

Bios

The Biology Department Newsletter

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California State University
Northridge

California State University, Northridge

Bishop Appointed Biology Chair, Matos Assoc. Chair

Following the recommendation of the Biology faculty, University President Jolene Koester has appointed **Dr. Nancy Bishop** as Chair of the Biology Department. She assumed office on August 21 succeeding Dr. Jim Dole who stepped down upon retiring but who will continue to teach half-time for the next several years.

Dr. Bishop, a microbiologist, joined the Biology Department faculty in 1977. For the past year she served the Department as Associate Chair. Since coming to CSUN she has overseen the Medical Technology and the Microbiology programs, and has headed numerous important Departmental committees, among them the Graduate Committee.

Since joining the faculty, Dr. Bishop's principal focus has been Medical Microbiology, her specialty. In addition to a Ph.D., which she earned at UCLA in 1975, Dr. Bishop holds a California state license as a Clinical Laboratory Scientist specializing in bacteriology and serology, and has been identified as a Specialist Microbiologist in Public Health and Medical Laboratory Microbiology.

Dr. Bishop is a dedicated teacher and in 1982 was awarded this institution's highest honor for teaching, the Distinguished Teaching Award. One of her past students, currently a successful hospital manager in Colorado, had this to say about her: "(Throughout my career), I've carried a little bit of Dr. Nancy Bishop with me every day....I frequently remember your mannerisms; the way you were always well-prepared, your composure, your patience with students, your good humor...especially your gift for storytelling...all memories which have served me well...(I just wanted to acknowledge that) you are a shareholder in all the good things I have achieved."



Throughout her career, Dr. Bishop has been an active participant in the American Society for Microbiology and is currently President-elect of that organization's southern California branch. Many of her past students now hold leadership positions in various microbiological organizations, in various health departments, and in universities and colleges throughout California.

Dr. Bishop's research efforts have focused on the organism that causes syphilis, *Trepanema pallidum*, and she is the author of several publications on that organism. She has also been instrumental in bringing a number of microbiology conferences and workshops to the Cal State Northridge campus.

Upon assuming the position of Chair, Dr. Bishop appointed **Dr. Jennifer Matos** to be the Department's Associate Chair. In that capacity, Dr. Matos will work with Dr. Bishop on a wide variety of departmental matters.

Biology Students Publish with Faculty Mentors

Two undergrads, **Danielle Mahoney** and **Huong D. Can**, co-authored with their mentor, Dr. Randy Cohen, a paper in the *Journal of Insect Behavior*.

The paper is entitled "Possible regulation of feeding behavior in cockroach nymphs by the neurotransmitter octopamine." Huong held both a MARC and HOPE fellowship.

Dr. Paul Wilson and former undergraduate student **Michael Valenzuela** have co-authored an article in the *Western North American Naturalist*. The work is entitled "Three naturally occurring *Penstemon* hybrids." Another paper, this one co-authored by Dr. Wilson and his student **Jeannie Chari**, has appeared in the *Canadian Journal of Botany*. The title of the paper is "Factors limiting hybridization between *Penstemon spectabilis* and *Penstemon centranthifolius*."

Mario Enrique Vera, a former MARC fellow, authored an article for the Chicano/Latino Medical Student Association at UC Irvine. His paper, about his experiences volunteering as an interpreter at the UCI family health center, can be read at <http://www.geocities.com/uci/cmsa/>

A paper by undergraduate student **Jeanie Paris** and Dr. Cheryl Hogue has appeared in the *Bulletin of the Southern California Academy of Sciences*. The paper is entitled "Macroparasites of Pacific sanddab *Citharichthys sordidus* (Bothidae) from polluted waters of the Palos Verdes Shelf, southern California."

Several papers with student co-authors have appeared recently from Dr. Larry Allen's lab. Included in the 2002 *Marine Ecology Progress Series* was a paper by former student **Amy McClean Findlay** and Dr. Allen entitled "Settlement patterns of a temperate reef fish, the kelp bass (*Paralabrax clathratus*), at Santa Catalina Island, CA." Amy and former student **Carol Phalen** were co-authors with Dr. Allen on a paper published in the *Bulletin of the Southern California Academy of Sciences* entitled "The fish assemblages of San Diego Bay in the five-year period of July 1994 to April 1999." In addition, "The reproductive

pattern of barred sand bass (*Paralabrax nebulifer*) from southern California” was published in the *California COFI Reports* with two students, **Cheryl (Baca) Hovey** and **Tim Hovey**, as co-authors with Dr. Allen. Tim and Dr. Allen also shared authorship on three papers about specific fish species—Barred Sand Bass, Kelp Bass, Spotted Sand Bass—that appeared in *California’s Living Marine Resources: A Status Report*, a book published by the California Department of Fish and Game.

