In this issue...

SACNAS NEWS

The goal of this SACNAS News is to be a resource for students and K-12 educators who are considering a summer research program. The articles combine personal insights, faculty advice, and answers to frequently asked questions regarding the exciting and rewarding opportunities for summer research. Many summer programs maintain application deadlines that may have passed by the time of publication of this issue. However, SACNAS believes that the process of choosing a program is a year-long endeavor that begins with setting goals and carefully researching potential programs. We hope this issue helps provide the information you will need to decide on a program in the future.

Summer Research Programs
By Martin Farias III, Ph.D.

Some years ago, I was lost. With my bachelor's degree in biology in hand, I did not know my next move. Coming from the Rio Grande Valley in South Texas, being lost can be a death sentence. The Valley is like a tremendous black hole which seems to sweep up lost people. Inertia is hard to overcome, and crime, drugs and complacency can become someone's whole world. Then people become statistics—horrible statistics.

Was this my fate? Fortunately, I will never know because a beacon of light...
Communicative News

PRESIDENT’S MESSAGE

Dr. Matt Allison received the “Faculty to Faculty Transition Award” from the American Heart Association. This is a four-year career development award that includes a research project that will examine the relationship between atherosclerosis in multiple vascular locations and cardiovascular health problems such as heart attack, stroke, and congestive heart failure.

Dr. Alman N Alano, a microbiology Ph.D. candidate at the University of Massachusetts Amherst, has been elected student member for the SACNAS Board of Directors. Ms. Alano was also the recent recipient of an Educational Grant Award from the Hispanic Engineer National Achievement Awards Corporation (HENAAC) during its 2004-05 academic year to further her studies of bacteria formation by thermophilic autotrophs. She will participate in an oral presentation in the St. Jude Research Children’s Hospital Graduates Student Symposium in April 2005.

Ms. P. Radhika, who recently graduated from the University of California, Berkeley, started a Ph.D. program at the University of Kansas in the Department of Ecology and Evolutionary Biology studying amphipod morphology and systematics.

Dr. Maria Farina has accepted a senior postdoctoral position in the Department of Physiology at the Louisiana State University Health Science Center in New Orleans starting June 2005.

Dr. Lynn Gando-Torres, professor of chemistry at the University of Texas at El Paso (UTEP), was awarded the American Microchemical Society’s greatest 2004-05 AWARD for significant achievements in microchemistry.

A new website was launched for the premed of community at http://premedbbs.org. The organization was founded by Qassim Lopez and Marilyn Contreras-Prieto in 1999.

Ms. Jennifer Lynch, science educator at Jacksonville Public School in Oklahoma City, was awarded the Outstanding Classroom Teacher Award from the Oklahoma Association of Environmental Educators for 2005. The recipients must be elementary or secondary educators who incorporate environmental education as a major focus in their curriculum. They should influence students’ lifelong commitment to environmental awareness, knowledge, and action.

Ms. Mercedes M. Murrieta, a recent graduate of the University of Arizona, began an internship with the Champagne-Urbandale Public Health District.

Dr. Teresa Paredes, associate scientist at the M bioscience area of the University of Arizona, received a CALS travel award to present her research at the Experimental Biology Meeting in April 2005.

Dr. Marigold Linton is the president of SACNAS and director for American Indian Outreach at the University of Kansas.

Times are changing, and times are becoming increasingly more interesting and complex. As an undergraduate, I was one of the very few minority students who had an opportunity for a research experience at all. The picture (at right) shows me about 20 years old working with a Sprague-Dawley rat that was a subject in a study on motivation. But this study took place at the University of California, Riverside, and it occurred right in the same building in which I took my psychology classes during the academic year. There may have been opportunities for students to go away for summer experiences, but I never heard of one. And I would probably have been afraid to travel so far in fact, I was a young assistant researcher at San Diego State University the first time I traveled professionally. I traveled to the East Coast (from California), to the U.S. Virgin Islands in the Caribbean, and then to Ethiopia in northeast Africa. This travel opened my eyes to the world as nothing else had.

