland System	**Wanda Lewis** New Mexico AMP	**Maurico Camacho** Univ. Texas System
Physical Sciences	**Ryan Turner** Maryland System	**Charlie Torres** Maryland System	**Grant Tegre** Maryland System
Engineering	**Melody Zevallos** New York City AMP	**Jose Francisco Soriano** California State AMP	**Ignacio Ybarra** Texas AMP
Math/Computer Science	**Anthony Johnson** North Carolina	**Tolu Makinde** California State AMP	**Nereo Loresto** California State AMP
Teacher Preparation	**Dwayne Nedie** Christina Rock Louisiana AMP	**Polynese Kimber** Mississippi AMP	**NA**

Poster Presentations

	First Place	Second Place	Third Place
Life Sciences	**Shelly Miller** New York City AMP	**Julia Rives (Tie)** Julieta Ornelas (Tie) Univ. of Texas System	**Damaen Gordon** WBHR AMP
Physical Sciences	**Chantelle Begay** ANAMP	**Albert Mendoza** California AMP	**Abiola Ojewole** Metro Detroit AMP
Engineering	**Stephen Black** New Mexico AMP	**Erik Humphrey** Univ. Texas System	**Dawnielle Farrar** Philadelphia AMP
Math/Computer Science	**Cicely Kelly** Mid-South AMP	**Lillian Garcia** New York City AMP	**Osbaldo Cantu** Texas AMP
Teacher Preparation	**Susan Baez-Cazull** Puerto Rico AMP Chicago AMP	**Kimberly Randall** Michael Cannon	**NA**

Oral Presentations

Engineering

Dingle, Nicole; Engineering; Dr. Rosemary Parker; Maryland; *"Particle Size and Concentration Effects on Drop Spreading and Coating Uniformity"*

Galban, Elizabeth; Telecommunications; Ralph Gittleman; New York City; *"A Tutorial in Microstrip Filter Design for Telecommunications Technology"*

Greaves, Orman C.; Computer Engineering; Dr. Michael Hites; Chicago; *"Remote Laboratory Operation"*

Lee, Alicia; Engineering; Ingrid St. Omer; Heartland's; *"The Study of Ohmic Contact on Silicon Carbide"*

Lowe, Leonard; Engineering; Edgar Conley; New Mexico; *"Analysis of Titanium/Bone Implants"*

McCray, Eboni T.; Chemical Engineering; Dr. Terry Alford; Mid-South; *"Analysis of Hydroxyapatite Thin Films Using the Atomic Force Microscope"*

Negrete, Rolinda L.; Engineering; Dr. Gerry Capen; Chicago; *"pH-Sensitive Pigments of the Jerusalem Artichoke"*

Ortiz, Donna; Engineering; Dick Greene; New Mexico; *"The Distribution of Human Cardiac Output during Orthostatic Stress Is Not Age Related"*

Schwiebert, Loren and Bell, Reneilus; Electrical Engineering; Loren Schwiebert; Metropolitan Detroit; *"The Impact of Output Selection Function Choice on the Performance of Adaptive Wormhole Routing"*

Silva, Allison and Galvan, Eduardo; Computer Science/ Engineering; Dr. Bernard J. McNamara, Dr. Thomas E. Harrison, and Dr. Paul A. Mason; New Mexico; *"BVRI Photometry and Light Curve Modeling of Algols"*

Soriano, Jose Francisco; Aerospace Engineering; Gregory R. Wilson; California State University; *"A Wind Tunnel Study on the Mars Pathfinder Lander Descent Pressure Sensor"*

Wilson, Terrence J.; Mechanical Engineering; Dr. Michael A. Sutton; South Carolina; *"Three-Dimensional Profiling of a Crack Path"*

Ybarra, Ignacio, III; Electrical Engineering; Dr. Donald G. Naugle; Texas; *"Processing and Optimization of Bulk La1-xCaxMnO3+8"*

Zevallos, Melody I.; Civil Engineering; Dr. Neville A. Parker; New York City; *"Use of Construction and Demolition Debris as a Substitute for Virgin Aggregates in Asphalt Pavement"*