A paper based on work done in Dr. Steven Oppenheimer’s lab was published in *Acta Histochemica*. The article entitled “Analysis of surface properties of human cancer cells using derivatized agarose beads,” was co-authored by students **Maria Khurram, Gayani Weerasinghe, Evelyn Soriano, Rashad Rimam, Oliver Badali, Stephanie Gipson, Jessica Medina, Juan Alfaro, Vanessa Navarro, Caroline Harieg, Lylla Ngo, Tharinee Sakhakorn, Lital Kirszenbaum, David Khatibi, Karolin Abedi, Marcela Barajas, Greg Zem, Adit Kirszenbaum** and **Arash Razi**, as well as Dr. Oppenheimer. Maria, Gayani, Evelyn, Stephanie, Vanessa, Lylla and Marcela are (or were) MBRS students; Caroline was a MARC fellow and Rashad, Jessica and Juan have been supported by the ONR RISE program. Greg is an NSF fellow. According to Dr. Oppenheimer, “This is the first full-length peer-reviewed paper on a unique assay I and my students developed to examine surfaces of human cancer cells in an entirely novel manner.” The two-year project was funded by NIH, NSF, ONR and Joseph Drown Foundation grants.

Students Present Research

This past April students working in Dr. Randy Cohen’s lab presented two posters at the Experimental Biology 2002 meeting in New Orleans. Graduate student **Cyrille Khalili** and undergraduate **Jaime Lopez**, a MARC fellow, presented a paper on “Mapping of glutamate and GABA_A receptors in the cerebellum and hippocampus of the spastic Han-Wistar rat: evidence of altered expression.” At the same meeting **Delilah Toledo, Jorge Iniguez, Adi Frimerman, April Ochoa** and **Pamela Villasenor**, all undergrads, entitled “Do cannabinoids facilitate neuroprotection in the spastic Han-Wistar

rat?” Jorge and April are RISE fellows; Pamela is a MARC fellow.

Sarah Kimball and Dr. Paul Wilson gave a jointly authored poster at this year’s meetings of the Ecological Society of America. The poster, entitled “Local ecology and geographic affinities of plants from the eastern Sierra Nevada,” is now on display in the third floor hall of Science 1. Sarah completed her M.S. under the tutelage of Dr. Paula Schiffman. Undergraduate student **Matthew Danielczyk**, who is working with Dr. Paul Wilson, also attended the meeting.

Graduate student **Andrew Norris** and his mentor, Dr. Virginia Vandergon, presented a poster at the Evolution Society meeting in Urbana-Champaign, Illinois. The poster was entitled, “Molecular evolution of the myb gene family in the grasses.” Andrew’s travel costs were partially subsidized with a travel grant from the Biology Department.

Three students from Dr. Larry Allen’s lab presented their research at the July meeting of the American Association of Ichthyologists and Herpetologists in Kansas City. Graduate student **Brad Erisman** gave a paper entitled “Behavior, sexual dichromatism and spawning behavior of kelp bass, *Paralabrax clathratus*, from southern California.” Fellow student **Jana Cobb** gave a poster presentation of her study of “Population dynamics and productivity of cryptic fishes.” **Mia Adreani** presented a paper on “Reproductive behavior and mating system of the temperate wrasse, *Halichoeres semicinctus*,” for which she received the society’s prestigious Stoye Award (see Student Awards section). Three other graduate students—**John Froeschke, Josh Lindsay, and Matt Salomon**—also attended the meetings.

Three students working with Drs. Steve Dudgeon and Janet Kübler—**Janna Fierst, Casey Terhorst** and **Christin Slaughter**—attended the Benthic Ecology Meeting in Orlando, Florida. The three presented papers entitled, respectively, “Spatial and temporal distribution of life history variants in the red alga, *Mastocarpus papillatus*,” “The effect of pre-settlement factors on life history patterns in red algae (Rhodophyta),” and “Asymmetric gametic incompatibility between the blue mussels *Mytilus edulis* and *Mytilus trossulus*.” Janna also presented her work at the Phycological Society of America

meeting in Madison, Wisconsin.

Michael Brewer, a graduate student working with Dr. Fritz Hertel, spent two weeks on Johnston Atoll collecting data for his Master’s thesis and presented a poster at the Pacific Seabird Conference and a talk at the National Ornithological Conference on differences in wing morphology of tropical seabirds.

Several students recently presented posters at national meetings based on work done in Dr. Steven Oppenheimer’s lab. At the Madison, Wisconsin meeting of the Society for Developmental Biology **Lylla Ngo** and **Greg Zem** presented work on “Bead analysis of sea urchin sperm.” At the same meeting **Arash Razi** gave a paper entitled “Specificity assay for cell binding to derivatized beads.” At the Experimental Biology 2002 meeting in New Orleans, students **Maria Khurram, Stephanie Gipson** and **Greg Zem** presented their study on “Specificity of derivatized bead binding to human cancer cells.” Presented at the same meeting was a paper by students **Oliver Badali** and **Linda Chaman** entitled “pH effects on fixed and live cell binding to derivatized agarose beads.” The travel costs of Oliver, Linda and Arash were partially covered by funds from the Biology Department, College of Science and Math, and the Associated Students. Dr. Oppenheimer and several other students who did not attend the meetings are co-authors on the posters. Abstracts of the posters appeared in *Developmental Biology* and the *FASEB Journal*, respectively. Lylla, Maria and Stephanie are MBRS students. Greg is a middle school teacher and an NSF fellow.

Faculty Publish, Present Results of Research

Dr. Aida Metzenberg is co-author on a recent paper published in *Human Mutation*. The paper is entitled “Characterization of mutations in fifty North American patients with X-linked myotubular myopathy.” Five colleagues at Ohio State and the University of Chicago were co-authors.

