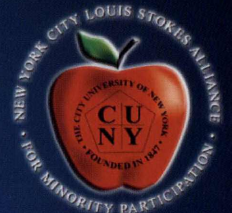


NEW YORK CITY ALLIANCE NEWS



VOLUME XI ISSUE II

APRIL 2004

WHO WILL TEACH OUR CHILDREN: OBLIGATIONS OF A MINORITY SERVING INSTITUTION



Dr. Neville A. Parker
NYC LSAMP Project Director

All is not well. CUNY's performance at the undergraduate level is one we can be proud of. However, our Achilles heel remains exposed at the graduate and faculty level. If we look around our STEM departments and our colleges whom do we see sitting in search committees and executive committees? Where is the junior faculty pool? If in 2004 I can name all African-American and Hispanic faculty in the City College School of Engineering, we have a challenge before us. For me the challenge is to not be the only African-American sitting at any table at a Minority Serving Institution (MSI).

For many, the Minority Serving Institution (MSI) designation is seen merely as a designation to make a college, department or faculty member eligible to submit a proposal to a funding agency. In CUNY underrepresented minority refers to primarily African-American, Hispanic, Native American and Native Pacific Islander. If underrepresented minority candidates are not present in the pool of applicants for faculty and senior executive staff positions, for the next five to ten years we will see no improvement at the faculty level. Visiting minority faculty in the STEM disciplines is virtually non-existent and

at the post doctoral level we have no visible university wide policy to increase the pool of minority researchers at CUNY's Centers and Institutes.

We must be mindful of the use of 'Minority Serving Institutions' and 'students at Minority Serving Institutions'. They are not the same. The presence of underrepresented minority students at the college or even the departmental level, does not ensure that they will be informed of, or invited to participate in these funded programs. The Minority Serving Institution label ensures the acquisition of state of the art equipment to improve STEM course design/delivery. On the other hand, is this equipment being used to train underrepresented minority graduate students? New faculty hires must recruit graduate students from the HBCUs and HSIs of this country, and these students must be recruited/admitted with comprehensive and competitive doctoral fellowships. CUNY Centers and Institutes funded from programs specific to 'Minority Serving Institutions' must recruit underrepresented minorities as Visiting Faculty, Visiting Researchers, Researchers or post doctoral associates.

As program directors we must challenge ourselves with mantras that move beyond 'you qualify for the program', when interacting with students. A sense of accountability and obligation to the

<i>CUNY Facts</i>	
<i>18 CUNY Colleges</i>	
<i>Total Science Department Faculty</i>	<i>1507</i>
<i>African-American and Hispanic Faculty</i>	<i>193</i>
<i>12 Senior Colleges</i>	
<i>Total Science Department Faculty</i>	<i>1102</i>
<i>African-American and Hispanic Faculty</i>	<i>114</i>
<i>6 Community Colleges</i>	
<i>Total Science Department Faculty</i>	<i>405</i>
<i>African-American and Hispanic Faculty</i>	<i>79</i>

IN THIS ISSUE:	
Who Will Teach Our Children?	Cover
Urban University Conference	Page 2
Conference Speakers	Page 3
CUNY Students, Faculty Tour BNL	Pages 4
CUNY Conference	Page 5
Sophia Suarez	Page 6
In Their Own Words	Pages 7
Upcoming Conferences	Page 8

mission and goals must be emphasized. If it is not done, many a program will disappear when funding ceases and no graduate(s) will return to continue the programs when we retire. We will have no one sitting at the table.

continued on next page

WHO WILL TEACH OUR CHILDREN: continued from previous page

**NATIONAL SCIENCE FOUNDATION,
LOUIS STOKES ALLIANCE FOR MINORITY
PARTICIPATION**

A. James Hicks Program Director

CUNY CENTRAL ADMINISTRATION

Matthew Goldstein Chancellor
Louise Mirrer Executive Vice
Chancellor for
Academic Affairs

PROJECT DIRECTORS

Neville Parker City
Leon Johnson Medgar Evers
Louise Squitieri City

PROJECT ADMINISTRATOR

Claude Brathwaite City

SENIOR ADMINISTRATIVE ASSISTANT

Jeanette Schnabel City

ADMINISTRATIVE ASSISTANT

Maria Colabella City

STEERING COMMITTEE

Dennis Slavin Baruch
Sadie Bragg BMCC
Marcia Keizs Bronx CC
Paul Shelden Brooklyn
Joe Barba City
Leonard Ciaccio College of Staten Island
Gail Smith CUNY Graduate School
Carlos Molina Hostos CC
Ann Henderson Hunter
Stuart Suss Kingsborough CC
Marcia Caton LaGuardia CC
William Tramontano Lehman
Doris Withers Medgar Evers
Joseph Rosen NYC College of Tech.
Thomas Streckas Queens
Arthur Corradetti Queensborough CC
Cheryl Smith York

New York City Alliance News

Editor: Claude Brathwaite
Design/Printing: 3D Studios

Individuals wishing to be added to the mailing list should contact Jeanette Schnabel at (212) 650-8854, fax (212) 650-8855.

