NIGMS MINORITY PROGRAMS
UPDATE
NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES • FALL 2003

INSIDE THIS ISSUE



Jeanita S. Pritchett, an undergraduate student at Tennessee State University in Nashville, spent the summer working at a lab at the National Institute on Aging in Baltimore, MD. Pritchett was one of many NIGMS minority program participants who spent the summer performing research internships away from their home institutions. For more on summer internships, see the new, expanded online version of the *Minority Programs Update* at http://www.nigms.nih.gov/news/mpufall03.

## JEREMY M. BERG NAMED

# *NIGMS Director*

BY ANN DIEFFENBACH, NIGMS

**NIH Director Dr. Elias A. Zerhouni has appointed Dr. Jeremy M. Berg as the new director of NIGMS.** Berg comes to NIGMS from The Johns Hopkins School of Medicine in Baltimore, MD, where he was director of the Institute for Basic Biomedical Sciences and professor and director of the Department of Biophysics and Biophysical Chemistry. He was also director of the Markey Center for Macromolecular Structure and Function and co-director of the W.M. Keck Center for the Rational Design of Biologically Active Molecules, both of which are at Johns Hopkins.

"Dr. Berg is one of the nation's most distinguished basic scientists," Health and Human Services Secretary Tommy G. Thompson said. "He has the strong scientific skills and vision to keep the Institute's research and training at the cutting edge of established and promising new areas of science."

"Dr. Berg is an outstanding scientist whose skills are ideal for leading the NIH component that supports basic biomedical research," added Zerhouni. "Over the past few years, NIGMS has recognized the new directions in which science is moving and has created innovative programs in collaborative research, structural genomics, pharmacogenetics, and complex biological systems. These and other NIGMS activities recognize the increasingly interdisciplinary nature of research today and truly feed the spring of science."

Berg will begin his appointment as NIGMS director in early November. He will replace Dr. Judith H. Greenberg, who became acting director of NIGMS in May 2002 following the departure of Dr. Marvin Cassman. Cassman had led the Institute since 1993.

As NIGMS director, Berg will oversee a $1.8 billion budget that funds basic research in the areas of cell biology, biophysics, genetics, developmental biology, pharmacology, physiology, biological chemistry, bioinformatics, and computational biology. NIGMS currently supports more than 4,500 research grants—about 10 percent of the grants funded by NIH as a whole. NIGMS also supports a substantial number of research training programs and takes a leading role at NIH in research and research training activities targeted to underrepresented minorities.

"I am especially delighted to lead NIGMS at this exciting time in biomedical research," Berg said. "NIGMS just commemorated its 40th anniversary with the theme of 'molecules to medicines,' a most fitting description of the

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U.S. DEPARTMENT OF
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Institute's role in providing the foundation for medical advances. I look forward to the challenges that lie ahead in developing programs that take advantage of new opportunities in science and that respond to the changing needs of the scientific community."

Berg's research focuses on the structural and functional roles that metal ions, especially zinc, have in proteins. He has made major contributions to understanding how zinc-containing proteins bind to the genetic material DNA or RNA and regulate gene activity. His work, and that of others in the field, has led to the design of metal-containing proteins that control the activity of specific genes. These tailored proteins are valuable tools for basic research on gene function, and such proteins could one day have medical applications in regulating genes involved in diseases, as well. Berg has also made contributions to our understanding of systems that target proteins to specific compartments within cells and to the use of sequence databases for predicting aspects of protein structure and function.

Berg had been a faculty member at Johns Hopkins since 1986. Immediately before his faculty appointment, he was a postdoctoral fellow in biophysics at Hopkins. He received B.S. and M.S. degrees in chemistry from Stanford University in 1980 and a Ph.D. in chemistry from Harvard University in 1985.

Berg is a coauthor of more than 100 research papers and three textbooks, *Principles of Bioinorganic Chemistry, Biochemistry (5th Edition)*, and *A Clinical Companion to Accompany Biochemistry.* He also serves on the editorial boards of the journals *Proteins: Structure, Function, and Genetics; Chemistry and Biology;* and *Current Opinion in Chemical Biology.*

His honors include a Presidential Young Investigator Award (1988–1993), the American Chemical Society Award in Pure Chemistry (1993), the Eli Lilly Award for Fundamental Research in Biological Chemistry (1995), and the Maryland Outstanding Young Scientist of the Year (1995). He has also received teaching awards from both medical students and graduate students and has served as an advisor to the Johns Hopkins Postdoctoral Association since its founding.