Dr. Paul Wilson was an author on a symposium talk, “Explaining pollinator shifts,” at a recent meeting of the Ecological Society of America. He co-authored a contributed poster presentation on “Relating pollination syndrome characters and

flower visitor spectra,” at the same meeting. In addition, Dr. Wilson has co-authored a paper with two collaborators at the University of Toronto in the *American Journal of Botany*. The title of the paper is “Dynamic nectar replenishment in flowers of *Penstemon* (Scrophulariaceae).”

Two papers authored by **Dr. David Gray** have been published. One, entitled “Is cricket courtship song condition dependent?” appeared in *Animal Behaviour*. It was co-authored by Gillian Eckhardt. The second paper, “Divergence between the courtship songs of the field crickets *Gryllus texensis* and *Gryllus rubens* (Orthoptera, Gryllidae),” was published in *Ethology*. Co-author on that paper was Mark Fitzpatrick. Both co-authors are students who worked with Dr. Gray before he joined our faculty.

Dr. Steve Dudgeon presented his research at the Benthic Ecology Meeting in Orlando, FL and the CEA-CREST meeting in Pasadena. The paper at both was entitled, “The when, where and why of alternative states in marine rocky intertidal landscapes.” At a hydroid development conference at UC Irvine in July he talked about the development of artificial diets for experimental work with hydrozoans.

Dr. Rheem Medh has recently published a paper entitled “Microarray-based expression profiling of normal and malignant immune cells.” The paper appeared in *Endocrine Reviews*.

Dr. Janet Kübler published three papers in the past year. The first, co-authored with Dr. John Raven and entitled “New light on the scaling of metabolic rate with the size of algae” appeared in the *Journal of Phycology*. The other two, co-authored with a host of British and Australian scientists, were entitled “Mechanistic interpretation of carbon isotope discrimination by marine macroalgae and seagrasses” and “Seaweeds in cold sea: evolution and carbon acquisition.” They were published in the *Annals of Botany* and *Functional Plant Biology*, respectively.

Drs. Steve Dudgeon and Janet Kübler presented a poster of their work at a new meeting, entitled CORONA, held on the Isles of Shoals off the coast of Portsmouth, N.H. CORONA, an acronym for Coordinating Research on the North Atlantic, brought together investigators from diverse disciplines (oceanography, paleontology, phylogeography, ecology, and systematics

of fish, invertebrates and algae) who share an interest in the marine environment of the North Atlantic but who otherwise are unlikely to interact. Says Dr. Dudgeon, “The meeting also had a more lofty goal; namely, to develop an integrated plan of research that will be executed simultaneously and across disciplines by research teams on both sides of the North Atlantic.”

Students Earn Fellowships, Honors, Awards, Grants,

Mia Adreani’s presentation of her research at the American Society of Ichthyology and Herpetology’s annual meeting won her the society’s most prestigious student honor, the Stoye Award for Ecology and Ethology. Mia is the second of Dr. Larry Allen’s students to claim the award, following in the footsteps of Amy McClean Findlay. Mia is also the recipient of a PADI Foundation grant for \$1400 and a Graduate Research Internship at the Wrigley Marine Science Center, Santa Catalina Island for summers 2001, 2002.

Biology major **Sally Smith** was one of six Cal State University students statewide chosen to receive the system’s prestigious Hearst/Trustees’ Award for Outstanding Achievement. Sally and her fellow awardees were recognized by the CSU’s Board of Trustees at its July meeting. The award comes with \$3000 in scholarships. Sally was selected as a honoree in part because she has successfully overcome a long-term drug addiction and multiple medical problems, returned to school and, nearing completion of her bachelor’s degree, has maintained a 3.77 GPA.

Five Biology students are recipients of Graduate Equity Fellowships from the University’s Office of Graduate Studies. Winners of the award (and their research mentors) include **Diana Andres** (Dr. Robert Espinoza), **Mahboubeh Azarmnia** (Dr. Michael Summers), **Marcela Barajas** (Dr. Steve Oppenheimer), **Rolando Maldonado** (Dr. Cheryl Hogue) and **Claudia Toledo** (Dr. Lisa Banner). The awards range in value from \$2000 to \$4000.

Brad Erisman, a graduate student working with Dr. Larry Allen, was awarded \$800 to attend the national meeting of the American Society of Ichthyologists and Herpetologists in Kansas City. The funds were awarded by the Biology Department, the College of Science and Math, the office of

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Twilight Party Attracts Many to Botanic Garden

— by Marisue Eastlake
Advancement Associate
College of Science & Math

The sun set and the day cooled off, but the CSUN Botanic Garden sizzled with fun during the highly successful Twilight Garden Party. Over 100 guests enjoyed good food, wine from three vineyards and refreshment from Hollywood Blonde beer during the second annual event.

Biology Department Chair Nancy Bishop and Dean Edward J. Carroll Jr. opened the evening with brief comments about the garden and its academic and community uses. Organizers put outgoing chair Jim Dole and his wife Betty, both oenophiles, to work pouring Callaway Coastal wines. Nearby, grad student Ainsley Nenarella served up offerings from Kalyra Winery and Firestone Vineyard. Meanwhile, Newhall Coffee provided plenty of pick-me-up for those desiring some hot brew.

The mellow sounds of a jazz trio hit just the right note, drifting over guests seated at bistro-style tables in the lawn area and artists displaying their wares. Brian Houck and Brenda Kanno dedicated a bench to the garden’s hard-working volunteers. Friends of the Garden gained new members and good karma, particularly after the exciting and bountiful plant raffle (tickets for same artfully sold by Larry Caretto and Dick Eastlake).