Now, in the 21st century, the possibilities for summer research are endless. I hope that most of you faculty are exploring ways to provide summer research opportunities for your undergraduates. I hope that most of you undergraduates are taking advantage of research experiences through the year at your college or university. If you aren’t, you should seek out a professor in your area of interest and begin to do so. And whether you are involved in academic year research experiences or not, I would encourage each of you to seek a summer research experience—at another institution if this is within your range of comfort. There is another set of summer research experiences—international opportunities. Less common than the usual research experiences available in the U.S., you may find someone if you look around. One that makes me wish that I were a student again is the summer research programs that Dr. Kaman has created take high school and undergraduate students and guide them all the way to doctoral candidacy. The ultimate goal is for these students to become principal investigators and faculty at major research universities. Dr. Kaman is excited to announce that his first program graduate, Harlan Jones, Ph.D., an African American, has returned to UNTHSC as an assistant professor, a testament that these programs are making a difference.

Preparation for the rigors of research is very important for your undergraduates. I hope you do your part to provide summer research opportunities for your undergraduates. I hope that most of you undergraduates are taking advantage of research experiences through the year at your college or university. If you aren’t, you should seek out a professor in your area of interest and begin to do so.

Expanded Horizons and New Opportunities by Marigold Linton, Ph.D.
Summer Research as Catalyst for Graduate Education: A FAQ Guide

By Kika Friend

For many minority science students, the summer research experience proves to be the single most rewarding activity of their educational career and serves as a catalyst to advanced degree attainment. Faculty, by “giving with wisdom and example,” serve as role models by sharing the passion they hold for their research projects. Summer programs expose students to higher education as a viable career, demystify the laboratory experience, and provide the perfect combination of application to theory. So, how does an undergraduate student go about participating in the “perfect” summer research opportunity?

Frequently Asked Questions

When should I begin summer research? Although readiness varies, students traditionally begin research the summer after their sophomore year. The most important thing is that students have completed their background science courses, so they can function in a laboratory setting. A few programs require some experience, while others welcome uninitiated researchers. When in doubt, apply. The program will tell you “No” if you don’t fit their qualifications. Remember you will never qualify if you don’t apply.

What is the timeline for applying? Fall—start researching programs
Winter—work on application, request letters of recommendation
Spring—submit applications

How do I select a program? What should I look for? Select programs based on your personal research interest and apply to at least six programs. You will spend a lot of time in the lab—make sure it’s something that interests you!

How can I find out if a program meets my interests and needs? Outline your goals to make certain each program you apply to meets those criteria. Visit the summer program’s website for more information. If you have questions, call the program director.

How do I get more information about the actual research I will be doing? Visit the program’s website and research the principal investigator (?) of the lab in which you are interested. View articles published by the PI, lab members, and if available, former summer program participants. If you have further questions, email the PI, inform them that you are thinking about applying to the program, and ask your questions about his/her research. Don’t be hurt if the PI does not write back—faculty are always very busy. Connecting with PIs, program directors, and summer program participants at conferences (like SACNAS) ahead of time can provide valuable information and connections.

Is a high GPA needed? A high GPA (above 3.0) is always a benefit, since many summer programs are looking for potential graduate students. However, if you have a lower GPA, it is still possible to attend a summer program. To counterbalance a lower GPA, it is especially important to have strong letters of recommendation and previous research experience. Remember lab research and classroom performance can take a different set of skills. If you have a lower GPA, you should not be discouraged from applying.

How long are these programs? Are they paid? Most summer programs are 8-10 weeks in duration, and all are paid. Almost all include round-trip travel and a stipend. Others provide GRE and a select few, MCAT preparation.

Should I apply to out-of-state or in-state programs? It all depends on your ultimate goal. Try and go where you want to go graduate school, whether that is local or in another region.