Life Sciences

Andrews, Melina; Environmental Science; James W. Falco; All Nations; *"Comparison of Vector Base and Raster Base Geographical Information"*

Blackwolf, Michael; Natural Resources; Tim Vosberg; All Nations; *"Monitoring the Black-Footed Ferret: Reintroduction onto Indian Lands--A Success Story"*

Camacho, Mauricio; Biology; Paul Chippindale; UT System; *"Evolutionary History and Relationships of Hemidactyliine Plethodontid Salamanders Based on Mitochondrial DNA Sequence Data"*

Campos, Rebecca R.; Biology; Dr. Suzzette F. Chopin; Texas; *"The Effects of Mercury on the Developing Chick Embryo"*

Floissac, Michael and Peter, Cleopatra Elizabeth; Biology/Computer Science; Dr. Suzzette F. Chopin; Texas; *"The Effects of Ginkgo biloba on Chick Embryo Development"*

Gonzales, Christine; Biology; Leonard Nunney; California; *"The Evolution of Hemoglobin"*

Henniger, Eileen K.; Zoology; Greg Florant; Colorado; *"Relationships Between Ranging Patterns,*

Travel Routes, Feeding Sites, and Resting Sites: Multiple Central Place Foraging in the Mantled Howler Monkey (Alouatta palliata)"

Jacobs, D.; Ellison, S.; Rocha, A.; and Byrd, S. K.; Biology; Dr. Shere Byrd; Colorado; *"Cellular Oxidative Status Has No Effect on the Conformation of Skeletal Ca2+ATPase after Ischemia/Reperfusion (I/R)"*

Moore, Vanessa Ann; Chemistry/Pre-Medicine; Connie Leggett; Florida-Georgia; *"The Effect of Salt Sensitivity with Calcium Antagonists on Blood Vessels"*

Nixon, Everett; Biology; Fitzgerald Spencer; Louisiana; *"Dexamethasone Inhibition of Endometrial Growth During Decidualization"*

Smith, Amber D.; Life Science; Dr. Michael Schaefer; Heartland's; *"Isolation of Genes Involved in Chromatic Adaptation"*

Stephenson, Adrienne P.; Computer Science/Chemistry; Dr. Robert Langley, Kathleen Mulder, and Lisa Kaspin; Greater Philadelphia Region; *"Role of MEK in Mediating TGFb Upregulation of the Cell Cycle p21Cip1"*

Turner, Brian G.; Biochemistry; Dr. Michael F. Summers; Maryland; *"Three-Dimensional Structure of the HTLV-II Matrix Protein and Comparative Analysis of Matrix Proteins from the Different Classes of Pathogenic Human Retroviruses"*

Tyler, Tana; Natural Sciences; Dr. Juliette B. Bell; North Carolina; *"Analysis of Fe2+ Mutagenicity During in vitro DNA Synthesis by E. coli DNA polymerase I"*

Vazquez-Guzman, Elizabet; Biomedical Sciences; Dr. Zulma Rivera-Pagan; Puerto Rico; *"Adverse Effects of Antibiotics to Male Fertility"*

Walcott, Tanica; Biology; Dr. Agnes Day; Washington-Baltimore-Hampton Roads; *"Improper Balance"*

Young, Donna; Microbiology; Dr. Elizabeth McClain; All Nations; *"Aquatic Microbiology: Biological Insurance Against Pollution"*

Math/Computer Sciences

Acosta, Guillermo; Mathematics/Physics; Dr. David Allred; WAESO; *"Soon to be Seen: Sunlight at 30.4 nm in the Earth's Plasmasphere"*

Cervetti, David Garcia; Computer Science; Dr. Lawrence Sher; New York City; *"Animations of Series Approximations of Trigonometric Functions"*

Charles, Yvette A.; Mathematics; Dr. Gary Walls; Louisiana; *"Product-Free Subsets of Groups"*

Colon-Reyes, Omar; Mathematics; Alberto Caceres; Puerto Rico; *"Some Criteria for Permutation Binomials over Finite Fields"*

Hendrix, Keandra S.; Computer Science; Sonia C. Gallegos; Mississippi; *"Spatio-Temporal Variability of Absorption by Particulates in the Yellow Sea"*