NIGMS has supported Berg's research since 1986. ●


## New Science Education Booklet Available

NIGMS recently published a new science education booklet about pharmacology titled *Medicines By Design.* This booklet explains how scientists unravel the many different ways medicines work in the body and how this information guides the hunt for drugs of the future. *Medicines By Design* describes the science of pharmacology, discusses how drugs work in the body, and presents some of the latest research developments in the field. Free copies of the booklet can be requested by contacting:

*Office of Communications*
*and Public Liaison, NIGMS*
*Room 3AN.32*
*45 Center Drive MSC 6200*
*Bethesda, MD 20892-6200*

*301-496-7301*
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## NIGMS Minority Program Participant Becomes University President

BY SUSAN ATHEY, NIGMS

**Firsts are definitely cause for celebration—first birthday, first job, first home. At NIGMS, there's another "first" to observe—for the first time, a former participant in one of the Institute's minority programs has become a university president.**

Dr. LaVerne Ragster, who participated in NIGMS' Minority Biomedical Research Support (MBRS) program as a graduate student at San Diego State University, was inaugurated president of the University of the Virgin Islands (UVI) in March.

Ragster's inauguration capped a week-long celebration at UVI that included receptions for students, alumni, faculty, and staff; displays of Virgin Islands artwork; a public forum; and a faculty colloquium. In her inaugural address, Ragster emphasized the importance of partnerships and their role in developing UVI's academic and research programs.

"Every success story at UVI involves people working together and being positive about what can be gained…through our academic programs, research, and community outreach efforts," Ragster said.

**"Because of the MBRS program, I was able to focus on learning and being a graduate student."**
**—Dr. LaVerne Ragster**

MBRS has been a staple of UVI's research program since Ragster directed the first grant there in 1985. The program assists underrepresented minority students pursuing biomedical science careers by providing them with research opportunities and mentors. MBRS also supports faculty research and helps institutions to strengthen their biomedical research capacities.

A native of the U.S. Virgin Islands, Ragster started her college education at the University of Miami, where she earned a bachelor's degree in biology and chemistry in 1973. She went on to earn a master's degree in biology at San Diego State University in 1975 and a Ph.D. in biology at the University of California, San Diego, in 1980. Ragster then joined the teaching faculty at UVI, where she rose to the rank of professor of marine biology and chair of the Division of Science and Mathematics. Her most recent post before her selection as president was that of senior vice president and provost.

Dr. LaVerne Ragster delivers her inaugural address to a crowd of students, alumni, faculty, and staff. Thousands more throughout the Virgin Islands watched the inauguration live on public television.

"Dr. Ragster is a great success story for the MBRS program," said Dr. Clifton Poodry, director of the NIGMS Division of Minority Opportunities in Research (MORE), home of the MBRS program.

"She is a notable example of how NIGMS' programs to increase the number and capabilities of minority biomedical scientists are bearing fruit. Like so many former program participants, Dr. Ragster is fulfilling her own promise while continuing to serve the minority community." ●

## NIH Participates in Hispanic/Latino Community Consultation Meeting

BY SUSAN ATHEY, NIGMS

**This past June, representatives from NIH and other Federal agencies joined 75 opinion leaders and experts from Hispanic/Latino communities across the United States to explore a range of issues related to human genetic research and their significance to Hispanic/Latino populations.** Considered a groundbreaking conference, the "Hispanic/Latino Genetics Community Consultation Network (HLGCCN) Summit," was a direct outgrowth of a meeting organized by NIGMS in September 2000 at which NIH solicited input on genetic research from diverse communities. At that meeting, members of the Hispanic/Latino community expressed interest in hosting their own community consultation meeting.

Left: Dr. Judith H. Greenberg, acting director of NIGMS, told meeting participants about the Institute's commitment to biomedical research training programs, particularly those designed to increase the number of underrepresented minority researchers.

Right: NHGRI Director Dr. Francis S. Collins explained the importance of a greater understanding of genetics issues as they apply to Hispanic/Latino communities. "The genome is our shared inheritance and, as we study it, it should benefit all of us," he said.