Advantages for out-of-state research:
■ Experience what research is like off your home campus
■ See what your potential graduate school environment is like
■ Live somewhere new for a short amount of time
■ Have the opportunity to take advantage of lab resources that you don’t have at your campus

Advantages for research on your own campus:
■ Do research with faculty who can write you excellent letters of recommendation
■ Gain the opportunity to continue your research during the academic year
■ Maintain family obligations

Will I fit in? Although at first you may feel uncomfortable in a new setting, most summer research programs bring in many students from different parts of the country, and they will all be new to the experience. To have a friend, you must first be a friend. Become part of the departmental group and embrace the experience.

Research facilitates the transition from classroom to an actual laboratory environment and provides a nurtured, mentored experience.

I am a minority on three fronts: I am Native American, I am a single parent, and I am a woman. Statistics seem to indicate that I do not stand a chance of succeeding in my educational endeavors. But these are only boundaries—historical boundaries that are being broken every day by students such as ourselves—for despite my threefold minority status, I am succeeding as a junior in psychology with a minor in political science at Montana State University (MSU) in Bozeman. And I work year round under the mentorship of Dr. Mike Babcock in his neuroscience laboratory studying genetic manipulation of brain function in rodents.

In my years at MSU, with help from the American Indian Research Opportunity (AIRO) program, I have learned that there are opportunities everywhere. For undergraduate students, one of the finest is taking advantage of a summer research program. My experiences in a summer program have ultimately led to attending national meetings, winning an award, and becoming co-author on a manuscript, rare accomplishments regardless of the boundaries I may face.

When I started my summer research program, I was nervous about my lack of experience in what I was about to study. My undergraduate biology classes hadn’t taught me anything at the difficult level of genetics I was about to try to learn and eventually report on. After a lot of hands-on learning, I understood that it was patience and perseverance I was to learn—key skills for a future in science.

My summer research program also helped me understand the scientific process: beginning an experiment and seeing it through to completion. The process includes such tasks as obtaining results, recording significant statistics, and even something as elementary as organizing your daily schedule around an experiment. One summer, I wandered around campus with an egg timer attached to my shirt collar so that I could get back from my coffee breaks in time to wash anybody off my tissue samples!

I have learned how to conduct a Western Analysis tissue homogenate experiment, cut a rodent brain into 50-micron tissue sections, and immunocytochemistry. But I have also learned how to handle disappointment. During the two years it took to complete my research, there were times when I just didn’t work. However, I found that I enjoy research because of overcoming these setbacks.

Although many students are encouraged to pursue summer research experiences away from their home institutions, because of my responsibilities as a mother I needed to stay at MSU. The decisions I have made about my education hopefully balance with giving my daughter a healthy home environment as a foundation. My own mother created a solid foundation for me when I was a child, and I am reaping the benefits of this today.

I come from a family that has very little post-secondary education and a culture that is preoccupied with work and survival. I am reaping the benefits of this today.

No Boundaries: Summer Research Programs and the Minority Student By Khena Bullshields

I am from the Blood Tribe in Standoff, Alberta, Canada, but have lived mostly in the remote states of Montana and Wyoming on off Indian reservations. My family and I have been subject to the hardships that Indian people face, especially the youth. I have confronted prejudice, isolation, poverty, and educational indifference, yet through this I learned individualism, strength, and purpose.

These lessons, this understanding, the pride I have in my background and have been able to accomplish because of it have helped me excel academically.

We are living in a time when science research is drastically needed to mend mistakes our predecessors have made and to reveal new innovations yet to be discovered. As representatives of ethnic and racial minorities, we bring a different point of view. To become good, competitive, and valuable scientists for the future, we need to pursue more than just the standard degree program. Participating in a summer research program gives a competitive edge but, also, speaking from experience helps students know that they are part of something important and beneficial to our societies and cultures.

...the most rewarding aspect of conducting summer research is working with people who have enriched my life with fellowship and knowledge.

Ms. Khena Bullshields working in the lab with her mentor, Dr. Mike Babcock.
Dr. Margaret Hiza – Geologist
By Stacy Hartman

Growing up half Navajo in northern Wyoming in the 1950s and 1960s wasn’t easy. I lived in a town that bordered a Native American reservation, and though I didn’t always understand things that people said or did, now I realize that it was a very unfriendly place and that there was a lot of discrimination. I spent a lot of time horseback, which was the only real source of peace in my life. I found being outdoors very comforting, and later, when I went back to college, these early experiences inspired me to persevere so that some day I could work to preserve the land I grew up on and help other people learn how to be good caretakers of the planet.