Hill, Floyd; Computer Information/Mathematical Systems; Mr. Jason Black; Florida-Georgia; *"Design, Development, and Implementation of the FGAMP@FAMU Website Using HTML, Perl, and C++"*

Johnson, Anthony; Mathematics; Prof. Kenneth Jones and Prof. O. C. Holloway; North Carolina; *"Uniform Motion Simulation--Motion in Space Using the TI-92 Graphing Calculator"*

Kelley, Cicely A.; Mathematics; Dr. Cecil Rousseau; Mid-South; *"Infinite Series and the Sciences"*

Loresto, Nereo N.; Applied Mathematics; Sunil Tiwari; California State University; *"How I View Cabernet Sauvignon"*

Makinde, Tolu; Computer Science; George Jennings; California State University; *"Teaching File Processing on the Internet"*

Olivares, David; Computer Science; David L. Ferguson; Stony Brook; *"Development of Web-Based Database for Climate Change Research Data Center"*

Physical Sciences

Aballe, Leonardo; Chemistry; David Rusak; Florida-Georgia; *"Utilizing Laser Induced Spectroscopy in the Detection of Trace Elements Employing the Rotating Disk Method"*

Bacchus, Ian; Physics; Yusuf Hascicek; California; *"Resistive Joints in High Temperature Superconducting Systems"*

Johnson, Martinique; Chemistry; Dr. Robert Langley; Greater Philadelphia Region; *"Gadolinium as a Neutron Capture Agent"*

Torres, Charlie W.; Physics; Dr. Mario Diaz; UT System; *"Wave Profiles in Gravitational Radiation Astronomy"*

Tregre, Grant M.; Physics/Engineering; Dr. Kathleen McCloud; *"Testing the Roughness of Surfaces of Sedimenting Particles Through a Viscous Fluid"*

Turner, Ryan B.; Biochemistry/Molecular Biology; Dr. Michael F. Summers; Maryland; *"Structure of the HIV-1 Nucleocapsid Protein Complexed to the SL2 y-Site RNA"*

Teacher Preparation

Kimber, Polynese; Teacher Education; Baxish Balam and Theodore Roach; Mississippi; *"Mathematics Achievement in Mississippi: Trends Over Ten Years"*

Poster Presentations

Engineering

Richard, Cephus, III; Barksdale, Lasandra; and Currie, Cecil; Biomedical Engineering, Mechanical Engineering, and Computer Science; Dr. Jae-Young Rho; Mid-South; *"Measuring the Elastic Properties of Cow Tibial Cortical and Cancellous Bone"*

Black, Stephen; Engineering; Dr. A. B. Donaldson; New Mexico; *"Some Observations on Operation of a Diesel Engine with Ethanol and Ethanol-Water Blends and Combustion Air Preheat"*

De La Garza, Alma; Chemical Engineering; G. Ali Mansoori; Chicago; *"Characterization of Mexican Crude Oils from the Tecominocan and Jujo Fields"*

Farrar, Dawnielle; Electrical Engineering; Dr. Robert Langley and Angelo Wade; Greater Philadelphia Region; *"Electromagnetic Compatibility (EMC) Testing"*

Humphrey, Erik; Manufacturing Engineering; Dr. Miguel Paredes; UT System; *"Rapid Prototyping"*

Marrero, Angel A.; Engineering; Jorge B. Gonzalez; Puerto Rico; *"Study of the Thermal Behavior Inside a Surface Mount Technology Oven"*

Morin, John A.; Engineering; Dr. Sunil Karnawat; All Nations; *"Determining Mechanical Properties of Steel"*

Pollard, Logan; Engineering; Dr. A. B. Donaldson and Dr. Graham R. Allan; New Mexico; *"Spectroscopic Measurements of Liquid and Vapor Phase Water at Elevated Pressure"*

Smith, Fredrick T., Jr.; Holzendorf, Ronanthony; and Edwards, Kelcia; Mathematics/Engineering; Dr. Lawrence C. Agba, Dr. Morrison Obeing, and Carlos Colon; Florida-Georgia; *"FSEC/B-CC Energy Education Program"*

Stancil, Byron; Mechanical Engineering; Dr. Steven Leeb; Maryland; *"Research and Development in Constructing an Electric Go-Kart"*