Many thanks to the Alumni Relations Office for providing wine and their efforts on the day of the event, and to the Cal State Northridge Extension for helping with food costs and set-up. Toni Uhlendorff and the vivarium crew earned tremendous thanks for set-up assistance. Volunteers deserving thanks include: Darren Andre, Christina Banuelos, Eric Boyer, Nedra Bushby, Joan Citron, Linda Cook, Helen DeGryfas, John Diggle, Barb Frye, Tim Gales, Paula Hefter, Jennifer Matos, Trina Medof, Jeana Miller, Daniel Miramontez, James Munn, Barbara Ohanessian, and Boris and Amy Savic.

A new tradition has been planted. Mark your calendars now for August 23, 2003, when the next twilight garden party is planned.

Bios invites articles written by students about their personal "biological experiences." Interested students are encouraged to consult with the editors regarding their ideas.

About the student author: **Laurie Requa** is a new graduate student working with Dr. Peter Edmunds. She graduated from the University of Colorado. **Annet-tee Angus**, an undergraduate student, works with Dr. Aida Metzenberg. **Andrew Ellis**, a graduate student, works with Dr. Paula Schiffman.

New Graduate Student Earns Frequent Flyer Miles

— by Laurie C. Requa

Los Angeles to Key Largo, Florida, 3000 miles.—I joined Dr. Pete Edmunds' "Team Polyp" in March as a Master's student at CSUN, and found this a great summer to be a new student. Dr. Edmunds flew a group of scientists and me to Key Largo, FL to work at *Aquarius*, the world's only underwater habitat. My role was to be a surface support diver for the team members who lived in the habitat for ten days. That meant I had the chance to dive in awesome tropical waters, conduct original research, and still have a hot shower and meal at the end of the day.

I have gone diving in the Caribbean many times, so I was comfortable with that aspect of my job, but the research was new to me. I quickly learned how panty hose can be utilized for coral larvae collection instead of as a fashion item (or irritant). But most importantly, I had an opportunity to work with internationally renowned scientists—Drs. Edmunds, Ruth Gates of UCLA and Ove Hoegh-Guldberg of the University of Queensland—on a professional level.

Los Angeles to St. John, 4000 miles (and a dirt road).—After the Florida trip we headed to St. John, US Virgin Islands. Having lived next door on St. Thomas, I felt as if I was back home. On St. John, my job was to collect data on coral survival by making extensive searches with a metal detector for aluminum tags. Though I found several hundred tags, I did not dig up any buried treasure.

St. John's reef system is protected by the National Park and Biosphere Reserve, so it is healthier than the reef in Florida.

The bay where we worked is quite isolated, accessible only by a narrow, very steep dirt road. Although this kept tourist travel to a minimum, judging from all the weights, line and hooks we collected, over-fishing was very obvious. A reef shark visited the bay the first week and a huge nurse shark hung out at one of our sites the second.

The best part of being a scientist is being in the field with all the sand, salt, bugs, and colleagues, collecting data, speculating about the results, coming up with new ideas, and sharing the discoveries with the rest of the world.

A Summer Away and No Time to Play: What's the Point?

— by Annette A. Angus

I have been a part of the Minority Access to Research Careers (MARC) Program at CSUN, directed by Dr. Maria Elena Zavala, since the summer of 2001. Through this program I have had the good fortune of working with Dr. Aida Metzenberg, a human geneticist who focuses on inherited disorders. My research with her has been an amazing experience, and has allowed me to develop critically as a future scientist. I didn't just help Dr. Metzenberg with her work. I was given my own research project, starting from scratch, and with her guidance I set my research into full swing. Not only have I been able to acquire "lab hands," I have learned the importance of social aspects of science with respect to publication and attendance at national conferences. I thought that after a year with Dr. Metzenberg, I surely had all the experience I'd need for my journey to graduate school. But then came summer!

I was terrified at the thought of going away for an entire summer. Where would I go? What would I do? Who would I know? These were just a few of the concerns that filled my head when Dr. Zavala informed the MARC students that a summer research program at another university was required of all of us. The intent, she said, was to enrich us by exposing us to people and programs at another university. My stubbornness and belief that I could enrich myself right here at CSUN caused me to resist. Why should we have to leave? But, knowing I had no choice, I worried

constantly about my summer. I could not see how a summer away from home would enhance my career goals, inspire me, or ultimately change my life. I dreaded leaving and thought only about how I would be behind in my research here, how I would miss my family and friends, and how I would fit in at a new lab.

Upon acceptance to the S.T.A.R.S. program at UC-San Diego my outlook began to change. I finally began to think about the new techniques I would learn and of the important contacts that I would gain from the exposure. I can remember the exact moment that I opened my mind. As I drove down the coast to San Diego I felt a moment of solace. I told myself that doesn't hurt me can only make me stronger, and how much could a summer away hurt me anyway?

At UCSD my faculty mentor was Dr. Immo E. Scheffler, a molecular geneticist who studies mammalian mitochondria. I felt like part of the lab right away. Dr. Scheffler encouraged me to learn a variety of techniques, and was excellent in providing me with the support that I needed. He really cared about my understanding, and would occasionally take the time to personally explain complex theories to me or just spark up a conversation about the latest advancements or issues in the scientific community.