I didn’t go to college until I was twenty-eight, after I had married a Navajo man, lived on the Navajo Nation for several years, and had three children. Life on the reservation was very difficult. I often felt like no one cared about what happened to my family and me, and the standard of living was very poor. It was these circumstances that propelled me to change the direction of my life. For example, our information was sometimes contaminated. I wanted to do something about it, so I entered the geology program at Northern Arizona University (NAU), with an emphasis in hydrogeology. College was a challenge because my pre-college education had not provided me very well. My math skills were so poor that I had to start at the very basic, lowest math class and work my way up through calculus. Another obstacle was that because I’m a Native American woman, some professors clearly thought that I wasn’t going to go very far. But I’m very stubborn, especially when someone treats me like a failure. Whenever a professor thought I couldn’t do something, I’d say to myself, “Oh, yeah, you don’t think I can do this? Well, I’m going to prove you wrong!”

After I finished my degree at NAU, I received a scholarship from the National Science Foundation to study sedimentary discharges from volcanoes in the Earth sciences program at Montana State University (MSU). I got my master’s at MSU, and then did research at the University of Washington (UW) in Seattle. While I was in Seattle, I met Dr. Anita Grunder, the woman who would eventually become my Ph.D. advisor at Oregon State University (OSU).

Dr. Grunder became a real source of inspiration for me. She’s hardworking and intelligent, and she raised kids and worked as a professor at the same time. This was important to me because I was also raising three kids on my own and trying to go to school. Being a single mom in school is difficult in many ways, but it taught me something—family is very important. Moving around so much for school was hard, and often we were poor but my kids were always a huge source of inspiration. I probably would not have gone so far in school if it hadn’t been for them. I felt like I did to something for their sake—to make the world better for them.

One of the most important things I learned over the course of my education is that you are who help define how you look at the world and how you approach a problem. I believe that using traditional Native American knowledge is not just important from a scientific point of view but also from a cultural point of view. Traditional knowledge is what defines Indian people. It really depends on how you live on the land, what you do as a person, and how you treat the planet. We need people who approach problems from this perspective in the sciences so that we can learn—and hopefully teach others—how to be better stewards of the land.

Ms. Stacy Hartman served as the SACNAS Biographies project editor in the fall of 2004. She is a senior in women’s studies at the University of California, Santa Cruz.

Started in 1996, the SACNAS Biographies project now offers over 30,000 words on a free web site (http://164.177.10.183/
biographies/default.php). It has become an invaluable tool for students and educators who are interested in the accomplishments of Chicano/Latinos and Native Americans. For more information, visit the SACNAS Biographies project on CD-ROM. For more information please contact Jenny Kurek to jenny@JenStree or call (831) 459-0710 ext. 217.
Summer Research Programs for Teachers and Students

Many universities and science museums throughout the country offer summer research programs for K–12 teachers and students. If you are interested in staying close to home for the summer, contact the science, mathematics, or engineering department of your local college/university.

Summer Programs for Teachers

Explorations in Biomedicine
Organization/Location: American Physiological Society
Website: http://www.apss.org

Summer High School Apprenticeship
Organization/Location: Stanford University, Stanford, CA
Website: http://quest.science.stanford.edu/

Summer Institute
Organization/Location: Teachers Science Institute, St. Francis College, Brooklyn, NY
Website: http://www.scied.science.doe.gov/scied/PST/about.htm

Summer Research Programs (SSP)
Organization/Location: Summer Science Program (SSP)
Website: http://www.nasasharp.com/

Science for America’s Future
Organization/Location: The Exploratorium, San Francisco, CA
Website: http://www.exploratorium.edu/sf/

The following websites provide searchable databases to help locate both regional and national programs:

- Science Services (database of 300+ programs): http://www.sciencerv.org/spi/
- EduNet (select a program type, such as research internships, science camps, professional development): http://www.sci- edunet.org/explore/index.cfm
- The National Association of Health Science Education Partnerships: http://www.nahsep.org/profiles.html

As left is a sampling of the range of opportunities to choose from.

