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NATIVE AMERICAN RESEARCH CENTERS
for Health Program Announced



BY SUSAN ATHEY, NIGMS

NIGMS and the Indian Health Service (IHS) have announced plans to collaborate on a new program designed to promote, develop, and support centers that will link the Native American community with organizations that conduct health research.

The program, Native American Research Centers for Health (NARCH), will pursue this goal by encouraging research on diseases and health conditions of importance to American Indians and Alaskan natives.

The NARCH Program also seeks to develop a cadre of American Indian biomedical and behavioral scientists and health professionals who are able to compete successfully for NIH funding. Another goal is to increase the capacity of both the research-intensive organizations and the Indian organizations to work in partnership to produce competitive research proposals.

In announcing the collaboration, Dr. Clifton Poodry, director of the MORE Division, said, "This is a ground-breaking venture. We will combine the research and training mission of NIGMS with the specific IHS mission to serve the health care needs of the American Indian/Alaskan native community. Most important, we are responding to advice from the community to find ways to include American Indians as researchers, not merely as subjects."

Leo Nolan, assistant to the IHS director, added that the program "will ensure that the American Indian and Alaskan native community will direct and control research on their own behalf. This effort is in direct response to the Administration's initiative to actively seek the Indian community's advice and direction on matters that directly affect them."

The NARCH Program is being developed in response to concerns raised at the American Indian Research Training Needs Meeting held on the NIH campus in August 1999. The meeting, co-sponsored by NIGMS and the IHS, brought NIH scientists and health policy makers together with American

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Scottie Henderson, a graduate student at the University of Washington, Seattle, is a former MARC Program participant who was mentored by Dr. Clifton Poodry, director of the NIGMS Division of Minority Opportunities in Research (MORE). For more on Poodry's mentoring successes, see page 3.

Note from the Editors

We are pleased to introduce a new look for the *NIGMS Minority Programs Update*. While dramatic changes have been made to the design, inside you'll find the same useful information about NIGMS' minority programs and participants.

Let us know what you think—there is a feedback form at the back of this issue that you can use to tell us your likes and dislikes about the new design, offer additional suggestions, or simply submit information about your programs for inclusion in the next issue. Thank you! ◦



For more information on the NARCH Program, contact:
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Indian scientists from around the country to discuss the needs of American Indians with regard to biomedical research training and to develop a plan of action.

The new program, expected to be launched in 2000, will provide funds to support faculty-initiated, scientifically meritorious research projects, including pilot research projects, at NARCH organizations. It will also support projects designed to increase the research skills and numbers of Native American science students. ◦

Norka Ruiz Bravo Named NIGMS Associate Director for Extramural Activities

BY SUSAN ATHEY, NIGMS

Dr. Norka Ruiz Bravo was recently named associate director for extramural activities at NIGMS. In this position, she will manage a \$1.3 billion research and research training grant program in the basic biomedical sciences. She will also advise the NIGMS director on the planning, development, and administration of Institute grant activities.

In announcing the appointment, NIGMS

director Dr. Marvin Cassman said,

“Dr. Ruiz Bravo... brings a wealth of knowledge to the Institute.”

“Dr. Ruiz Bravo is an outstanding scientist-manager who brings a wealth of knowledge to the Institute. Her skills, experience, and personality

make her a perfect fit for this important position.”

Ruiz Bravo came to NIH in 1990 as a scientific review administrator in the NIGMS Office of Scientific Review. In 1992, she became a program director in the NIGMS Division of Genetics and Developmental Biology, leaving in 1997 to become deputy director of the Division of Cancer Biology at the National Cancer Institute. She was named acting director of the Division in 1998. In 1999, Ruiz Bravo rejoined NIGMS as the deputy associate director of the Division of Extramural Activities.

Ruiz Bravo received a bachelor’s degree in biology from Goucher College in Towson, MD, and master’s and doctoral degrees in biology from Yale University in New Haven, CT. Her postdoctoral work was done at the M.D. Anderson Cancer Center at the University of Texas in Houston, where she also served as a research assistant professor and assistant biochemist. Prior to joining NIH, Ruiz Bravo was an assistant professor in the Department of Urology at Baylor College of Medicine in Houston, TX.

Ruiz Bravo has been active in the NIH Staff Training in Extramural Programs Committee, serving as its chair from 1996 to 1997. She is a member of the American Association for the Advancement of Science, the American Society for Cell Biology, and the Society for Developmental Biology. Among her honors is the 1996 NIH Merit Award. ◦

Comments Sought on NIGMS Health Disparities Plan

NIGMS supports basic biomedical research that is not targeted to specific diseases. The Institute funds studies on genes, proteins, and cells, as well as on fundamental processes like communication within and between cells, how our bodies use energy, and how we respond to medicines. The Institute attempts to ensure the vitality and continued productivity of basic biomedical research while producing the next generation of scientific breakthroughs and training the next generation of scientists.

Throughout all of NIGMS’ research and research training programs, emphasis is placed on increasing the participation of underrepresented minorities in biomedical research. One important consequence of a more diverse research community is likely to be increased attention to areas of research that can reduce health disparities.

NIGMS’ plan for reducing these disparities has been outlined in the report “NIGMS Strategic Plan for Reducing Health Disparities.” The report is expected to be amended over time, so comments and other feedback are welcome. The plan can be accessed on the NIGMS Web site at www.nigms.nih.gov/news/reports/health_disparities.html. Please feel free to review this document and offer your comments. ◦

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Mentoring By MORE Director Helps Students Become Scientists

BY DANIELLE WITTENBERG, NIGMS

“Mentor.” “Role model.” “Friend.” These are just a few of the many appreciative descriptions used by three graduate students to describe Dr. Clifton Poodry, director of the MORE Division.