Life Sciences

Adolphus, Sonia; Biology; Nat Ramani; State University of New York; *"IHF and micF Negatively Affect Osmoregulation of OmpF in Escherichia coli"*

Bender, Acacia M.; Environmental Science; Dr. Douglas Hamilton; Oklahoma; *"Identifying Biological Communities in a Facultative Lagoon"*

Bishop, Sherry; Water Quality; Ina Nez Perz; All Nations; *"Macroinvertebrates as Indicators of Mine Pollution"*

Blake, Jamone; Biology; Dr. Timothy Mousseau; South Carolina; *"Effects of Leaf-Mining Insects to Turkey Oak"*

Caboni, Melendy; Life Science; Dr. Glenn D. Kuehn; Colorado; *"Expression of Polyamine Oxidase from Avena sativa L. (OAT) in E. coli BL-21 Containing a pET30 Plasmid and Supplemented with Riboflavin"*

Davis, Linda C.; Biological Sciences; Yohanes W. Yesus; Heartland's; *"Feasibility study of rapid detection and classification of bacterial pathogens as Gram positive or negative organism using polymerase chain reaction (PCR)"*

Dickerson, Pamela and Bhatnagar, Deepak; Biology; Vibhakar R. Dave; Louisiana; *"Chromatographic Separation of Aflatoxin Pathway Metabolites from Fungal Cultures"*

Doney, Francis; Water Quality; James Suiere; All Nations; *"Preliminary Ground Water Quality Studies of the Fort Belknap Reservation"*

Fields, Lisa; Environmental Science; Dr. Michael Smolen and Dr. M. Kizer; Oklahoma; *"Well Water Maintenance and Groundwater Contamination"*

Futrell, Montona L.; Animal Science; Dr. L. Niedziela; North Carolina; *"Detection of Fimbrial Genes In Bordetella Avium"*

Garcia, Shari A.; Exercise Science/Pre-Medicine; Hector Balcazar; WAESO; *"Use of Segmentation Approaches for Designing Culturally-Appropriate Health Interventions in Latinas"*

Gaytan, Octavio O.; Biology/Chemistry; Dr. Julio Soto and Dr. Regina Aragon; New Mexico; *"The Role of the Hro-twi 3'UTR in Teloplasm Localization in Leech Zygotes"*

Gordon, Dameon; Biology; Theodore A. Bremner; Washington-Baltimore-Hampton Roads; *"Vitamin E Succinate Increases Glucose 6-Phosphate Dehydrogenase Activity in THP-1 Promonocytic Leukemia Cells"*

Lee, Leilani; Biology; John Peters; South Carolina; *"The Role of Ets2 Transcription Factor in Cellular Differentiation and Proliferation"*

Malone, Lisa; Biological Sciences; Dr. Allen Gibbs and Dr. Valerie Pierce; California; *"The Effect of Time Exposure on Urea in Drosophila melanogaster"*

Manybeads, Anderson; Biomedical Engineering; Dr. Adrian T. Hanson and Dr. Walter Zachritz, II; Colorado; *"Reducing Oxygen Limitations in Constructed Wetlands Using Airlift Pumps"*

Manybeads, Evonne; Gallegos, Monica; Dominguez, Amor; and Ortiz, Donna; Life Science; Dr. E. R. Greene and Dr. W. A. P. Hayward; New Mexico; *"The Acute Effects of Cigarette Smoking and Chewing Tobacco on Middle Cerebral Artery Blood Flow"*

Martin, Trudy M.; Life Science; Dr. Scott M. Hanson; All Nations; *"Immature and Adult Mosquitoes in North Central North Dakota"*

Miller, Shelly Ann; Biology; K. M. Flynn, M. M. Appah, and M. P. Schreibman; New York City; *"Sexually Dimorphic Effects of MK-801 on Puberty"*

Okoro, Philip N.; Biology; Dr. Carol E. Henry; Chicago; *"Random Amplified Polymorphic DNA Analysis of Ustilago violacea"*