The New York City Louis Stokes Alliance for Minority Participation is funded under a cooperative agreement with the National Science Foundation.

On my Mind...

- Faculty development must also include vehicles to improve his/her ability to communicate clearly in English, if it is not their first language
- In emerging disciplines, are we cultivating a pool of the post doctoral researchers in Universities, or individuals from agency or industry settings?
- How many of our distinguished alums are we aggressively recruiting to return as faculty members?
- Do we advise our best students to consider a career in teaching at the middle or high school level, and can it be done in a way that does not derail or delay their career plans ?
- As faculty members do we engage students in the classroom and in our laboratories, extolling the virtues of being a member of the academy ?
- With close to 10,000 students declared as STEM majors, imagine the possibilities if ten percent of these students each year participate in a CUNY-wide Teacher Prep program

7TH ANNUAL URBAN UNIVERSITY CONFERENCE

April 23, 2004 hosted by **Lehman College**



The New York City Louis Stokes Alliance for Minority Participation in Science (NYC LSAMP) will be holding its **7th Annual Urban University Conference** on Friday April 23rd, 2004 at Lehman College of the City University of New York. **"Models for Success in the 21st Century"** The Urban University Conference Series serve to highlight the research work done by faculty and CUNY students involved in undergraduate and graduate research, serve as a networking event for other minority scientists and engineers, and as a forum for students to gather information on internships, graduate programs, and employment.

Dr. Manuel Berriozabal- PREP Founder and National Director

Projecto Access: A National model for pre-freshman preparation

Dr. Praveen Chaudhari-Director, Brookhaven National Lab

Innovation: From Ideas to Market

Dr. Eloy Rodriguez-James A. Perkins

Professor of Environmental Studies, Cornell University

A Scientific Journey from 20th to 21st Century

**FOR MORE INFORMATION AND TO REGISTER, VISIT US AT:
HTTP://NYC-AMP.CUNY.EDU OR CALL 212-650-8854**

URBAN UNIVERSITY CONFERENCE PLENARY SPEAKERS

**Dr. Manuel Berriozabal**

PREP founder (Prefreshman Engineering Program), University of Texas, San Antonio

Dr. Manuel P. Berriozabal is Professor of Mathematics at The University of Texas at San Antonio, the Director of the San Antonio Prefreshman Engineering Program and the Coordinator of the Texas Prefreshman Engineering Program and the nationwide Proyecto Access.

He earned his Ph.D. in Mathematics from the University of California in Los Angeles. He has served as a mathematics faculty member at Loyola-Marymount University, UCL, Tulane University, and the University of New Orleans. Since 1976 he has been a Professor of Mathematics at The University of Texas at San Antonio. He has authored or co-authored numerous papers in mathematics and mathematics education.

Dr. Berriozabal founded the San Antonio Prefreshman Engineering Program in 1979, and TexPREP in 1986; he was a cofounder with NASA and the Hispanic Association of Colleges and Universities of Proyecto Access in 1997. Because of their recognized accomplishments in providing access for women and minorities to careers in science and engineering, San Antonio PREP, TexPREP and Dr. Berriozabal have received numerous awards and citations.

(1986, 1987). In 1989 Chaudhari became a member of the Corporate Technical Committee in Armonk and in 1990 he returned to the Research Division as a Research Staff Member.