Maria “Lupe” Garcia, Scottie Henderson, and Hugo Urbina, former MARC students who went on to become NIGMS predoctoral fellows, were all mentored by Poodry during their training toward careers in science.

Mentor as Role Model

Garcia, a Ph.D. candidate in the Department of Zoology at the University of Washington, Seattle, plans to graduate this year. She met Poodry when she was an MBRS student in his developmental biology lab at the University of California, Santa Cruz (UCSC). The fourth child of parents who immigrated to the United States from Mexico, she was the first in her family to go to college. Garcia says she was always interested in science—she recalls collecting tadpoles as a child in Los Angeles and carefully observing their metamorphosis. She says, however, that she had never envisioned herself as a scientist. “No one really encouraged me,” she said. “Both my parents and high school counselors had no expectation of my receiving a college degree, and much less in science.” Only through California’s Mathematics, Engineering, Science Achievement Program was she shown that college was in fact an attainable goal.

During the summer of her junior year of college, she was given the opportunity to begin a career in scientific research as a MARC student in Poodry’s lab. “I remember being extremely shy and scared of messing things up in the lab,” Garcia said. “I was insecure with my ability to perform and think like a scientist, and I was overwhelmed by personal problems and responsibilities to my family.” In spite of all of this, she says she was able to gather enough courage to give it a shot. She credits Poodry for helping her find this courage. “The main reason I chose to stay in Dr. Poodry’s lab is because he believed in me,” she said. “From day one, he had faith in my ability. With his never-ending support, encouragement,

vision, and enthusiasm, I slowly gained confidence and the direction to pursue a Ph.D. in science.”

Garcia says that Poodry is her role model. “It was very important for me to have someone understand my experiences as a woman of color from an economically challenged background trying to make it as a scientist,” she said. Because Poodry, who is an American Indian, was able to share similar experiences, Garcia, who

is a Chicana, says she was able to see that she could have an impact on biomedical research and on her own community by getting a Ph.D. in science. She says that Poodry was there for her every step of the way—from writing letters of recommendation to giving pep talks when “things were not so great.” Garcia describes Poodry as “an inspirational person. He has the ability to make you believe that any goal you want to achieve is possible if you are willing to work hard at reaching it.”

Persistence Pays Off

Like Garcia, Henderson is a graduate student at the University of Washington, Seattle, and like Garcia, she has been influenced by Poodry in many important ways. Born and raised in New Mexico, Henderson graduated from a high school with one of the highest Native American dropout rates in the state. She says, however, that her parents thought that education was very important, and they wanted her to do her best. She attended a local community college for 2 years and then decided to attend college outside of New Mexico. Because her father worked at Los Alamos National Laboratory, which is operated by the University of California, she was able to attend UCSC at the resident rate. It was there that she met Poodry.

“He actively searched for Native Americans in science,” she said. “He told me about the MARC



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Geanncarlo Lugo is a former Bridges to the Baccalaureate program participant at Southwestern College in Chula Vista, CA, and a former MARC undergraduate student at San Diego State University (SDSU). He is currently pursuing a Ph.D. in immunology at Harvard University in Cambridge, MA, where his research interests include the investigation of lymphocyte development. After completing an associate's degree in general studies at Southwestern

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Profile

GEANNCARLO LUGO

This special 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.

How I Became Interested in Science

During my second year at Southwestern College, I took a biology class that focused on animal behavior. At that time, I had not yet chosen a career to pursue. One of the main requirements of the class was that each student engage in a project studying the behavioral aspects of a particular animal. Fortunately, I had a part-time job at the Zoological Society of San Diego, giving me the opportunity to visit the chimpanzee exhibit during my lunch breaks and after work to observe these animals. Although it was only supposed to be a 3-week project, I found myself captivated by my investigation and worked on it for 4 months—I even spent a great deal of time at the library researching literature on my subject. When the report was due, I ended up turning in a 35-page report (not including an index that consisted of pictures, tables, and figures). My professor was in a difficult situation since the report was not intended to be more than 10 pages long. I implored her to make an exception in this case—I explained that I was not trying to impress her with my work, I was simply inspired by the project and couldn't stop my investigation until I was somewhat satisfied with the overall report. A week later, my professor called me into her office and returned the report to me. To my delight, I had earned a 100 percent score! We had a long conversation in her office about my report, and she encouraged me to pursue a degree in science at a 4-year college. Before the semester was

over, my professor recommended me for a program funded by NIH—the Bridges to the Future Program.

How the Bridges Program Helped Me

One of the entry requirements of the Bridges Program is that you declare a science major. My greatest fear in science was the inevitable confrontation with mathematics, a subject that has been my Achilles' heel since high school. After a long conversation with one of my Bridges advisors, I decided to declare biology as my major. I was told the main goal of the Bridges Program is to ease the transition into a 4-year college, and that we were going to work on this goal as a team. After meeting one-on-one with several advisors to discuss my strengths and weaknesses, we set up a plan to tackle my fear of math. The most important task was to build my confidence before I transferred to San Diego State University. I took intermediate algebra and trigonometry classes during my last year at Southwestern College. Years later, I managed to obtain As in both of the calculus classes required to obtain my bachelor's degree in biology at SDSU. The Bridges Program helped to build my self-confidence and establish a direction toward my goal. It prepared me with the basic laboratory skills, addressed my strengths and weaknesses, alleviated my financial burden, and most importantly, provided me with mentors who cared and believed in my future as a scientist.

What I Enjoy Most About Science

Freedom—the freedom to explore my creativity and intellect with the unknown. I still have a hard time believing that I am attending Harvard University pursuing a Ph.D. in immunology. Certainly, there have been pains, tears, and a great deal of



frustration along the way in obtaining this degree, but these experiences have helped me to keep things in perspective.