In addition to the participants who gathered at the 2-day summit in Washington, DC, a larger group of Hispanics and Latinos across the country played a role by completing pre-meeting surveys to help identify key topics for discussion.

During the meeting, participants drafted action plans to address matters ranging from engaging Hispanics and Latinos in genetic research to overcoming cultural barriers to the effective use of existing health care services.

Meeting attendees participated in breakout sessions to address specific issues in genetic research.

The meeting was coordinated by *Redes En Acción* (Networks in Action), a special populations network of the National Cancer Institute (NCI) and Baylor College of Medicine in Houston, Texas. In addition to NCI, NIGMS and the National Human Genome Research Institute (NHGRI) sponsored the meeting. Several top NIH officials participated in the summit, including NIH Deputy Director Dr. Raynard S. Kington, NCI Director Dr. Andrew C. von Eschenbach, NHGRI Director Dr. Francis S. Collins, and Acting NIGMS Director Dr. Judith H. Greenberg.

Kington acknowledged that, despite tremendous improvements in health in the United States during the past century, large health disparities remain across subpopulations.

"Communities of color must not simply watch and complain, but [must] be active partners with scientific communities through such activities as this summit," he said.

von Eschenbach echoed the need for Hispanics and Latinos to be active collaborators in ongoing research.

"I need you—your advice, your guidance, your leadership, your contributions—as well as heavy lifting to raise the opportunities for research," he said.

"We will do everything possible to maintain the summit's momentum," said Dr. Amelie G. Ramirez, associate professor of medicine at Baylor College of Medicine and principal investigator of *Redes En Acción* and the HLGCCN.

"We expect to achieve this through dissemination of reports on the proceedings, personal contact with decision makers, and…future regional community consultation meetings," Ramirez said.

"Latinos want to be part of the solutions and also to benefit from these scientific discoveries, today and for our future generations," she added.

Greenberg pledged NIGMS' support to this effort.

"The one thing I can promise you is that this will not be the last meeting like this. We are committed to follow-up," she said. ●

## NIH Resources for Grant Applicants

BY DERRICK C. TABOR, PH.D., NIGMS

**Most biomedical scientists know that NIH offers a wealth of funding opportunities. But fewer may be aware of grant-related resources that are available to them just the push of a button or a phone call away. Three of these resources are described below.**

### The NIH Program Director

Program directors are scientists with a strong interest in research and training who are responsible for administering funded grants and cooperative agreements. In addition to helping you determine whether a given funding opportunity is appropriate for you or your institution, program directors can inform you of research and training areas of current interest to NIH and refer you to other sources of assistance. Every NIH funding announcement includes the name of a program director to contact for further information. In addition, you can typically find program directors within an NIH institute or center by searching the organization's Web site. For example, the program directors in the MORE Division can be found at http://www.nigms.nih.gov/nigms_staff/staff_ol.html#E. They can also be reached by phone at 301-594-3900. The MORE Division is a leader in developing programs aimed at increasing the number of minority biomedical and behavioral research scientists.

### Computer Retrieval of Information on Scientific Projects (CRISP) Database

CRISP (http://crisp.cit.nih.gov) is a database containing abstracts from over 2 million biomedical research projects and programs supported since 1972 by NIH's parent organization, the Department of Health and Human Services. CRISP is valuable because it can assist you in answering a range of questions. For example, if you want to locate an NIH-funded research laboratory where a student might do an internship, start by searching for research projects in the student's field of interest. If you are interested in knowing if NIH has recently funded or currently funds research in a specific discipline or area, finding the answer can be as easy as entering search terms or a search phrase in CRISP. Are you looking for a collaborator in your institution or state or in a neighboring institution or state? You can search CRISP for funded grants in your geographic or research areas. The key to searching effectively is to take time to learn some advanced search strategies and to experiment by using different search fields.

### NIH Guide for Grants and Contracts

The *NIH Guide for Grants and Contracts* (http://grants1.nih.gov/grants/guide/) is the official publication of NIH grant policies, procedures, and funding opportunities. There are three types of funding announcements in the *NIH Guide*:

- Program Announcements—announce increased priority and/or particular funding mechanisms for specific areas of science;
- Requests for Applications—identify more narrowly defined areas for which one or more NIH institutes have set aside funds; and,
- Requests for Proposals—solicit contract proposals.