The S.T.A.R.S. program was also instrumental in providing a dynamic experience for me. All participants were given GRE test preparation classes and numerous other resources that I deemed to be priceless opportunities. At the end of the summer I looked back at all that I had gained—and it has changed me forever!

But the most important thing I learned wasn't a lab protocol or a test-taking strategy. Rather, it was how much I truly appreciate and value my undergraduate experience at CSUN. UCSD is a research-gear university and does not provide the close attention to its students that CSUN does. Here I, an undergraduate, have had an opportunity to be personally involved in meaningful research, something that most undergraduates at UCSD will never get a chance to have. This University has provided me with the type of atmosphere essential for my success: programs like M.A.R.C. and faculty like Drs. Metzenberg and Zavala. I had to go away to realize the value of my education at home.

Crusty soils: How do they affect native plants?

— by Andrew Ellis

As a graduate student working with Dr. Paula Schiffman I've become interested in how biological soil crusts affect the germination and growth of California native plants. I've been fascinated with conservation issues for years and this project provides me the perfect opportunity to work on questions directly related to the conservation of native California plants. My research focuses on the soil crusts at the Carrizo Plain National Monument in San Luis Obispo County, where Dr. Schiffman has been working for some time.

Soil crusts are micro-communities that grow at the soil surface of dry environments such as deserts, prairie grasslands and chaparral. The composition of crust communities varies but bryophytes, algae, cyanobacteria, lichens, fungi, and microarthropods all occur. In arid lands, soil crusts play a crucial role in creating microhabitats that promote the germination and establishment of plants. Not only do they increase the moisture content at the soil surface, but they contribute significant amounts of useable nitrogen to the soil.

Because soil crusts and California's native flora have co-occurred for thousands of years, crust-plant mutualisms have likely coevolved such that native plants don't grow well without them (and possibly vice versa). But, soil crusts are fragile and vulnerable to disturbances caused by cattle, off-road vehicles and people. Disturbances break up the crusts perhaps facilitating colonization by invasive non-native species.

The above idea has not been tested, and that's where I come in. My hypothesis is that soil crusts enhance germination of native plant seeds and by so doing enables them to out compete the non-natives. To test this idea, I collected soil crusts and maintained them in the lab. This fall, I'll conduct laboratory germination experiments and will follow this during the winter with field tests on the Carrizo Plain. While I enjoy the laboratory aspects of this project (it's a lot like gardening, but on a tiny scale), I'm really excited about working this winter at the Carrizo Plain. When I'm there, I always see antelope, kit foxes, coyotes, falcons, hawks, eagles and kangaroo rats. I know I'm supposed to be studying plants, but I just can't help but look at the wildlife.

Over the summer break I met John Tisler, a botanist for the National Park Service at Santa Monica Mountains National Recreation Area. He, too, is interested in biological soil crusts. For him it would be especially useful to know if soil crusts can be propagated in disturbed areas, thus giving native plants an advantage during the critical early germination phase. Because my study at the Carrizo Plain relates to John's, we decided to collaborate. Recently, I made a proposal to include the Santa Monica Mountains in my experiments and, now that it has been accepted, I'm getting really excited. This new aspect of my study will enable me to compare data from two different ecosystems (prairie grassland and chaparral) and my results will almost certainly be of more interest to a wider audience. But on a more practical note, the work at SMMNRA gives me a back-up study site just in case the Carrizo gets no rain this year and I get no data!

My hope is that my study will both make a contribution to the conservation of California's native plant community and provide me with some new direction in my career as conservation ecologist. Now all I need is one good rainy winter so that I will have lots of wildflowers and I can collect lots of data.

Biology Honors Program Seeks a Few Good Students

Says Dr. Cheryl Hogue, program director, "The Biology Honors Program is a great way for undergraduates to obtain research experience. Not only will they learn what research is all about, they will enhance their academic careers and be better prepared for graduate or professional school."

Students admitted to the program conduct a research study under the direction of a faculty sponsor and submit their work as a Senior Thesis to the Honors Committee. Students who complete the program are honored with a special certificate at a Department Awards ceremony during commencement week and have a special notation on their transcripts.

To be considered for the program, an applicant must have completed 90 units of college work, hold a GPA of 3.50 in the major and overall, and have a faculty sponsor. If interested, contact Dr. Hogue via email at cheryl.hogue@csun.edu or by phone at 677-3349.

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Graduate Studies and the Associated Students.

Janna Fierst, a graduate student working with Dr. Steve Dudgeon, received three grants totaling \$2650. Grants from the Phycological Society of America (PSA) and the PADI Project Aware program will directly support her research. A third, a Hoshaw Travel grant, paid the costs of attending the PSA meeting in Madison.

Ronit Lavie, a graduate student working with Dr. Cheryl Hogue, won the prize for the best student poster at the 2002 meeting of the Southern California Academy of Sciences. The title of Ronit's poster was "Parasite mediated sexual selection of green swordtails, *Xiphophorus helleri*."

Julio Dardon and **Thao Tran**, students at Mission College, received summer fellowships to work in Dr. Steve Oppenheimer's lab during the summer.