**Dr. Praveen Chaudhari**

Director of the Brookhaven National Laboratory

Praveen Chaudhari received his doctoral degree from MIT in 1966. He joined IBM the same year and over the years carried out his personal research, held various management responsibilities in science, and science related to technologies such as optical storage, semiconductors, magnetic bubbles, the Josephson program, and display technology. He was appointed Director in 1981, Vice-president, Science in 1982. In this capacity he was responsible for science programs at Almaden, Yorktown, and Zurich. It was during this period that the science programs at the IBM Research laboratories grew significantly, and IBM scientists were awarded Nobel Prizes for two consecutive years

Chaudhari has worked on the structure and properties of amorphous solids, mechanical properties of thin films, defects in solids, quantum transport in disordered systems, superconductivity, liquid crystal alignment on substrates, and on the magnetic monopole experiment. He has published over a hundred and fifty technical papers, and holds over twenty patents. He is a member of the National Academy of Engineering, the American Academy of Arts and Sciences, and a fellow of the American Physical Society.

team have isolated the chemicals from many native plants that are useful as medicines. Dr. Rodriguez travels throughout the world looking for natural chemicals produced by plants and animals. He tries to discover how these chemicals work, why they are made by the organism, and how we can apply them, particularly in medicines and pesticides. In 1990 he began the Kids Investigating and Discovering Science (K.I.D.S.) program, which brings minority students from Kindergarten through eighth grades into the research laboratories at University of California Irvine to discover the excitement that comes from exploring the natural and physical world. He continues his research and work with minority students at Cornell University.

**Dr. Eloy Rodriguez**

James A. Perkins Professor of Environmental Studies, Cornell University

Dr. Rodriguez received his Ph.D. from the University of Texas at Austin, and in 1979 obtained his first academic appointment at the University of California. He is presently the James A. Perkins Professor of Environmental Studies at Cornell University, Ithaca, New York. Dr. Rodriguez created a new discipline of science called zoopharmacognosy, the study of the behavior of animals that medicate themselves and of the chemistry of medicinal plants. He and Richard Wrangham of Harvard University discovered that wild animals use plants as medicine. He and his research

team have isolated the chemicals from many native plants that are useful as medicines. Dr. Rodriguez travels throughout the world looking for natural chemicals produced by plants and animals. He tries to discover how these chemicals work, why they are made by the organism, and how we can apply them, particularly in medicines and pesticides. In 1990 he began the Kids Investigating and Discovering Science (K.I.D.S.) program, which brings minority students from Kindergarten through eighth grades into the research laboratories at University of California Irvine to discover the excitement that comes from exploring the natural and physical world. He continues his research and work with minority students at Cornell University.

CUNY STUDENTS, FACULTY TOUR BNL

Reprinted with permission from Brookhaven National Lab Bulletin Volume 58-No.6



Visitors learn about research, meet scientists through Louis Stokes Alliance for Minority Participation

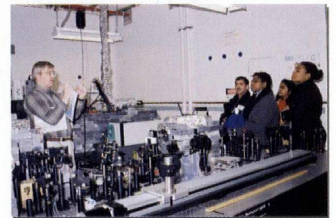


Established in 1947, Brookhaven is a multi-program national laboratory operated by Brookhaven Science Associates for the U.S. Department of Energy (DOE). Six Nobel Prizes have been awarded for discoveries made at the Lab. Brookhaven employs 3,000 scientists, engineers, technicians and support, staff and over 4,000 guest researchers visit annually. Brookhaven is located on Long Island, in Upton, New York.



Thirty-one students and faculty from City University of New York (CUNY) colleges recently toured BNL, discovering not only the wide-open spaces of the Upton campus, but, more important, the large variety of research performed at the Laboratory. The students are part of a program called the NYC Louis Stokes Alliance for Minority Participation in Science, Mathematics, Engineering and Technology (LSAMP). The alliance aims at substantially increasing the number of underrepresented minority students who pursue and graduate with bachelor's degrees in science, technology, engineering and mathematics. Office of Educational Programs' (OEP) Noel Blackburn (second row, far right), initiated and planned the tour with NYC LSAMP Project Administrator Claude Brathwaite (second row, third from right). The group visited the National Synchrotron Light Source, the Tandem Van de Graaff Accelerator, the Laser Electron Facility, and the Medical Animal Research Facility. Afterwards, at a luncheon attended

by the CUNY students and faculty and BNLers involved in the program, Peter Paul (center, front row), Deputy Director for Science and Technology, spoke on "Past, Present & Future at BNL;" Derek Lowenstein (second row, center), Chair of Collider-Accelerator (C-A) Department, discussed "Opportunities at C-A;" Ken White (first row, far left), Interim Manager, OEP, spoke about "DOE/BNL College Students' Programs;" and Marge Lynch (center, front row), Associate Laboratory Director for Community, Education, Government & Public Affairs, gave closing remarks. - Diane Greenberg.