Summer Programs for Students

Minority Introduction to Engineering, and Entrepreneurship (MITE) 5
Organization/Location: Massachusetts Institute of Technology, Cambridge, MA
Website: http://web.mit.edu/mites/www/index.html

Quest Scholars Program
Organization/Location: Stanford University, Stanford, CA
Website: http://quest.science.stanford.edu/

Summer High School Apprenticeship
Organization/Location: Stanford University, Stanford, CA
Website: http://quest.science.stanford.edu/

Summer School Apprenticeship Research Program (NASA SHARP)
Organization/Location: National/Astronautics and Space Administration (NASA), various locations
Website: http://www.nasa.gov/sharp/

Pre-Service Teacher (PST)
Organization/Location: U.S. Department of Energy, Office of Science, various locations
Website: http://www.sciencedoe.gov/oeic/ED/Training/PST/about.htm

Science for America’s Future
Organization/Location: The Exploratorium, San Francisco, CA
Website: http://www.exploratorium.edu/sf/

The National Association of Health Science Education Partnerships: http://www.nahsep.org/profiles.html

As left is a sampling of the range of opportunities to choose from.

The SFCC Summer Science Academy
By Kathleen A. Nolan, Ph.D., and Jill Callahan

For the past four summers, between 20 and 35 New York City high school students have braved the heat and attended the three-week-long St. Francis College Summer Science Academy. They have been a very diverse group, hailing from South America, Asia, the Caribbean, and Eastern Europe, as well as all five boroughs in New York City. During one of our ice-breakers, the students ask each other questions such as “Were you born in another country?” The answer is affirmative at least fifty percent of the time. Programs such as ours that emphasize classroom activities and field trips help urban students to see science in an applied way. K–12 summer programs in science and math are important because they present a different kind of learning for the student. Material is presented in a more relaxed way with much less pressure because grades are not given. The programs aim to enforce curricula learned during the academic year and enrich this experience with concrete examples. From our evaluations, we can tell that the students enjoy this type of program and are learning “on the sly”. They appreciate having college students involved as counselors/mentors and enjoy getting to know the teachers in a more personal way.

Our program focuses mostly on the topics of nutrition and biodiversity. Every other day, the newspaper has an article about how many Americans are obese and how we do not eat nutritiously. Also, because of the increase in our world population size, there is concern among scientists about a loss of biodiversity because of agriculture and the encroachment of people. Since all of our students come from urban backgrounds, there is a “disconnect” for them from the environment and biodiversity. Thus, in order to promote better nutrition practices and stewardship of the environment, these two themes are the focal points of our program. We use basic principles of biology, chemistry, and math to enhance these themes, and the students also learn how to acquire and analyze data via computer assisted technology. K–12 teachers could readily adapt some of these activities to their own classrooms and participate in similar field trips that are suited to their own locales. An example from our nutrition curriculum is the “Survivor Game,” in which the students work in teams to design a healthy diet for a three-day period. They are given a mock $75, take a “field trip” to either a conventional grocery store or to a health food store, and pick out their meal plan. Then they go online to calorie and nutrition sites, complete a written report, design PowerPoint presentations, and present on the last day for judgment by the teaching assistants. The cultural diversity of our students has become apparent when we have witnessed their meal plans! We have prizes for the best team. Our biodiversity unit provides great opportunities for getting out and exploring. We conduct microscopic examinations of water samples collected on field trips—in our case, a pond from the Bronx! We also interact with the water in other ways; we partake in a three-hour “Con Fish’n” program with staff from the Schooner Pioneer from the South Street码头.

Students in the lab at the St. Francis College Summer Science Academy...
access to research opportunities without the distractions of their course work so that they may focus on research. In this way, undergraduates can experience the research process itself and begin to discover whether they have the ability, motivation, creativity and skills that are required for a satisfactory career in research. Although distractions will always be a part of your life, you can at least have this one opportunity to do research without them. This type of focus can be instrumental in preparing for research and science.