Biology Faculty Garner Grants and Awards

The University of Puerto Rico has awarded **Dr. Peter Edmunds** a two-year, \$27,212 Sea Grant. The funds will support a project entitled "The demographics of changing coral community structure in St. John, USVI." In addition, the NOAA/National Undersea Research Program has agreed to support Dr. Edmunds' two-year project using the *Aquarius* undersea habitat near Key Largo, Florida. This project, in collaboration with **Dr. Ruth Gates**, an Adjunct Professor and Research Scientist at Cal State Northridge, and Dr. Ove Hoegh-Guldberg of the University of Queensland, is entitled "Global climate change and coral recruitment: The interactive effects of temperature and ontogeny on the biology of *Porites astreoides* larvae." The award provides support in the form of boat time and days in the habitat to a value of more than \$100,000, plus science support at this campus of about \$50,000. Dr. Edmunds also received a \$30,774 grant from the University of North Carolina at Wilmington to fund the global climate change project.

Dr. Larry Allen received \$136,632 from the California Department of Fish and Game to continue his research on the

—see Grants, page 7—

Biology Faculty Take Lead in Improving K-12 Science Teaching and Learning

When asked to account for the Earth's seasons, a student explains that the distance between the Earth and the sun changes as the year progresses. Another, asked how evolution works, says that change occurs because organisms, facing different needs, use (or fail to use) particular structures. Still another, asked the same question, simply dismisses the concept as "just a theory," no better grounded than the idea of "special creation."

All the above answers are wrong. Yet these misunderstandings are commonplace among students. These and similar misconceptions reflect a profound failure in how science has been taught, with the result that many recent high school graduates have little understanding of or appreciation for science. Indeed, many find science incomprehensible and simply dismiss it as irrelevant in their lives.

Concerned about the effect on society of a scientifically illiterate, even science-hostile citizenry, members of this University's Biology faculty have taken a keen interest in improving the way science is taught. Following are a few of the actions and programs that the Biology Department and its faculty have taken to address the problem.

Targeting Prospective Teachers

One of the University's roles is to train teachers. The College of Education is charged with ensuring that prospective teachers know how to teach, but responsibility for inculcating knowledge of subject matter falls to the academic departments.

Recognizing this, in 1999 the Biology Department dedicated a faculty position to improving the understanding of science among students pursuing a career in teaching. The position came with a mandate to develop a biology course specifically for prospective teachers and to develop programs to enhance the teaching of science at all levels.

Dr. Virginia Vandergon, an evolutionary geneticist with experience as a high school science teacher, was hired to fill that position. Since arriving on campus she has created a course for prospective teachers, has visited numerous local schools and created partnerships in science learning, and has worked to bring teachers onto campus to learn first-hand how science works. Her contributions are evident in much of what follows.

Targeting Science Standards

Spurred by the dismal level of science teaching in the local schools, a few years back **Dr. Stan Metzenberg** sought to change things. Heading a committee of eminent scientists, among them several from our own Department, he spearheaded a successful effort to completely revamp the science content for the state's schools. His efforts culminated with the establishment in 1999 of an entirely new set of "science standards" for California.

This past year, Dr. Metzenberg authored a detailed, 91 page syllabus for an introductory biology course. Published as one of eighteen chapters in a compilation of different subjects, his course outline is intended to prepare elementary and middle school teachers to teach biology. Available on compact disc from the Virginia-based Core Knowledge Foundation, the program is proving to be a major aid to teachers wishing to improve their knowledge of biology. Says the Foundation, "We believe that these courses, taken together, will give aspiring teachers a solid grounding in the subjects at the center of the elementary curriculum."

Targeting In-service Teachers

Looking to improve science education at the middle school level, **Drs. Steve Oppenheimer, Virginia Vandergon and Gerry Simila** (Geosciences) sought funds for a program to enhance teachers' understanding of the California Science Standards in the natural sciences. Their efforts paid off with the awarding of a three-year, \$809,882 grant from the California Postsecondary Education Commission's Dwight D. Eisenhower Grant Program for the trio's Superfunded Science Leader Initiative.

Another program led by Drs. Oppenheimer, Vandergon is the California Science Project (CSP). During summer 2002, the CSP held its third summer institute. Participants were mostly middle school teachers from the Los Angeles Unified School District. For eight hours daily participants devoted themselves to hands-on projects that they could use to inspire their own students while exposing them to scientific principles. The activities paralleled the California science standards. Helping in the areas of lesson study, English language learners, chemistry and technology, were Drs. Ana Serrano, David Kretschmer and

Norm Herr of the College of Education.

According to Dr. Oppenheimer, "This summer we created a cadre of leaders among the middle school science teachers who will now work with colleagues to improve science teaching in their schools." The program is continuing this fall on Saturdays. Applications for the next year-long program are due September 28.

Targeting Research Methodology

Another of Dr. Oppenheimer's programs is designed to teach teachers to "do" science by involving them in original research. Each year the Research Experiences Program, funded by the NSF and the Eisenhower Professional Development Program, brings teachers from the local schools to campus for several weeks to work on research projects under the guidance of Biology faculty. Faculty members who guided this year's crop of teachers include **Drs. Edward Carroll, Randy Cohen, Cathy Coyle-Thompson, Steve Dudgeon, Robert Espinoza, Cheryl Hogue, Janet Kübler, Stan Metzenberg, Steve Oppenheimer, Mike Summers, Paul Tomasek and Virginia Vandergon.**

In addition to the laboratory experience, some of the teacher / participants presented their work at national meetings. One middle-school teacher, **Greg Zem**, has co-authored a peer-reviewed research paper with Dr. Oppenheimer and others may do so in the future.