My Role Model

My mother is my role model. My parents divorced when I was 3 years old and since then, I have not seen my father. Life in Mexico was pretty hard, but it was especially hard for a single woman with a child and no professional degree or credentials at hand. Nevertheless, her love and devotion for me compensated for my father's absence and provided me with a healthy and happy childhood. After I finished junior high school in Mexico, my mother made the wise decision for us to move to the United States and live with my grandmother in San Diego. Her plan was to provide me with all the opportunities she never had, and she knew that an education was the best ticket to succeed in this country. To this

day, she is still my number one fan and my current and future successes represent hers as well.

My Advice to Students Entering/ Considering Scientific Careers

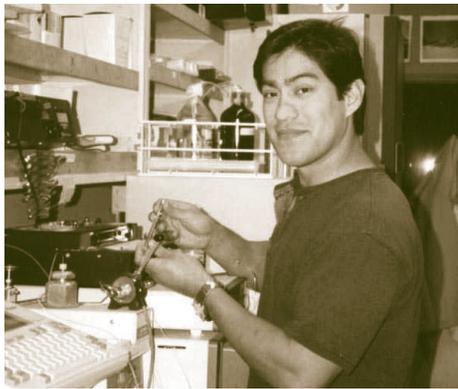
It is quite simple: It is important to pursue one's dreams and goals, but the most important thing is to have fun while doing it. Motivation, perseverance, and dedication to science come automatically only when science is fun. Keeping this perspective in mind may not only lead to a successful career in science, but it may also enhance the quality of one's personal life. ◦

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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College, Lugo earned a bachelor's degree in biology in 1998 from SDSU. During his senior year at the university, Lugo participated in the NIH Undergraduate Scholarship Program, which gave him the opportunity following graduation to work in the Laboratory of Molecular Immunology at NIH's National Heart, Lung, and Blood Institute in Bethesda, MD. He is a member of the Phi Beta Kappa and Golden Key national honor societies.





Hugo Urbina



Maria "Lupe" Garcia with Dr. Clifton Poodry

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Program and encouraged me to apply." After being accepted into the program, Henderson says that her interactions with Poodry became more frequent, and eventually, Poodry asked her to start working in his lab—the same lab that Garcia was working in. Because she was a marine biology major, Henderson remembers thinking, "What can this guy teach me that will help me with marine biology?" She soon found out. Poodry told her that having a working knowledge of lab techniques would help her when she applied to graduate school, so she decided to give it a shot and joined his lab. "Only on reflection can I see where he really helped me in my educational pursuit," she said. "He looked for and presented me with flyers about marine

research at other institutions, constantly encouraged me to do well in my studies, and believed that I was capable of doing what was expected, and more." She added, "if things didn't go the way I or Lupe expected them to go, whether it be in life or in class, Dr. Poodry was always willing to sit and chat and offer his wisdom."

Henderson, who is now in a position to mentor students herself, is following in Poodry's footsteps.

She teaches in a summer science program for high school girls from rural areas, and she advises minority undergraduates on how to prepare for graduate school. She says that she never expected to go this far, but with Poodry's encouragement, she was able to succeed. "Dr. Poodry was the one who kept on me about applying for a MARC predoctoral fellowship," she said. "Two years ago, I did, and I was shocked to learn that I had received a very high score on my application. Although I am no longer working with Dr. Poodry and am as far away as you can get in the contiguous U.S., he still counsels me through e-mail, phone calls, and in person at conferences. He is my advisor and friend."

Making a Difference

Urbina, the third of Poodry's last cohort of undergraduates to receive an NIGMS predoctoral fellowship, is a third-year Ph.D. candidate in the Department of Physiology and Biophysics at the University of California, Irvine. Urbina, who is a Hispanic American, says he has had a keen interest in science since high school. He says that he made the decision to pursue a career in science while he was an undergraduate student working in Poodry's research lab at UCSC. Through the MARC Program, Urbina was given the opportunity to perform hands-on scientific research, which he says ignited his interest in the field. "While working with Dr. Poodry," he said, "I grew to admire him for his professional accomplishments, but more importantly, for his desire to make a difference in the lives of students. Dr. Poodry always took the time to listen and respond with understanding to my troubles. Having someone who believes I have the potential to be a good scientist has been a point of strength for me as I continue on that path."

According to Poodry, "Scottie, Lupe, and Hugo have already achieved a great deal and have the abilities to reach their goals. They have matured into such thoughtful and insightful individuals that whatever they choose to do, I know I will be proud. It has been my pleasure to know them and to help them in whatever little ways I can. My hopes for them are that they have as much joy and fulfillment with their lives as I have enjoyed in mine, thanks in part to fine students like them." ◦



Dr. Clifton Poodry has been dedicated to the advancement of minorities in science throughout his career.

Most recently, he was awarded an honorary Doctorate of Science from the State University of New York at Buffalo.

He was recognized as a leader in biological research and a major advocate for minority education in the sciences. Before joining NIGMS in 1994, he worked as a professor of biology at UCSC. A native of the Tonawanda Seneca Indian Reservation in New York, he earned both a B.A. and an M.A. from the State University of New York at Buffalo. He earned a Ph.D. in biology from Case Western Reserve University in Cleveland, OH.



FROM THE MORE DIRECTOR

The Importance of Baseline Data

BY CLIFTON POODRY, PH.D.

One of the more frequent criticisms that I have seen in recent reviews of MARC and MBRS grant applications is the absence of baseline data. Many aims or objectives are proposed in the applications without providing a clear rationale for them. In some cases, the current starting point—or baseline—may be an adequate rationale for a planned activity. In the absence of a starting point, reviewers are unable to gauge the level or potential impact of the improvement proposed in the application. For example, an increase of 100 percent on a base of 1 is not nearly as impressive as if it were on a base of 10.

Perhaps a few examples would help to illustrate the information that reviewers seek, but that has been missing in many—and not just the weaker—applications. Consider the following types of proposals along with the questions that reviewers would expect to be answered in the applications:

An application proposes to increase the number of minority science graduates as a way of increasing the pool of potential applicants to graduate school.