The key to effectively searching the *NIH Guide* is to use the "Search Help" provided on the site (http://search.info. nih.gov/help.html). Searching a specific and recent time period increases your chances of accessing only active announcements. Experimenting with the different operators described in "Search Help" may increase the success of your search. ●

# Profile DR. ROBERTO FRONTERA-SUAU

*This section profiles former MORE participants who have excelled in their fields. We hope that the profiles will give students an idea of the types of careers available with science degrees and the paths others have taken to achieve those careers.*

## Love of Science and Teaching Developed by MORE

BY JILLIENE MITCHELL, NIGMS

Dr. Roberto Frontera-Suau showed an interest in science at an early age.

"As a child I was always the curious one," he said, "poking my head everywhere and asking questions about nature and my surroundings."

Frontera-Suau thought he would one day become a veterinarian or a medical doctor. And although he always liked science, it wasn't until the first semester of his sophomore year at the University of Puerto Rico, Mayaguez, that he truly fell in love with it.

It was then that Frontera-Suau met Dr. Alejandro Ruiz, whom he considers his first science mentor. Frontera-Suau challenged himself by taking three of Ruiz's classes in addition to working as an assistant in his lab.

"By the end of that semester I was exhausted, but I was also hooked on science, research, and teaching," he said.

Frontera-Suau went on to earn a bachelor's degree in industrial microbiology from the university in 1988 followed by a master's degree in microbiology from the University of Puerto Rico, Medical Sciences Campus in 1991. After a 3-year stint at a pharmaceutical research company, he returned to school at the Medical University of South Carolina in Charleston, where he earned a Ph.D. in microbiology in 2000.

Frontera-Suau attributes much of his success to two NIGMS minority programs: Minority Access to Research Careers (MARC) and the Institutional Research and Academic Career Development Award (IRACDA). Both served as valuable resources by providing Frontera-Suau with the right tools to nurture his research career.

During graduate school, the MARC program provided Frontera-Suau with an annual stipend, tuition assistance, and other training-related expenses. In addition, the program gave him the opportunity to present his work at national scientific conferences for the first time.

"This definitely opened my horizons and helped me realize that there was a whole world out there in which I was able to compete," Frontera-Suau said.

During his postdoctoral fellowship at the University of North Carolina, Chapel Hill, the IRACDA program helped him prepare for a career in teaching as well as research (see sidebar). Frontera-Suau said the program was the "answer to my prayers," enabling him to meet people who shared similar interests.

"This to me was very valuable at the time, and the ties that formed then continue to have great value now," he remarked.

For Frontera-Suau, who is now an assistant professor of biology at Elizabeth City State University in North Carolina, science offers many rewards and fulfillments, one of which is feeling a sense of creativity from his research.

"As a microbiologist, working with living organisms has the thrill of the unexpected—and when things don't work out as planned, you have the fun task of finding out why. If you are good, the answer to one question should only bring new questions to the surface," he explained.

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**The IRACDA program encourages scientists to combine research and teaching. The program joins a traditional mentored postdoctoral research experience with an opportunity to develop teaching skills through mentored assignments at a minority-serving institution. The goals of the program are to provide a resource to motivate the next generation of scientists at minority-serving institutions, and to promote linkages between research-intensive institutions and minority-serving institutions that can lead to further research and teaching collaborations.**

**For more on the program, see http://www.nigms.nih.gov/funding/trngmech.html#m.**

**RESEARCH HIGHLIGHT**

# *Not Just for Grilling: Mesquite May Help Clean the Environment*

BY KIRSTIE SALTSMAN, PH.D.

**Think mesquite is just a type of charcoal? Think again. It also may help remove toxic waste from the environment.**

A research team led by Dr. Jorge Gardea-Torresdey, an MBRS-supported investigator at the University of Texas at El Paso, has shown that the mesquite tree—the wood of which is used for charcoal—may help remove chromium from industrial waste sites. Chromium is a known carcinogen.

Gardea-Torresdey's group found that mesquite seedlings take in huge amounts of chromium and convert the metal into a harmless form. They also found that this chemical transformation occurs primarily in the roots of the plant, suggesting that the toxic form of chromium is unlikely to harm animals that feed on the tree's leaves.