9. Mature as an Individual

Minority programs can also be the stimulus for maturity. Many minorities have not had the opportunity to conduct cutting edge research or interact with scientific professionals. Being immersed in such an environment will eventually have the student thinking like a scientist and professional. Gorbales shares this sentiment: “A student has the unique opportunity to mature as both a person and as a scientist in a minority summer research program.” Not only do you learn about the rigor of research; you also learn how to deal with stress and communicate with people effectively, manage your time, and become a better learner. Learning these intangible aspects are important components of becoming a successful principal investigator and an asset to the scientific community.

10. Fewer Minorities Get This Chance

Even though there is a big push to get minorities into science, opportunities can be scarce. Tala Martin, Shoshone-Bannock, a chemistry major at the University of Kansas, says, "Sometimes minorities do not have the kind of opportunities that others have, and we are fortunate that there are scientists that want to give underrepresented students these kinds of opportunities.” Indeed, very few minorities get the chance to explore research careers. Thus, it is in our utmost interest to promote these programs. Whether it is the rigor of science, the details of research, the issues facing minorities and the potential for cutting edge research, minority summer research programs are beacons of light that lead minorities to safe ground—a career in science. New that I am close to shore, it is my turn to offer guidance and create beacons of light for others. Science and our cultures will depend on us to give back.

Dr. Martin Faras III is a post-doctoral fellow at the University of Washington in Seattle.

General Guides to Summer Research Programs

- SACNAS training camps and summer resources page: http://www.sacnas.org/summerprog.html
- An interdisciplinary guide of summer opportunities for minority undergraduate students: http://www.diversityopportunities.org/
- Sorenson State University Department of Physics and Astronomy has put together an exhaustive list of all scientific undergraduate summer research opportunities: http://www.phys-astro.su.edu/advisors/UndergradResearch.html

Who Funds Minority Summer Research Programs

- NIH (National Institutes of Health)
- NSF (National Science Foundation)
- CDC (Centers for Disease Control)
- DOE (Department of Education)
- NASA (National Aeronautics and Space Administration)
- DOE (Department of Energy)

What to Look For

- A major research university
- A research area that interests you
- Geographic location
- Knowledge the requirements of the program
- Overall goal of the program and what it offers
- Graduate school preparation (GRE, etc.)
- Length of the program
- Full financial support (stipend, expenses paid)
- Professional people who care
- Chance to attend your graduate school

What should I bring to the research experience?

Learn all you can about your project and an open mind to the relationship you are about to embark upon; respect and embrace differences in people; give 150% to every project; be passionate about life and relish its impermanence; smell the roses as you go through life as there is no assurance that you will be able to walk this same road again.

Mr. Kiko Fried directed the NSF-funded California Alliance and Minority Participation Program, CAMP, and the U.S. Department of Education-funded TRIO/MI/NW Programs at the University of California, Irvine.

Dania Alcronan-Vargas, Ph.D.
dianav@bc.edu
Institution: Rutherford Cancer Center, Mount Sinai School of Biological Sciences

Title: Microchemical Underlying the Regulation of cycC

Professor Steven J. Stainback
Research Interests: Synthesis, modification, and new applications of synthetic and natural polymers

Current Position: Postdoctoral fellow in the United States Department of Agriculture National Center for Agricultural Utilization Research (USDA-NCUR)

Lisa Gough, Ph.D.
lfgough@uic.edu
Institution: Cell and Developmental Biology Graduate Group, University of California, Los Angeles

Title: Dissecting the Functions of the Golgi-Localized Species, Syn-1

Professor: Dr. Kenneth Beck
Research Interests: Cell biology, science communication

Current Position: Editor, state-wide Integrated Pest Management (IPM) Office, University of California, Davis

Elda E. Sanchez, Ph.D.
elsanchez@umex.mx
Institution: Universidad Central de Venezuela