- *How many students graduate each year now? (baseline)*
- *How will this number change as a result of activities supported by the grant? (specific objective)*

An application proposes to improve student performance on the GRE.

- *What is the average GRE score now? (baseline)*
- *What is the anticipated average GRE score as a result of funded activities? (specific objective)*

(Note that mounting a GRE preparation activity is not the objective. The objective is GRE improvement resulting from the activity.)

An application proposes to mount a seminar series to increase student interest in biomedical research.

- *What is the measure of current student interest? (baseline)*
- *What will the level of interest be as a result of the seminar? (specific objective)*

(Note that the objective is *not* just mounting a seminar series—it is increasing student interest in biomedical research as a result of the activity. Furthermore, the anticipated outcomes should be explicitly tied to the overall goals of the program.)

An application proposes to improve faculty competitiveness on their grant applications.

- *What is the measure of current competitiveness? (baseline)*
- *What is the anticipated competitiveness as a result of the proposed activity? (specific objective)*

An application proposes to improve the writing skills of students.

- *What is the measure of their current skill level? (baseline)*
- *What is the anticipated skill level? (specific objective)*

(Note that reviewers will expect the application to address how an improved skill level relates to the overall goals of the program.)

An application proposes to increase the number of students who actually enroll in Ph.D. programs.

- *How many and what percentage of science graduates in biomedically related majors currently enroll in Ph.D. programs? (baseline)*
- *What is the anticipated number and percentage of science graduates who will enroll in Ph.D. programs during the years of the award? (specific objective)*

Because population data from a single year may not be representative, applications are required to provide baseline data for the previous 5 years. The suggested data tables included in the current program announcements cover the basic demographic data expected of all programs. For data related to activities unique to a proposed activity, there may be occasions when retrospective data for 5 years is not available. In those cases, the applicant will need to explain the situation and make the case that the data available is sufficient to serve as a reliable



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DEVELOPING AN EVALUATION PLAN?

Did you know that you and your program evaluator can talk to program staff in the MORE

Division to discuss evaluation questions before you complete your grant application? Contact your MORE program director at 301-594-3900 or consult the following Web site: www.faseb.org/aps/educatn/promote/promote.html.

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starting point against which to measure the impact of the proposed activity.

Although not baseline data in the sense of the examples above, there is another type of information sought by reviewers that is often hidden or not provided in the application. This is information that would justify the requested number of student positions.

- *What is the number of students currently supported by the MBRS Program and other programs in place at this institution?*
- *What is the current application rate for students in the MBRS Program?*
- *How many students will be supported by MBRS and other mechanisms if this program is funded?*

By providing baseline data, applicants give reviewers critical information for the review of their applications. It provides a context and a scale for the improvements that are proposed. The baseline data—actually the sum of the data from all of our grantees—is also important to the MORE Division in documenting the amount of improvement proposed by and actually accomplished through our programs.

I look forward to receiving your comments. ◦

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RESEARCH HIGHLIGHTS

Study of Rat Brains Indicates Continued Growth Past Puberty

BY MICHAEL VATALARO, NIGMS

For years researchers believed that brain development ended early in childhood.

Now, a study of rat brains has yielded concrete evidence that portions of the brain continue to develop

even after puberty. The study showed that myelination, the wrapping of nerve fibers in an insulating sheath, continues to occur in the rat splenium, a portion of the brain that connects the two hemispheres, at up to 180 days of age.

The work was part of the dissertation of University of Illinois graduate student Joseph L. Nunez, who was partially supported by NIGMS as a MARC predoctoral fellow.

Nunez is now performing postdoctoral research at the University of Maryland School of Medicine.

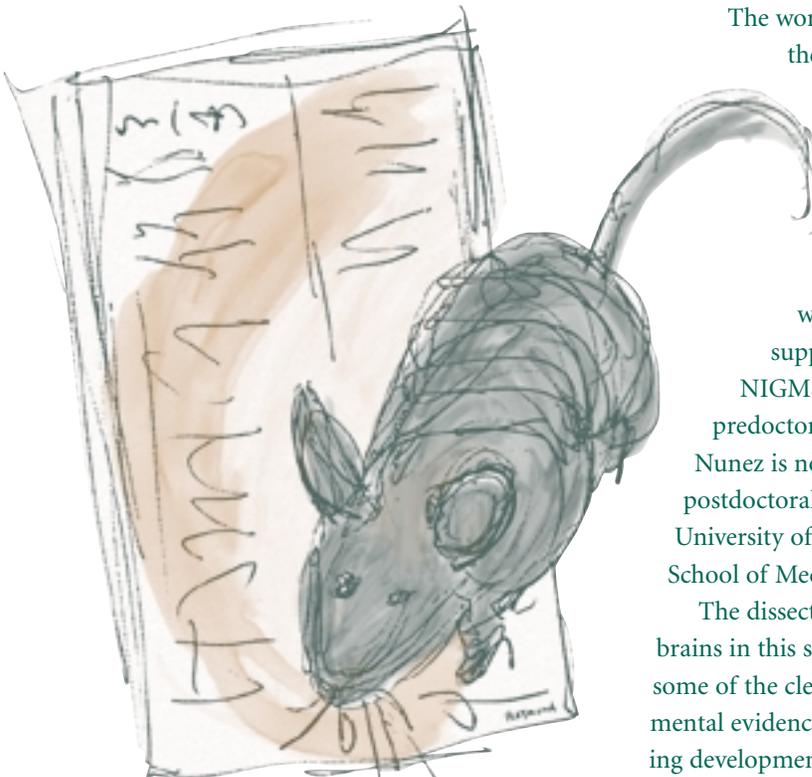
The dissections of the rat brains in this study provide some of the clearest experimental evidence to date showing development continuing

past 120 days, which correlates to the mid-20s in humans. Prior studies in humans using magnetic resonance imaging scans have shown such changes in this region of the brain up to age 18.