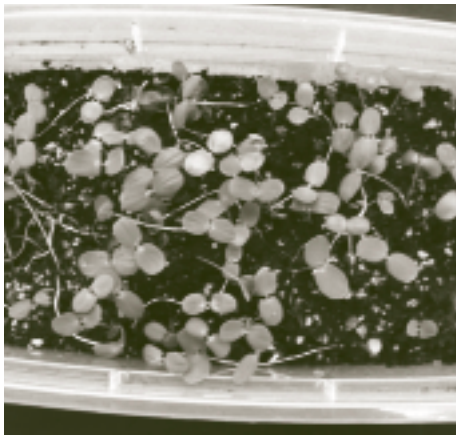
The researchers reported their findings in the May 1, 2003, issue of *Environmental Science and Technology.*

Chromium-contaminated water and soil result from a number of industries, such as stainless steel welding, chrome plating, chrome pigment manufacturing, tanning, and a variety of mining activities. The metal is a significant environmental problem and has been found in half of the Environmental Protection Agency's Superfund sites, which are chemical waste sites designated as being among the most hazardous in the country.

The biggest health risk comes from inhaling chromium-containing dust, which increases the risk of lung cancer. One study showed that nearly a quarter of workers employed at a chromate-production plant in Ohio during the 1930s died of lung cancer—a death rate that was more than 200 times the death rate from lung cancer in the general population.

The public health concerns are greatest in Southwestern states. Not only are mining activities common in these states, but the arid conditions make it likely that contaminated dust will be blown into populated areas.

Using green plants to remove chromium or other toxic waste, a practice known as phytoremediation, is an attractive alternative to conventional cleanup methods because it is comparatively inexpensive and environmentally friendly. Desert plants, in particular, are good candidates for phytoremediation. They are accustomed to harsh environmental conditions, so they are more likely to survive in a toxic waste site than their more frail cousins. Because the hardy mesquite tree grows in desert areas where chromium contamination is problematic, it is an ideal choice for this application.



The researchers grew mesquite seedlings for 26 days in chromium-containing solutions. They found that the plants absorbed an astonishing 1 percent of their weight in chromium. The next step is to see if mesquite behaves as well when grown in soil.

Gardea-Torresdey's work has been praised by environmental groups and was selected as one of the best technological solutions of the year by the editors of *Environmental Science and Technology.* Gardea-Torresdey presented his work in July 2003 as a keynote speaker at the International Union of Pure and Applied Chemistry conference in Gaborone, Botswana. At this conference, African scientists exchanged information with one another and with scientists from around the world. Phytoremediation technologies hold much promise in Africa, where cost is often a limiting factor, says Gardea-Torresdey.

Gardea-Torresdey is now trying to identify the compounds within the mesquite plant that are responsible for absorbing and detoxifying chromium. A better understanding of the process involving these compounds may lead to genetically engineered plants that are more effective at cleaning the environment. ●

*Reference: Aldrich MV, Gardea-Torresdey JL, Peralta-Videa JR, Parsons JG. Uptake and reduction of Cr(VI) to Cr(III) by mesquite (Prosopis ssp.): chromate-plant interaction in hydroponics and solid media studied using XAS.* ***Environ Sci Technol*** *2003;37:1859–64.*

## FROM THE MORE DIRECTOR

# *The Value of Questions*

BY CLIFTON POODRY, PH.D., NIGMS

**Asking questions is a hallmark of science. In fact, we often tell students there are no bad or stupid questions. While that might be true in the classroom, does it apply in the research lab?** I suppose a great deal depends on whether questions are being asked of nature or asked of a person, such as me the teacher. When a student asks me a question, I read between the lines to interpret his or her level of understanding from the phrasing of the question. I try to infer what the student is trying to understand. Any question can be of value if I can understand the question and provide a useful answer to the student.

I saw a simple study posted on a Web site addressing whether the aphorism "Ask a silly question and you will get a silly answer" is correct. The results were that people generally give serious answers to silly questions. Nature was never so easy to me as to give me a serious answer to a silly question.