For more information contact: Noel D. Blackburn, Educational Programs Administrator • Brookhaven National Laboratory • Science Education Center - Bldg 438 • P.O. Box 5000 • Upton, NY 11973-5000 • Phone: 631-344-2890 • Fax: 631-344-5832 • E-mail: blackburn@bnl.gov <http://www.bnl.gov/> • <http://www.bnl.gov/scied/>

BNL Programs

- Science Undergraduate Laboratory Internship (SULI)
- Faculty and Student Teams (FaST)
- Pre-Service Teacher Program (PST)
- Community College Institutes (CCI)



Faculty and Student Teams (FaST)

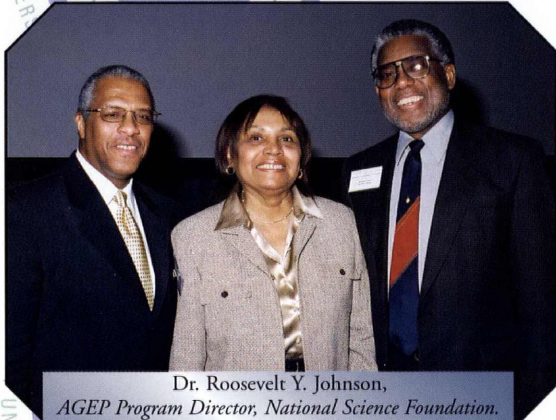
Selected faculty and student participants will be associated with members of the Brookhaven National Laboratory scientific and professional staff in an educational training program developed to give research experience in areas of chemistry, physics, engineering, biology, nuclear medicine, applied mathematics, high and low energy particle accelerators, and science writing.

THE SCIENCE CONTINUUM AT CUNY AND THE NATIONAL SCIENCE FOUNDATION

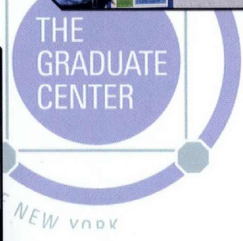
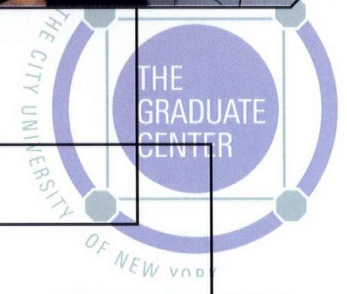
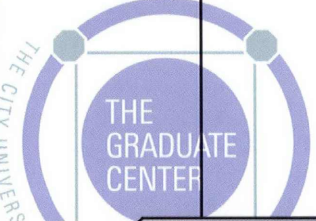
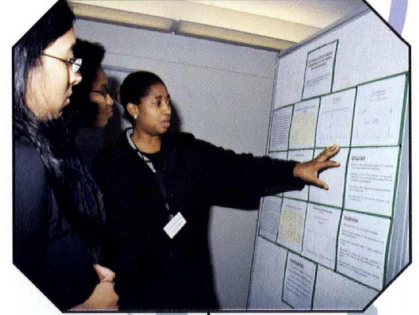
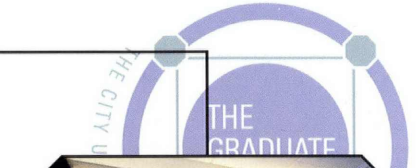
Organized by the Office of Equal Opportunity and Diversity Programs (OEODP) of the CUNY Graduate Center, the CUNY Conference in Science and Engineering brings together minority scholars, staff and faculty of the City University of New York, New Jersey Institute of Technology, Stevens Tech and Brooklyn Polytechnic University. Graduate level programs located at OEODP includes the Alliance for Graduate Education and the Professoriate (AGEP), and the NIH funded Bridges to the Doctorate program. The CUNY Graduate Center is also the location of the National Science Foundation funded Bridge to

the Doctorate Program of the New York City Louis Stokes Alliance. Opportunities at the undergraduate level, includes the CUNY Pipeline Program for Careers in College Teaching and Research, which is sponsored by the Diamond Foundation. It consists of a summer institute at the Graduate School and University Center and a three semester program which prepares students for graduate school.