In humans, changes in the brain have been linked to language acquisition. In the rat, the increased myelination may lead to a greater exchange of visual information between the hemispheres. ◦

*Reference: Nunez JL, Nelson J, Pych JC, Kim JH, Juraska JM. Myelination in the splenium of the corpus callosum in adult male and female rats. **Dev Brain Res** 2000;120:87-90.*

Research Highlights features the research being done by current and former students and faculty in the MARC, MBRS, and other NIGMS minority programs. We welcome your story ideas and suggestions for future Research Highlights items.





NEWS and Notes

- NIGMS has awarded the Minorities Affairs Committee of the **American Society for Cell Biology (ASCB)** a grant to help the society develop a new mentoring network and contacts for the long-term professional development of underrepresented minorities in science. The funding will offer financial assistance to provide summer research experiences to faculty members from minority-serving institutions in ASCB-member laboratories this summer, as well as to continue supporting ASCB annual meeting activities such as travel awards, special sessions, and the E.E. Just Award. It also provides funding for minority scientists to attend the Histochemical Society Workshop and for the Committee's *Opportunities in Cell Biology* publication.

- The **NIH Office of Research on Minority Health** has launched a new Web site to provide the public and the scientific community with information about the NIH Minority Health Initiative. The initiative supports biomedical and behavioral research aimed at improving the health of minority Americans as well as research training programs designed to increase the number of underrepresented minorities in all aspects of biomedical and behavioral research. The Web site can be accessed at www1.od.nih.gov/ormh/mhi.html.

- **Dr. Juliette B. Bell**, principal investigator and program director of the MBRS Program at Fayetteville State University in North Carolina, has received the University of North Carolina Board of Governors' Award for Excellence in Teaching. The award is the highest academic recognition presented by the University of North Carolina System and is presented each year to one individual from each of the 16 constituent institutions. The award was presented at a ceremony at the University of North Carolina, Chapel Hill, this past April. It consisted of a bronze medallion and a cash award.

Bell was also recently featured as one of ten women life scientists as part of the exhibition *Defying Tradition: African American Women in Science and Technology*. The exhibition was displayed at the Museum of Science and Industry in Chicago, IL, this past January through March. Bell was featured alongside former Surgeon General Dr. Joycelyn Elders. The exhibit included items used in Bell's research on DNA as well as hands-on activities for museum visitors.

- **Dr. Fatma Helmy**, MARC Program director and a professor of biology at Delaware State University in Dover, has received the College of Arts and Sciences Dean's Special Award for Excellence in Service. The award was presented to Helmy in recognition of her achievements and extended service to the college during the 1999–2000 academic year.

- **Dr. Laura Mudd**, an MBRS principal investigator at Barry University in Miami Shores, FL, received the Excellence in Research Award from St. Thomas University in Miami, FL, this past April for her contributions to Alzheimer's disease research. Mudd is a professor of anatomy, biology, and cell biology at the university.

- Among the student participants in NIGMS' minority programs who received degrees this past spring are:

David Benavides and Marissa Gonzalez, both MARC undergraduate students at St. Mary's University in San Antonio, TX, received bachelor's degrees in biology in May. Benavides will enter the Medical Scientist (M.D.-Ph.D.) Training Program at the University of Texas Southwestern Medical Center at Dallas this fall, and Gonzalez will enter the Ph.D. program in microbiology at the University of Texas Medical Branch at Galveston this fall.

Sharon Eubanks, a former MBRS Program participant at California State University, Fullerton, received a Ph.D. degree in biochemistry from Cornell University in Ithaca, NY, in January.

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Claudia Garcia, a former MARC student at California State University, Northridge, received a Ph.D. in May from Harvard University in Cambridge, MA. She is now performing postdoctoral research in the lab of Dr. David Beebe at Washington University in St. Louis, MO.

Three MARC Program participants at Tennessee State University in Nashville received bachelor's degrees in May. **Corey Harwell** completed a degree in chemistry and will attend the Massachusetts Institute of Technology in Cambridge this fall; **Jamil Scott** completed a degree in biology and will enter the Ph.D. program in biological and biomedical sciences at Harvard Medical School this fall; and **Natasha Watkins** completed a degree in psychology and will attend the University of Illinois at Urbana-Champaign this fall.

- Many student participants in NIGMS' minority programs made presentations about their research at recent scientific meetings.

Alysmiriam Laboy and **Ingrid Valmes**, both MARC undergraduate students at the Pontifical Catholic University of Puerto Rico, presented posters on their research at the American Chemical Society's national meeting in San Francisco, CA, in March. Fellow MARC student **Charyn Micheli** won first place for her oral presentation at the 47th Tri-Beta local meeting held in February at the Inter American University of Puerto Rico, San German campus.

Tricia McCampbell, a MARC undergraduate student at Delaware State University, presented a poster of her research at the Experimental Biology 2000 meeting in April in San Diego, CA.

Jewel Payne, an IMSD Program participant at Montana State University, Bozeman, participated in the Undergraduate Research Posters on the Hill program in April in Washington, DC. The program, sponsored by the Council on Undergraduate Research, is aimed at increasing Congressional awareness of the value of undergraduate research by allowing students from across the country to present their research to congressional staff.

Rashida Shivers, an MBRS Program participant at Fayetteville State University, was awarded first place in the Biology Oral Presentation category at the 4th Annual North Carolina Louis Stokes Alliance for Minority Participation conference. This year's conference was held in April at Winston-Salem State University.