Ornelas, Julieta and Ortega, Melissa; Biology/Microbiology; Dr. Eppie Rael; UT System; *"Enzyme Linked Immunosorbent Assay (ELISA) Analysis of Anibody Titers Among Insulin Dependent Diabetes Mellitus (IDDM) Patients Within the Mexican Community"*

Rives, Julia; Biology; David. G. Bernard; UT System; *"Central Cholinergic Mechanism in the Control of Respiration in the Cane Toad (Bufo marinus)"*

Taylor, Antionette; Long, Brandi; and Patterson,

Johnequia; Biology; Dr. Edward Stevens; Mid-South; *"Growth Conditions of Cyanobacteria"*

Thongkheuang, Panechay; Biology; Prof. Tim Hummer and Dr. Bernard Weissman; North Carolina; *"Localization and Characterization of a Chromosome 18 Tumor Suppressor Gene Using Organotypic Raft Culture"*

Math/Computer Sciences

Castro, Pamela and Alanis, Reynol; Mathematics; Dr. Alex Sadovski; Texas; *"Differences between Asian and U.S. Educational Strategies"*

Garcia, Lilian L.; Computer Science; Jerry G. Ianni; New York City; *"Algorithmic Procedures for Finding Permutations Realizable as Symmetries of a Regular N-gon"*

Jeffries, Tracy; Mathematics/Computer Science; Paul Hwang; Mississippi; *"Graphics and Visualization of Scientific Data"*

Jimenez, Rocio and Grimaldo, Minerva; Mathematics; Dr. Alan Hoffer; California; *"How Should Students Learn Mathematics at the Junior and Secondary Levels?"*

Physical Sciences

Arias, Juan D.; Yohannan, Sarah; Brett, Tom; and Stezowski, J. J.; Chemistry; California State University; Rutgers; The State University of New Jersey; and the University of Nebraska; California State University; *"Crystallographic and Photochemical Studies of Supramolecular Systems"*

Cohen, Jaimelee Iolani; Chemistry; Robert Engel; New York City; *"Synthesis and Characteristics of Polycationic Strings"*

Fox, Robert; Chemistry; Dr. Robert Langley, Dr. Leanna Giancarlo, and Dr. G. W. Flynn; Greater Philadelphia Region; *"Synthesis of Long Chain Alkyl halides for Study under a Scanning Tunneling Microscope (STM)"*

Gates, Arther T.; Chemistry; Dr. Alan Wiedman and Dr. Clark Kennedy; Mississippi; *"Clean Water Calibrations for the Dual Path Absorption and Attenuation Meter"*

Koroma, Umpha; Chemistry; Yilma Gultneh; Washington-Baltimore-Hampton Roads; *"Synthesis, Structural Studies and Comparison of the Catalytic Activities of Complex of Cu(II) and Zn(II) Complexes of Some Dinucleating Ligands"*

Mendoza, Albert; Chemistry; Philip Crewes; California; *"Chemical Profile of a Marine Sponge Jaspis ? johnstoni"*

Rivera Ocasio, Ramon A.; Physics; Fredy R. Zypman and Idalia Ramos; Puerto Rico; *"High Frequency Response of a Cantilever under an Applied Load"*

Ojewole, Abiola O.; Biochemistry; Brian P. Buffin; Metropolitan Detroit; *"Hydrophilic Bidentate Nitrogen-Donor Ligands for Incorporation into Aqueous Organometallic Catalysts"*

Pham, Ngoc Nhu; Chemistry; Yilma Gultneh; Washington-Baltimore-Hampton Roads; *"Effects of Ligand Substituents and Chelte Ring Sizes on the Catalysis of Hydrolytic Reactions by Tetra-coordinate Zn(II) Complexes"*

Teacher Preparation

Baez-Cazull, Susan E.; Chemistry/Education; Javier Figueroa; Puerto Rico; *"Design of a Thematic Unit for a Curriculum on Environmental Sciences"*

Miles, Dexter and Cannon, Michael; Secondary Education, Biology/Chemistry; Marion Wilson-Comer; Chicago; *"Pre-Service Teacher Training in the Sciences"*

Brashears, Secole; Nedie, Dwayne; and Rock, Christina; Teaching Scholars; Brenda Edmond; Louisiana; *"The Observation and Practice of the Teaching Processes of Math and Science Professors"*

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