For more information call 212-817-7540 or email-oeodpmail@gc.cuny.edu



Dr. Roosevelt Y. Johnson,
AGEP Program Director, National Science Foundation.
Dr. Gail Smith
*Acting Associate Provost for Diversity Programs,
The Graduate Center and AGEP Project Director*
Dr. Neville A. Parker
*Herbert G. Kayser Professor of Civil Engineering, City
College and NYC LSAMP Project Director*



Sophia Suarez



Sophia Suarez was born in 1974 in Clarendon, a parish in the island of Jamaica, in the West Indies. In July of 1990 Sophia and her younger brother migrated to the Cayman Islands to join their mother who had been living there for the previous five years. She arrived in New York and settled in Brooklyn, where she has lived for the past twelve years. Two weeks after her arrival in New York she was enrolled in Prospect Park High School in Brooklyn. Upon her graduation from Prospect Park High School in 1992, she received awards in almost every subject taken. At Hunter College she majored in Physics and minored in Mathematics. During her first semester she was approached by a Physics professor, and asked about her

HUNTER
The City University of New York

LSAMP SCHOLAR AND CUNY GRADUATE



plans as an undergraduate. She joined Dr. Greenbaum's group in 1994 and has been a part of the group ever since. In her senior year at Hunter College she shared the Physics department's Gillete Prize for best all around physics major. In 1998 Sophia graduated Magna

Cum Laude with a joint BA/MA degree in Physics and minors in Mathematics and Black and Puerto Rican Studies. She then enrolled in the Graduate School and University Center of CUNY and obtained a doctorate degree in Physics in 2004. Her investigations led her to the Material Science and Technology Division (MST-11) at Los Alamos National Laboratory (LANL) located in Los Alamos, New Mexico and the the Physics department at the US Naval Academy in Annapolis Maryland. She is currently a postdoctoral fellow with The National Research council at the US Naval Research Lab in Washington, D.C.

NUCLEAR MAGNETIC RESONANCE INVESTIGATION OF ION CONDUCTING SYSTEMS FOR USE IN BATTERIES AND FUEL CELLS

Fuel cells are electrochemical devices that convert chemical energy directly into electrical energy and are far more efficient than fossil fuel combustion, the current method used to provide energy. In addition to this, fuel cells provide little or no pollutants, depending upon the type of organic fuel used. Because of this, fuel cells are considered the best alternative to fossil fuel combustion. In general, fuel cells consist of an anode and cathode compartment separated by an electrolyte. In addition to serving as the separator the electrolyte functions as the ion transporter. The efficiency of the fuel cell is dependent upon the rate of ion transport, with the greater efficiency being associated with the higher rate of ion transport. Systems being studied are aqueous acid solutions of varying concentrations and proton conduction membranes containing both nano-size inorganic oxides and aqueous acid solutions. As mentioned previously a high rate of ion transport in electrolytes is necessary for optimum operation of fuel cells, and improving the ion transport rate in electrolytes is therefore a vital part of fuel cell development. One way in which this can be done is by using aqueous acid solutions as part of the electrolyte structure, thereby increasing the number of protons available for ion transport. Another method is the use of inorganic oxides (which will provide the pathway necessary for ion transport) in conjunction with aqueous acid solutions. To investigate the rate of mass and ion transport in such systems, Nuclear Magnetic Resonance Pulse Gradient Spin Echo (NMR PGSE) and AC Impedance Spectroscopy are employed. Coupled with this are the self-diffusion coefficients obtained for both the aqueous acid systems and the proton conduction membranes by the NMR PGSE method.

IN THEIR OWN WORDS:**Silmilly Toribio**

Major: Biochemistry, Junior
Hostos Community College/City College

I was born in the Dominican Republic and finished High School there before enrolling at Hostos Community College. I have completed the Associate degree in Sciences at Hostos, and transferred to City College to complete a

Bachelors degree in Biochemistry. I hope to obtain a Ph.D. degree. I was selected to participate in the 11th Annual Conference of the Florida-Georgia LSAMP in Miami, the Mini-Semester at Brookhaven National Lab, and the Community College Institute (CCI) summer internship at Brookhaven National Lab in 2004. I am also participating in the activities of a community garden where I help local residents understand how natural products can

help to improve their health and prevent some diseases. This experience of working with people from different communities and having the chance to provide them with useful information increased my desire to work as a scientist and a physician. I am also working at Hostos Community College as a Math and Chemistry tutor. I really enjoy the feeling of helping students that are like me, minority students who want a degree to have a better life.

Research Mentor: Dr. Amanda Bernal-Carlo, Hostos Community College

Research Title: Birch Species (*Betula Spp*) In New York City Area And Their Traditional Medicinal Use

In this research project, the taxonomy of this plant is presented including a description of the external and internal morphology emphasizing the features that help in the identification of the species. Some aspects of the ecology were determined by studying specimens of this species in the field and the specific environmental conditions that are required for the survival of that species. This includes such factors as the life span of birch, the physiology of germination, the action of pollinators, population density, main enemies and competitors and their dynamics of growth. The study of the distribution, survival and patterns of growth and reproduction will reveal the plant's adaptation to a particular environmental regime and therefore are critical parts of plant ecology. In order to determine the traditional medicinal applications of birch in the diverse cultures of New York City, a survey was conducted of the local uses of this plant as an effective and simple remedy in common healing practices, and how it is used: tea, syrup, oil, extract, cream and powder.