Five MARC undergraduate students at California State University, Dominguez Hills (CSUDH), gave research presentations. **Ada Portugal** was awarded second prize for an oral presentation she made at the 14th Annual Undergraduate Research Symposium in March. The symposium was sponsored by the University of Texas Medical Branch at Galveston and featured the research of 150 students from across the country. Portugal's work was also selected by NIH representatives who attended the meeting as one of the top three presentations at the conference. **Luis Campos**, **Kenneth Rodriguez**, and **Anne Valle** were selected to make presentations at the 14th Annual California State University Student Research Competition in May. This state-level competition was held at California State Polytechnic University in Pomona. **Fatima Rivas** gave an on-campus Honors Research Program presentation at CSUDH, for which she was awarded travel funds to attend a national conference of her choice.

Five MARC undergraduate students at North Carolina A&T State University in Greensboro were honored for presenting their research at recent meetings. **Chavon Wilkerson** was awarded first place in the chemistry section at the North Carolina Louis Stokes Alliance for Minority Participation conference. **Cassandra Gainey**, **Norma Houston**, **Chavon Wilkerson**, and **Tiffany Williams** attended the Collegiate Academy, North Carolina Academy of Science meeting this past April in Raleigh. Houston was presented the Derieux Award for 3rd place, and Gainey, Wilkerson, and Williams received honorable mentions.

Two IMSD Program participants at the University of Maryland, Baltimore County, made presentations on their research this past April. **Denise Cooper** presented at the Society



of Behavioral Medicine conference in Nashville, TN, and **Dony Maiguel** presented at the American Association for Cancer Research meeting in San Francisco, CA.

Many MARC undergraduate students at Xavier University of Louisiana have made recent presentations on their research. **Angele Arthur, Rashad Bellin, Funmilayo Carter, Nathaniel Coleman, and Christina Griffin** attended the 7th Biennial Symposium on Minorities, the Medically Underserved, and Cancer this past February in Washington, DC; **Katrina Dunson** and **Ramona Ussin** presented posters at the 14th Annual Undergraduate Research Symposium at the University of Texas Medical Branch in Galveston in March; and **Misti Clark, L'Aurelle Johnson, Tumari Tutt, and Daisy Woods** presented posters at the undergraduate research poster session of the 219th American Chemical Society National Meeting in March in San Francisco, CA.

- The following MARC undergraduate students at CSUDH were presented awards during the university's 2000 Honors Convocation: **Anne Valle** received the Alumni Association's Outstanding Achievement Award; **Anne Valle** and **Daniel Kidane** were recognized as summa cum laude; Luis Campos received the Honors Apprentice Award; and **Luis Campos** and **Ada Portugal** were inducted into the Phi Kappa Phi honor society. All four students were nominated for membership in Sigma Xi, the international honor society for scientific and engineering research.

- In recent months, we have received word about the following current and former student participants in NIGMS minority programs.

Sherrice Allen, a former MBRS student at Fayetteville State University, earned a Ph.D. degree in microbiology from North Carolina State University in December 1999. She has been selected as one of the first participants in the Seeding Postdoctoral Innovators in Research and Education Program, where she will receive postdoctoral training at the University of North Carolina, Chapel Hill,

in preparation for a career in academia.

The fellowship is for a period of 3 years and is funded by NIH • **Jackelyn Alva**, a former MARC trainee at the University of California, Los Angeles (UCLA), is currently pursuing a Ph.D. degree through the UCLA ACCESS Graduate Program in the molecular, cellular, and integrative life sciences. She was recently awarded Howard Hughes Medical Institute and National Science Foundation predoctoral fellowships • **Milton Campbell**, a former MARC trainee at North Carolina A&T State University, is now a senior research analyst at the Duke University School of Medicine in Durham, NC • **Cesar Fernandez**, a former MARC trainee at UCLA, will enter the Ph.D. program in cell biology and molecular physiology at Yale University in New Haven, CT, this fall • **Kristine Garza**, a former MARC undergraduate student at St. Mary's University in San Antonio, TX, will join the faculty in the department of biology at the University of Texas at El Paso for the 2000–2001 academic year • **Robert Igarashi**, a former MBRS Program participant at California State University, Fullerton, has received the Giles Brown Award for Outstanding Master's Thesis at the university. He will enter the Ph.D. program in chemistry and biochemistry at Utah State University in Logan this fall • **Daniel Kidane**, a MARC undergraduate student at CSUDH, participated in the program "Inside UCSF" this past March. The highly competitive event exposed promising young minority scientists to the health science programs at the University of California, San Francisco • **Teferi Mitiku** and **Luis Munoz**, former MARC undergraduate participants at UCLA, will enter M.D. programs this fall. Mitiku will enter the UCLA School of Medicine, and Munoz will enter Harvard Medical School • **Tresa Robinson Thompkins**, a former MARC undergraduate student at Howard University in Washington, DC, and a current MARC predoctoral fellow at the University of Virginia, has been awarded a fellowship from the Bristol-Myers Squibb Company. The fellowship, jointly sponsored

continued on page 14

**SELECTED PUBLICATIONS***by MARC and MBRS Faculty and Students (listed by institution)***BARRY UNIVERSITY**

D'Aniello A, Di Fiore MM, Fisher GH, Milone A, Seleni A, D'Aniello S, Perna AF, Ingrosso D. Occurrence of D-aspartic acid and N-methyl-D-aspartic acid in rat neuroendocrine tissues and their role in the modulation of luteinizing hormone and growth hormone release. **FASEB J** 2000;14:699–714.

Lin YW, Petrino T, Landin AM, Franco S, Simeus I. Inhibitory action of the gonadotropin-releasing hormone on amphibian (*Rana pipiens*) steroidogenesis and oocyte maturation. **J Exp Zool** 1999;284:232–40.

Silva A, Montague JR, Lopez TF, Mudd LM. Growth factor effects on survival and development of calbindin immunopositive cultured septal neurons. **Brain Res Bull** 2000;51:35–42.