Targeting Local Students

Once familiar with scientific methodology, teachers in the Research Experiences program return to their own classrooms where they involve their students in scientific studies. The results of the students' work are then published in the *Journal of Student Research Abstracts*, a publication created and edited by Dr. Oppenheimer. The most recent volume contains abstracts of studies involving more than 350 students.

Some students also present their work at a Poster Symposium at Cal State Northridge, also organized by Dr. Oppenheimer. At last June's symposium more than 100 K-12 students co-authored posters.

At the event, teacher Greg Zem, a CSUN alumnus who teaches at Lawrence Middle School, won a Distinguished Research Award for sponsoring the best student posters.

—Grants: con't from page 5—

distribution of juvenile white seabass off the coast of southern California.

CSUPERB has awarded **Dr. Rheem Medh** and her sister, Dr. Jheem Medh (Chemistry), \$15,000 to fund a proposed study of the "Role of the antiproliferative gene BRG1 in modulation of macrophage function and atherosclerosis."

Drs. Jennifer Matos, Polly Schiffman and **Fritz Hertel** received a \$15,000 Cal State Northridge Instructionally Related Activities (IRA) grant to support the Tropical Biology Semester that debuts spring 2003.

Dr. Virginia Vandergon also received an IRA grant. The \$1,500 she garnered

will provide materials for a Community Service-learning component of her Biology 102 class.

Biology Faculty were among the big winners in the 2002-03 Faculty Research Competition funded by the Office of Graduate Studies, Research and International Programs. Awarded funds for student support and/or supplies and equipment were **Drs. Lisa Banner, Robert Carpenter, Randy Cohen, Steven Dudgeon, Peter Edmunds, David Gray, Cheryl Hogue, Rheem Medh, Aida Metzenberg, Stan Metzenberg** and **Virginia Vandergon**. The awards ranged from \$3,605 to \$5000. Two other biologists—**Drs. Robert Espinoza** and **Jen-**

nifer Matos—received three units of reassigned time for spring semester, plus \$637 for supplies.

Five Biology faculty members were named as recipients of College of Science and Mathematics Research Support Program awards. **Drs. David Gray** and **Rheem Medh** received three units of reassigned time for spring semester. Recipients of mini-grants ranging in value from \$4182 to \$4200 include **Drs. Pete Edmunds, Lisa Banner** and **Virginia Vandergon**.

The Center for Community Service-learning awarded **Drs. Rheem Medh** and **Virginia Vandergon** each a \$750 Curriculum Development Grant. The funds will support a student project in their Genetics classes.

The National Renewable Energy Laboratory has approved a \$30,000 award to **Dr. Larry Baresi** to support his project on "Characterizing microbial populations and metabolic signatures in forest soils."

Five Biology faculty have received Judge Julian Beck grants. **Dr. David Gray** received \$4,405 to support his project on the "Development of a computer simulation model to enhance student learning." A grant of \$5,000 to **Dr. Virginia Vandergon** will fund her project entitled "Can service-learning better teach science content to pre-service teachers?" **Drs. Jennifer Matos, Fritz Hertel** and **Polly Schiffman** were joint recipients of \$2,170 that will support student assistants in their Tropical Biology Semester next spring.

Dr. Steven Dudgeon received a multi-year MBRS-SCORE grant with \$34,986 for the first year. The money will fund the study on "Hydrodynamic regulation of vascular growth in Hydrozoa."

Dr. Michael Summers was recently notified that the National Science Foundation had awarded him \$99,024 to continue his work on "Routes and regulation of cyanobacterial carbon catabolism."

Science Olympiad a Success

For the third year, the University hosted the Science Olympiad last spring. For the event, hundreds of middle and high school students from all over Los Angeles County descended on the campus to participate in a variety of science and engineering activities.

Dr. Steve Oppenheimer, principal coordinator of the Olympiad, was aided by eight Biology faculty and staff—**Drs.**

Tropical Biology Semester In Costa Rica Planned for Spring 2003

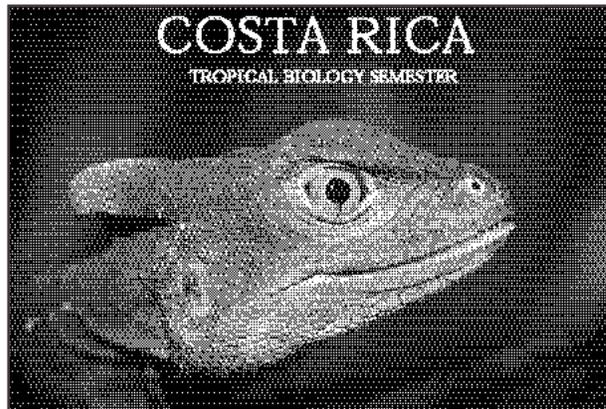
Plans for the first tropical semester in Costa Rica (spring '03) are in full swing. Four courses are being offered: Biology of Tropical Vertebrates (5 units), Tropical Botany (5 units), Tropical Ecology and Conservation (5 units) and a Seminar (Seminar Topics in Tropical Biology, 3 units), for a total of 18 total units. The courses can fulfill an elective, the comparative biology and ecology requirements for the B.A., or fulfill ecology, botany, and zoology requirements and two field studies requirements for the Environmental B.S. option. Students must enroll in all courses.