Title: Asociación y Coordinación de Deseos Parasitarios en el Ejército de Fuerzas Armadas del Estado Uruguay de Uruguay

Professor: Dr. Norma Rodriguez-Acosta
Research Interests: Effects of venom toxins on hemostasis and their uses in biomedical applications

Current Position: Assistant director of the Natural Toxins Research Center at Texas A&M University–Kingsville

Manuel J. Torres, Ph.D.
mjtore@ctac.net
Institution: Department of Genetics, University of California, Davis

Title: Construction of an Annotated Sequence Database to Advance Molecular Genetic Investigations of Triphysaria versicolor, a Parasitic Angiosperm

Professor: Drs. John J. Yoder, Peter Torelli, Jeff Gregg
Research Interests: Application of computational tools to the analysis, annotation, and interpretation of data derived from genomic scale investigations of biological systems

Current Position: Working as an independent consultant, looking for a postdoctoral research position in a research institute

David J. Vigerust, Ph.D.
david.vigerust@usgs.gov
Institution: Department of Pathology, Vanderbilt University School of Medicine

Title: DNA-binding Histone Modulation of the Macrophase Membrane Receptor

Professor: Dr. Regina L. Sheehan
Research Interests: Molecular and cellular biology, immunology, and oncogenesis

Current Position: Postdoctoral fellow the Molecular Epidemiology and Toxicology Laboratory (METL) Division of Environmental Health Sciences School of Public Health, University of California, Berkeley

Sergio O. Gonzalez, Ph.D.
sergio@chalmers.se
Institution: Department of Chemistry, Texas A&M University

Title: Organic and Linear Polymers for Separation

Professor: Dr. Eric E. Smalun
Research Interests: Synthesis, modification, and new applications of synthetic and natural polymers

Current Position: Postdoctoral position at United States Department of Agriculture National Center for Agricultural Utilization Research (USDA-NCUR)

Dr. Gladys Escalona de Motta
Boston College
California State University, Dominguez Hills, Chair

Dr. Laura Robles
Department of Biology
California State University, Northridge, Chair
Summer Science Academy—continued from page 9

Seaport Museum. The students collected crabs, mussels, flounder, and other fish in an otter trawl, learned how to read charts, conducted water chemistry experiments, and raised the sails.

Our Beachcomber Ecology unit is also popular, in which the students identify sea shells by their Latin names and estimate the species richness and diversity of the habitats from which the shells were collected. We currently have collections from Florida, Cape Cod, Coney Island and the Salt Marsh Nature Center (the latter two are Brooklyn sites). The students themselves amassed the salt marsh collection over the years.

Another activity that celebrates Native American heritage (and thus human biodiversity) was a workshop held at the Staten Island Institute of Arts and Sciences on the Lenape Native Americans. The students were shown examples of artifacts used by these early peoples, such as snow for toobs and fastening tomahawks, and various skins of animals that were hunted for food and clothing.

There are summer science programs across the country for both students and teachers (see page 9). These programs are a valuable resource for both urban and rural youth and help show students the impact of science in our daily lives.

Ms. Jill E. Callahan received her B.A. in biology from St. Anselm College in New Hampshire. She has taught high school science and currently teaches biology labs at St. Francis College.

Dr. Kathleen A. Nolan received her B.S. in biology from Northeastern University in Boston, and her M.A. and Ph.D. in biology from the City College of New York. She has taught biology at Yeshiva University and Columbia University, and currently teaches at St. Francis College. She teaches high school students in the after-school program in the Creative Arts and Sciences program at the American Museum of Natural History, and has been the director of the St. Francis College Summer Science Academy for the past four years.

Starting with the summer newsletter, the SACNAS News will expand from 12 to 32 pages. New features will include:

- Longer in-depth feature articles
- Additional resources for students, professionals, and K–12 educators
- Advertising opportunities

advertising

To advertise in the premiere issue, contact Tanya Beat, Exhibits/Marketing Manager at 831-459-0170 ext. 241 or tanya@sacnas.org

Space reservation deadline for the July issue is May 18, 2005.