NORTH CAROLINA STATE UNIVERSITY

Cisneros, J. The effects of 5-AZA-2'-deoxycytidine (d-AZA) on reproductive capacity and post-natal development of CD-1 mice. **Toxicol** 2000;1:294.

PONTIFICAL CATHOLIC UNIVERSITY OF PUERTO RICO

Fiacco DL, Toro A, Leopold KR. Structure, bonding, and dipole moment of (CH₃)₃N-SO₃. A microwave study. **Inorg Chem** 1999;39:37–43.

Konkel ME, Kim BJ, Rivera-Amill V, Garvis SG. Bacterial secreted proteins are required for the internalization of *Campylobacter jejuni* into cultured mammalian cells. **Mol Microbiol** 1999; 32:691–701.

PRAIRIE VIEW A&M UNIVERSITY

Powell JK, Glasser SR, Woldesenbet S, Burghardt RC, Newton GR. Expression of carbohydrate antigens in the goat uterus during early pregnancy and on steroid-treated polarized uterine epithelial cells *in vitro*. **Biol Reprod** 2000;62:277–84.

SAN FRANCISCO STATE UNIVERSITY

Century KS, Lagman RA, Adkisson M, Morlan J, Tobias R, Schwartz K, Smith A, Love J, Ronald PC, Whalen MC. Developmental control of *Xa21*-mediated disease resistance in rice. **Plant J** 1999; 20:231–6.

SOUTHEASTERN OKLAHOMA STATE UNIVERSITY

Hertzler S, Brown R, Wilkett M, Boyd R, Ellexson M, Chambers C, Plunkett C, Wright JR. A labeling method and purely colorimetric immunoassay based on poly-DL-lysine and a pigmented copper cluster. **Microchem J** 2000;64:21–5.

ST. MARY'S UNIVERSITY

Chopra AK, Xu X, Ribardo D, Gonzalez M, Kuhl K, Peterson JW, Houston CW. The cytotoxic enterotoxin of *Aeromonas hydrophila* induces proinflammatory cytokine production and activates arachidonic acid metabolism in macrophages. **Infect Immun** 2000;68:2808–18.

UNIVERSITY OF HAWAII AT MANOA

Blanchard RJ, Kaawaloa JN, Hebert MA, Blanchard DC. Cocaine produces panic-like flight responses in mice in the mouse defense test battery. **Pharmacol Biochem Behav** 1999;64:523–8.

Couvillon PA, Ablan CD, Bitterman ME. Exploratory studies of inhibitory conditioning in honeybees (*A. mellifera*). **J Exp Psychol Anim Behav Process** 1999;25: 103–12.

Lu Y, Nerurkar VR, Dashwood VM, Woodward CL, Ablan S, Shikuma CM, Grandinetti A, Chang H, Nguyen HT, Wu Z, Yamamura Y, Boto WO, Merriwether A, Kurata T, Detels R, Yanagihara R. Genotype and allele frequency of a 32-base pair deletion mutation in the CCR5 gene in various ethnic groups: absence of mutation among Asians and Pacific Islanders. **Int J Infect Dis** 1999;3:186–91.

UNIVERSITY OF THE INCARNATE WORD

Galvan AG, Paugam M, Sullivan JT. Rescue of sporocysts of *Schistosoma mansoni* in nonsusceptible *Biomphalaria* by head-foot transplantation into susceptible snails. **J Parasitol** 2000;86:308–11.

Orta A, Sullivan JT. Short-term immunization of incompatible xenografts in a snail, *Biomphalaria glabrata*. **Dev Comp Immunol** 2000;24:543–51.

UNIVERSITY OF PUERTO RICO, MEDICAL SCIENCES CAMPUS

Carrasquilla G, Banguero M, Sanchez P, Carvajal F, Barker RH Jr, Gervais GW, Algarin E, Serrano AE. Epidemiologic tools for malaria surveillance in an urban setting of low endemicity along the Colombian Pacific Coast. **Am J Trop Med Hyg** 2000;62:132–7.

Cruz JA, Garcia R, Rodriguez-Orengo JF, Rodriguez-Medina JR. Increased chitin synthesis in response to type II myosin deficiency in *Saccharomyces cerevisiae*. **Mol Cell Biol Res Comm** 2000;3:20–5.

Melendez PA, Longo N, Jimenez BD, Cadilla CL. Insulin-induced gene 33 mRNA expression in Chinese hamster ovary cells is insulin receptor dependent. **J Cell Biochem** 2000;77:432–44.

Send in your references for inclusion in Selected Publications. We would appreciate your contribution to this section in order to represent as many MARC and MBRS programs as possible. Complete bibliographical citations can be phoned, faxed, mailed, or e-mailed to the Editor (see page 2).



UPCOMING Meetings

OCTOBER

3–7, 2000

AMERICAN SOCIETY OF HUMAN GENETICS 50TH ANNUAL MEETING

Pennsylvania Convention Center
Philadelphia, PA
CONTACT: ASHG Meeting Office
9650 Rockville Pike
Bethesda, MD 20814-3998
Tel: 301-571-1825 Fax: 301-530-7079
mryan@genetics.faseb.org
http://ns1.faseb.org/genetics/ashg/
ann-meet/ashgmeet.htm

12–14, 2000

BIOMEDICAL ENGINEERING SOCIETY 2000 ANNUAL MEETING

Doubletree Hotel-Seattle Airport
Seattle, WA
CONTACT: Patricia Horner, Executive Director,
BMES, 8401 Corporate Drive, Suite 110,
Landover, MD 20785-2224
Tel: 301-459-1999 Fax: 301-459-2444
bmes@engr.washington.edu
http://mecca.org/BME/BMES/society/
index.htm