Isn't the development of a scientist really the development and refinement of the ability to ask questions? What do we mean when we say that a scientist has good taste and judgment? How does a student develop these qualities and learn to judge which questions are important, which are timely, and which are approachable? How do students learn to anticipate the various possible answers to a question and then determine which will be interesting, which will merely be consistent with preconceptions, and which will force a new way of thinking?

How are our scientific values and behaviors shaped? When do we learn to hold parsimony in high esteem? When do we develop a respect for elegance and how do we learn to recognize it? For me, and I assume for many of us, there was no course, no didactic activity to teach the ways of science. We learned by emulating those around us—advisors, senior graduate students and postdocs, colleagues, and visitors. The question is whether this teaching mechanism is a conscious effort—a specific pedagogy—used by the research advisor. To me, it seems a little hit or miss.

How does our understanding the acquisition of good questioning skills inform our ideas about student training programs? What are the lessons for training and, in particular, what are the lessons for activities intended to develop competitively trained underrepresented minorities? Are all active research labs good sites for the development of minority students? Should student training be limited to active research labs? Within a program is there a group ethic, a standard of care if you will, regarding how the nature of research and the requisite skills are imparted to students? Or is the development of the next generation of diverse scientists left to individuals?

As always, I would appreciate your comments and feedback. ●

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# NEWS *and Notes*

• **Dr. LaShawn R. Drew** recently joined NIGMS as a program director in the MARC Branch. Prior to her appointment with NIGMS, she served as the director of the NIH Academy and was an adjunct professor of biology at the University of Maryland, University College.

Drew earned a bachelor's degree in natural science with a concentration in chemistry in 1991 from Spelman College in Atlanta, GA. She went on to earn a Ph.D. in biology in 1998 from Howard University in Washington, DC, where she participated in the MBRS program as a research associate. Her postdoctoral research was conducted in the Molecular and Clinical Hematology Branch of the National Institute of Diabetes and Digestive and Kidney Diseases, NIH.

Drew is a member of several professional societies, including the American Society of Hematology and the Association for Women in Science.

• Two NIGMS minority program directors were among the most recent recipients of the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring. The annual awards recognize influential institutions and individuals who have been leaders in encouraging minorities, women, and disabled persons to pursue careers in science, math, and engineering.

The recipients included **Dr. R. David Bynum**, an associate professor of biochemistry and cell biology at Stony Brook University, State University of New York; and **Sara L. Young**, director of the American Indian Research Opportunities (AIRO) program at Montana State University-Bozeman.

Bynum directs the MARC program at Stony Brook University. He is credited with mentoring undergraduate students and laying a path for community college students to study molecular biology.

Young directs the Initiative for Minority Student Development program at Montana State University. The Initiative is a component of Montana State's AIRO program, a consortium of Montana's seven tribal colleges that provides opportunities to Native American students studying science, math, and engineering.

Another individual associated with NIGMS' minority programs, **Dr. Steven G. Greenbaum** of the City University of New York, Hunter College, also received the award. Greenbaum, a physics professor and a subproject investigator on NIGMS' Support of Continuous Research Excellence grant, was recognized for mentoring students who have become major figures in industry, academia, and research.

The three were among 10 individuals and 6 institutions that received the awards during ceremonies at the White House in March. The awards, established by the White House Office of Science and Technology Policy and administered through the National Science Foundation, consist of a $10,000 grant and a commemorative Presidential certificate.

• **Dr. Glenn D. Kuehn**, director of the MBRS and Bridges to the Baccalaureate programs at New Mexico State University, Las Cruces, received the university's Racial Harmony Award in January. This is the second time Kuehn has received the award, which is presented annually to a university employee who has promoted racial harmony and been supportive of students. Kuehn, a professor of chemistry and biochemistry, is credited with mentoring 53 minority students, 42 of whom have gone on to graduate or medical school.

• **Dr. Marquita M. Qualls**, a former participant in MARC programs at two institutions, became president of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers in July. Qualls was a MARC trainee at Tennessee State University in Nashville, where she received a bachelor's degree in chemistry in 1994. She went on to become a MARC predoctoral fellow at Purdue University in West Lafayette, IN, where she received a Ph.D. in bioorganic chemistry in 2001. She is currently a pharmaceutical researcher at GlaxoSmithKline.