Isfahan Chambers

Major: Biology, Senior
Medgar Evers College

My story begins in Brooklyn, New York April 29, 1980. I was raised with an older brother and two younger boy cousins. When I was younger I always loved the sciences but was mainly intrigued by geology and archaeology. I was accepted into Robert F. Kennedy Incentive Program as a grade-school student. There I was exposed to Biology, which I

have grown to love. I moved on to Bishop Loughlin Memorial High in 1994 and involved myself in many activities such as the School Newspaper, the National Honor Society, Band, the Mentoring Society, and Volleyball. In 1998, I graduated and was awarded the Lincoln University scholarship, which I accepted. In 2000 I moved back to New York City and enrolled in Medgar Evers College. Throughout my college years I've mentored children at a school located in the Bedford-Stuyvesant section of Brooklyn and was awarded the Tutor of

the Year award in 2001 and the Americorps Mentoring scholarship. I am also a member of the Medgar Evers College C-STEP program, an executive member of the Medgar Evers College Science Association and was awarded the Thurgood Marshall Scholarship. This is my final year of college and I am applying to five different graduate schools with hopes of obtaining my Ph.D. in Molecular Biology or Pharmacology.

Research Mentor: Dr. Wilbert Hope, Medgar Evers College

Research Title: Urban Air Monitoring For Counter-Terrorism Surveillance: Investigating Nitrite as an Indicator of Nitro-Explosives

Indoor nitrous acid measurements have been reported at ranges between 5% and 15% of NO₂ concentrations. Nitrous acid may be formed in the gas phase, and by heterogeneous hydrolysis of nitrogen dioxide. Nitro-explosives are sources of nitrogen dioxide and may contribute to nitrite levels in aqueous medium. We have adapted the 2,4-dinitrophenylhydrazine - HPLC method used to determine nitrite in natural water for the determination of nitrite in indoor air and used this method as a counter-terrorism surveillance mechanism monitoring the air for nitro-explosives. Our results have shown that with the presence of nitro-explosives in the air, the concentration of nitrite present is at least 2 to 3 times greater when the temperature is raised to 800C. Utilizing the first-rate law and Arrhenius equation, our results have shown that 800C represents 2,4 DNT degradation for 24 hours and 400C represents 12 hours of degradation.

UPCOMING CONFERENCES

Saturday, April 17, 2004 at The City College

"NANO-Day in New York" An all-day, city wide, science and engineering extravaganza designed to increase high school students' awareness of nanoscience and nanotechnology and the important role these disciplines will play in the future of our global society. For more information about nano day in new york, please call 212-650-8040.

Friday, April 23, 2004 hosted by Lehman

College The New York City Louis Stokes Alliance for Minority Participation in Science (NYC LSAMP) will be holding its *7th Annual Urban University Conference*, **"Models for Success in the 21st Century"** on Friday April 23rd, 2004 at Lehman College of the City University of New York. **For more information and to register, visit us at: <http://nyc-amp.cuny.edu> or call 212-650-8854**

Friday, April 30th, 2004 at The Center for Inclusive Education at Stony Brook

University A Gathering of Science Scholars; Access for Underrepresented Students in the Biological, Engineering, and Applied Sciences. A regional conference that highlights the research accomplishments of underrepresented students in science, both undergraduate and graduate, as well as the success of the myriad of diversity programs that promote their academic achievements and encourage the pursuit of a career in the professoriate. **For more information and to register please call (631) 632-1387 or visit us at: <http://www.stonybrook.edu/agep/>**

Friday, July 30, 2004 at the Stevens Institute of Technology

Nationwide Projecto Access **NASA Day 2004 "The Science of Flight"** **For more information contact:** Frank Scalzo, Ph.D., Education Programs Specialist NASA GSFC @ GISS, Room 788, 2880 Broadway at 112th Street New York, NY 10025 • 212-678-6038 (voice) 212-678-5622 (fax) • Frank.Scalzo-1@nasa.gov



New York City Louis Stokes Alliance
The City College of New York
Convent Avenue & 138th Street
Marshak • J14
New York, NY 10031