12–15, 2000

SOCIETY FOR ADVANCEMENT OF CHICANOS AND NATIVE AMERICANS IN SCIENCE NATIONAL CONFERENCE

Hyatt Regency, Atlanta, GA
CONTACT: SACNAS, P.O. Box 8526
Santa Cruz, CA 95061-8526
Tel: 831-459-0170 Fax: 831-459-0194
info@sacnas.org
www.sacnas.org/
NationalConference.html

29–NOVEMBER 2, 2000

AMERICAN ASSOCIATION OF PHARMACEUTICAL SCIENTISTS ANNUAL MEETING AND EXPOSITION

Indiana Convention Center, Indianapolis, IN
CONTACT: AAPS, 1650 King Street, Suite 200
Alexandria, VA 22314-2747
Tel: 703-548-3000 Fax: 703-684-7349
meetings@aaps.org
www.aaps.org/annualmeet/2000.html

NOVEMBER

4–9, 2000

SOCIETY FOR NEUROSCIENCE ANNUAL MEETING

New Orleans, LA
CONTACT: SFN, 11 Dupont Circle, NW, Suite 500
Washington, DC 20036
Tel: 202-462-6688
info@sfn.org
www.sfn.org/am2000/

8–11, 2000

NATIONAL MINORITY RESEARCH SYMPOSIUM ANNUAL MEETING

Renaissance Hotel
Washington, DC
CONTACT: Dr. Wilveria Atkinson, NMRS
P.O. Box 20366
Winston-Salem, NC 27120
Tel: 336-983-3773 Fax: 336-983-6852
www.ols.net/users/nmrs/

9–11, 2000

AMERICAN INDIAN SCIENCE & ENGINEERING SOCIETY 22ND ANNUAL NATIONAL CONFERENCE

Oregon Convention Center, Portland, OR
CONTACT: AISES, P.O. Box 9828
Albuquerque, NM, 87119-9828
Tel: 505-765-1052 Fax: 505-765-5608
info@aises.org
http://aises.org/conf2000/

DECEMBER

9–13, 2000

AMERICAN SOCIETY FOR CELL BIOLOGY 40TH ANNUAL MEETING

Moscone Convention Center,
San Francisco, CA
CONTACT: ASCB, 9650 Rockville Pike
Bethesda, MD 20814-3998
Tel: 301-530-7153 Fax: 301-530-7139
ascbinfo@ascb.org
www.ascb.org/ascb/meetings/
am2000/main2000mtg.htm

RECENT

Awards and Fellowships

PREDOCTORAL FELLOWSHIPS FOR MINORITY STUDENTS

*(listed by fellow and
graduate institution)*

Lagree M. Burke
University of Akron, Ohio

Bertha M. Cedillo
Louisiana State University
A&M College, Baton Rouge

Enrique Cepero
University of Miami
Coral Gables, FL

Lisa A. Johnsen
Finch University of Health
Sciences/Chicago Medical
School, North Chicago, IL

Tchaiko M. Parris
Yeshiva University,
New York, NY

Jason L. Rasgon
University of California,
Davis

Patrick K. Safo
Harvard University,
Cambridge, MA

Jason A. Smulik
State University
of New York at Buffalo

Tresa R. Thompkins
University of Virginia,
Charlottesville

Brian T. Zafonte
Yeshiva University,
New York, NY

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

Bridges to the Baccalaureate
New Mexico Highlands
University, Las Vegas
Linda La Grange

Roxbury
Community College,
Roxbury Crossing, MA
Raymond Turner

University of Montana,
Missoula
David Bilderback

Bridges to the Doctorate
California State University,
Fullerton
Christina A. Goode

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

Clark Atlanta University, GA
John M. Browne

University of Puerto Rico,
Cayey University College
Robert G. Ross

MARC ANCILLARY TRAINING
ACTIVITIES AWARDS
*(listed by institution and
principal investigator)*

American
Physiological Society
Marsha L. Matyas

American
Psychological Association
Bertha G. Holliday

GEM Consortium
Saundra D. Johnson

University of California,
Davis
Jerry L. Hedrick

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

Emory University,
Atlanta, GA
Robert B. Gunn

University of Arizona,
Tucson
Theresa A. Markow

University of North Carolina,
Chapel Hill
Walter E. Bollenbacher



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by the pharmaceutical company and National Medical Fellowships, Inc., offers students a summer research experience in the laboratory of an outstanding scientist. Thompkins will spend this summer at the Center for Recombinant Gamete Contraceptive Vaccinogens at the University of Virginia with scientist Dr. John Herr • **Mauricio Vargas**, a former MARC undergraduate participant at UCLA, will enter the Medical Scientist (M.D.-Ph.D.) Training Program at the UCLA School of Medicine and California Institute of Technology this fall • **Tiffany Williams**, a MARC undergraduate student at North Carolina A&T State University, was recently awarded the

Outstanding Undergraduate Student Award from the university. •

***We are always interested in hearing about NIGMS minority program faculty, alumni, and students. Photographs of your students, research labs, and activities are also welcome and encouraged. Please send information to: Editor, NIGMS Minority Programs Update, Room 1AS.25, 45 Center Drive MSC 6200, Bethesda, MD 20892-6200
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atheys@nigms.nih.gov***

ACRONYMS USED IN THIS ISSUE

ASCB	American Society for Cell Biology
CSUDH	California State University, Dominguez Hills
GRE	Graduate Record Examination
IHS	Indian Health Service
IMSD	Initiative for Minority Student Development
MARC	Minority Access to Research Careers
MBRS	Minority Biomedical Research Support
MORE	Minority Opportunities in Research
NIGMS	National Institute of General Medical Sciences
NIH	National Institutes of Health
SDSU	San Diego State University
UCLA	University of California, Los Angeles
UCSC	University of California, Santa Cruz

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
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- News and Notes
- Research Highlights
- Publications
- Recent Awards
- Upcoming Meetings

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