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• **Dr. Laura J. Robles**, the MBRS program director at California State University, Dominguez Hills (CSUDH), received a 2003 National Role Model Mentoring Award. The award was presented by Minority Access, Inc., a nonprofit educational organization that assists Federal agencies, universities, and corporations to improve their recruitment, retention, and training of minority researchers. Robles, a professor of biology at CSUDH, was cited for mentoring minority students at the university for the past 28 years. She received the award during a ceremony at the National Role Models Conference in Washington, DC, in September.

• In recent months, we have received word about the following student participants in NIGMS minority programs. • **Brian Carr**, a former MBRS program participant at the University of Southern Colorado (USC) in Pueblo, earned a Ph.D. in pharmacology and toxicology from the University of Utah in Salt Lake City in December 2002 and is currently employed as a research scientist at Merck & Co., Inc. • **Anthony Chambers**, a former MARC undergraduate student at Hampton University in Virginia, defended his dissertation in June and expects to receive a Ph.D. in clinical psychology from the University of Virginia in Charlottesville next spring. Chambers is currently a clinical fellow in psychology at Harvard Medical School/Massachusetts General Hospital in Boston, where he is participating in a program that integrates clinical work with research. • **Larry J. Dishaw**, a former MBRS participant at Florida International University (FIU) in Miami Shores, earned a Ph.D. in biology from the university in December 2002 and is now a postdoctoral fellow at the University of Miami. • **Janette Garcia**, a former MARC undergraduate student at FIU, is currently attending pharmacy school at the University of Florida in Gainesville. • **Paul Hoover**, a former MARC undergraduate student at the University of Arizona, Tucson, spent this past year as a research fellow with the NIH Academy, where he performed research for the National Cancer Institute. He will enter the M.D.-Ph.D. program at Stanford University in California this fall. • **Celeste Lopez**, a former MARC student at the University of Arizona, spent the past year conducting research in Peru and recently entered the M.D. program at Harvard Medical School in Boston, MA. • **Laisel Martinez**, a former MARC undergraduate student at FIU, is currently pursuing a Ph.D. in biology at the university, where she participates in the MBRS program. • **Tori Matthews**, a former MARC undergraduate student at the University of Arizona, will enter NIGMS' Medical Scientist Training Program for training leading to the combined M.D.-Ph.D. at the University of Alabama at Birmingham this fall. • **Brandi Mattson**, a former MBRS participant at USC, earned a Ph.D. in neuroscience from Rutgers, The State University of New Jersey in Newark. She is currently a postdoctoral fellow at the National Institute on Drug Abuse, NIH. • **Lida Oum**, a former MBRS program participant at CSUDH, is currently pursuing a Ph.D. in chemistry at New York University. • **Gerardo Perez**, a former MBRS program participant at San Diego State University, entered the University of California, San Diego/San Diego State University Joint Doctoral Program in biological sciences this fall. • **Armando Salazar**, a former MARC undergraduate student at FIU, is currently pursuing a D.M.D. at Harvard University. • **Orlantha Whitehair**, a former MARC undergraduate at the University of Arizona, recently entered medical school at the University of Arizona College of Medicine. • **Sergio Wong**, a former MBRS program participant at FIU, is currently pursuing a doctoral degree in biophysics at the University of California, San Francisco. •

## Attention All Readers

**Be sure to check out the expanded online version of the *Minority Programs Update*. There you will find additional news about MORE activities and participants including student presentations, recent graduates, and upcoming meetings.**

**http://www.nigms.nih.gov/news/mpu.html**

***We are always interested in hearing about NIGMS minority program faculty, alumni, and students.***
*Photographs of your students, research labs, and activities are also welcomed and encouraged.*
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## RECENT *Awards and Fellowships*

**PREDOCTORAL FELLOWSHIPS FOR MINORITY STUDENTS**
*(listed by fellow and graduate institution)*

Lucia L. Cardenas Pawloski
University of Georgia, Athens

Lisa Chang
University of Pennsylvania, Philadelphia

Kathleen A. Galindo
The University of Texas Southwestern Medical Center at Dallas

Oluwatosin A. Gisanrin
The Johns Hopkins University, Baltimore, MD

Michelle S. Navarro
City of Hope National Medical Center, Duarte, CA

Octavia M. Peck
Medical University of South Carolina, Charleston

Kelie M. Reece
Vanderbilt University, Nashville, TN

Priscilla T. Reyes
Purdue University, West Lafayette, IN

Fatima R. Rivas
University of California, San Diego

Leslie A. Rivera
The Johns Hopkins University, Baltimore, MD

Brenda M. Rivera-Reyes
Case Western Reserve University, Cleveland, OH

Brenda L. Soto-Bonilla
University of Wisconsin, Madison

Calad Stacia
University of California, Irvine

Anna L. Wilkins
Georgia State University, Atlanta

**BRIDGES TO THE FUTURE AWARDS**
*(listed by institution and principal investigator)*

**Bridges to the Baccalaureate**

University of Wisconsin, Milwaukee
John A. Ndon

**Bridges to the Doctorate**

Indiana University-Purdue University, Indianapolis
Hal E. Broxymeyer

Universidad Metropolitana, San Juan, Puerto Rico
Alberto Rivera-Rentas

University of Illinois, Chicago
Mi J. Kim

University of Minnesota, Twin Cities
Colin R. Campbell

**MBRS IMSD AWARD**
*(listed by institution and principal investigator)*

University of Colorado, Boulder
Robert E. Boswell

**MBRS RISE AWARDS**
*(listed by institution and principal investigator)*

Brooklyn College, NY
Louise Hainline

Heritage College, Toppenish, WA
James W. Falco

Jackson State University, Jackson, MS
Mark G. Hardy

**MBRS SCORE AWARD**
*(listed by institution and principal investigator)*

University of the Virgin Islands, St. Thomas
Henry H. Smith

**INSTITUTIONAL RESEARCH AND ACADEMIC CAREER DEVELOPMENT AWARDS**
*(listed by institution and principal investigator)*

University of California, San Diego
Laurence Brunton

Vanderbilt University, Nashville, TN
Roger Chaukley

### ACRONYMS USED IN THIS ISSUE

| | |
|---|---|
| AIRO | American Indian Research Opportunities |
| CRISP | Computer Retrieval of Information on Science Projects |
| CSUDH | California State University, Dominguez Hills |
| FIU | Florida International University |
| HLGCCN | Hispanic/Latino Genetics Community Consultation Network |
| IRACDA | Institutional Research and Academic Career Development Award |
| MARC | Minority Access to Research Careers |
| MBRS | Minority Biomedical Research Support |
| MORE | Minority Opportunities in Research |
| NCI | National Cancer Institute |
| NHGRI | National Human Genome Research Institute |
| NIGMS | National Institute of General Medical Sciences |
| NIH | National Institutes of Health |
| USC | University of Southern Colorado |
| UVI | University of the Virgin Islands |

**Profile continued from page 6**

Although Frontera-Suau is confident that he would have become a teacher even if he hadn't participated in MORE's programs, he believes that the two programs encouraged him to pursue his Ph.D. and to teach.

"Without MORE opening my eyes to what was possible, I don't think I would have broken out of my shell," he commented.

Frontera-Suau advises students considering scientific careers to be confident in their career decision.

"It is a hard road to travel and the rewards aren't always what you expect," he explained, "but if you really have that innate curiosity in you and a wish to share it with others, you will get through the worst days with flying colors." ●

***If you know an outstanding former MARC, MBRS, or Bridges participant who has excelled professionally and you would like to nominate that person as a future* Update *profile subject, please let us know. Your suggestions are always welcome.***

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The Division of Minority Opportunities in Research administers research and research training programs aimed at increasing the number of minority biomedical scientists.

Support is available at the undergraduate, graduate, postdoctoral, and faculty levels, as well as for education and research infrastructure improvements.

For more information, see the MORE Division Web site at http://www.nigms.nih.gov/minority.

## WE'D LIKE TO HEAR FROM YOU!

The *NIGMS Minority Programs Update* strives to keep you informed about the news, initiatives, and minority programs at NIGMS and NIH. Please take a minute to let us know how we are doing.

I found the following most interesting or useful:

- ○ News/Feature articles
- ○ Profile
- ○ Research Highlight
- ○ News and Notes
- ○ From the MORE Director
- ○ Recent Awards and Fellowships

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Additional comments/suggestions _____

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○ Please send me more information on NIGMS' minority programs

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**Thank you for your comments!**

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