Weeks 1-5 of the semester will be spent on campus. During this period students will attend lectures and conduct laboratory activities for each course, read and discuss relevant literature, and learn field sampling methodologies and experimental design and analysis.

Weeks 6-10 will be spent in Costa Rica at several localities studying a diversity of ecological systems (a seasonally dry forest, a magnificent cloud forest, an Atlantic lowland rainforest, and a high elevation subtropical forest). In addition, there will be a weekend of R&R at a tropical reef-encircled lagoon. At each site activities will include hands-on learning about tropical natural history, discussing appropriate projects, gathering field data, presenting the outcome of group and individual research conducted at each site, and discussing how the field projects can add to the current literature.

After the field experience, weeks 11-15 will see the group back on campus analyzing data, doing literature research, writing papers, and presenting final projects. It is expected that some of these projects will result in student-authored or co-authored publications, and there is the possibility of initiating M.S. projects for new graduate students during the time spent in Costa Rica.

If interested in an unforgettable experience learning about and experiencing the New World tropics, act now! Only a few spaces are still available. For more information contact one of the instructors: **Dr. Fritz Hertel** (677-3353), **Dr. Jennifer Matos** (677-2158) or **Dr. Paula Schiffman** (677-3350).



Lisa Banner, Nancy Bishop, Cheryl Hogue, Jim Hogue, Rheem Medh, Mike Summers, Paul Tomasek and Virginia Vandergon—who served as event captains. Many other faculty from other departments also participated.

Dental School Acceptance Rate at All-time High

According to Dr. Mary Corcoran, Pre-Dental advisor, in fall 2001 (the most recent year for which data are available) 28 Cal State Northridge graduates entered dental school. This number surpassed the yearly average (20.5) of the last fifteen years.

Most of this University's students attend California schools with USC, UOP and UCLA the favorites. But, many stu-

dents elect to attend out-of-state schools as well, with Boston and New York Universities consistently the most popular; this pattern held firm among fall 2001 acceptees.

Students expecting to enter the field of dentistry are urged to contact Dr. Corcoran. Her office is Science 3217.

Faculty Serve Beyond Campus

In May **Dr. Maria Elena Zavala** presented an invited lecture at the FASEB meeting on "The role of scientific societies in staunching the leaky pipeline." She also presented the first Andreoli Woods Lecture at CSULA on "The development of a scientist and roots: A dynamic equilibrium" and an invited mini-symposium, "Planting the seeds of equity to reap a harvest of scientists," at the annual meeting of the Amer-

ican Society for Plant Biologists. In addition, Dr. Zavala mentored four CSU students, participants in the Minority International Research Training program of the CSU LA Basin Consortium, in Cambridge, England.

Dr. Tacheeni Scott was a member of a National Research Council group that evaluated 75 predoctoral fellowships for the Howard Hughes Medical Institute.

Dr. Steve Oppenheimer has been selected as a manuscript reviewer by the *Journal of Histochemistry and Cytochemistry*.

For the third year, **Dr. Paula Schiffman** taught a class through UCRiverside Extension entitled "Shrubs and trees of Joshua Tree National Park—A look at desert plants during the non-blooming season." The class, taught in March, provided participants an overview of plant ecology of the park and the surrounding desert.

Dr. Steven Dudgeon gave a seminar at Humboldt State University entitled "Alter-

Student Organizations

Pre-Dental Club

The first meeting of the Pre-Dental Club was held on Sept. 13. At the meeting club President, **Michelle Prilutsky**, and Vice President, **James Grosleib**, related their experiences taking the DAT and applying to dental school. They also answered questions and offered advice to others going through the same process.

The club now has its own website at <http://www.csun.edu/~hbund550/>. On the site is information on dental school preparation and requirements.

Microbiology Students Association

Last year was a great one for the MSA: interesting and informative speakers, a fermentation field trip (i.e., a visit to a winery), and a community service project. For our project we planted trees at the Painted Turtle Camp for children with acute illnesses.

If these activities sound interesting and fun (they are!), why not join the MSA? Become a part of a very active and social group. Sign up now and help plan this year's activities.

MSA membership is open to all interested students. Dues are a bargain, just \$5 per year. For more information, contact Dr. Nancy Bishop or Paul Tomasek. Or talk with one of the club officers: **Jeanie Paris, Raquel Martinez, Denise Bell and Natalie Chikani**.

Power to the Prokaryotes!

NOTES FROM THE ADVISEMENT CENTER

Advisement Center hours

"Students are invited to stop by the Biology Advisement Center (Science 2133) to have academic questions answered," says **Dr. John Kontogiannis**, Biology's faculty advisor. Dr. Kontogiannis is assisted this semester by graduate students **Marcela Barajas, Melina Gregorian, Rolando Maldonado and Sehar Sajadi**.

All student advisors are well-trained and knowledgeable of University procedures, thanks to the efforts of **Dr. Joyce Maxwell**. Dr. Maxwell, working under the auspices of the MARC/MBRS programs, is responsible for keeping the advisors aware of new rules and procedures.

The Center is open 26 hours per week; hours are posted on the door.

Advisement required for spring

Before enrolling for the spring semester, all Biology students must seek advisement. Only then will the University's computer be programmed to allow them to register via TTR. Students can avoid long lines by visiting the Advisement Center now and have their proposed program approved and a green slip signed. The Advisement Center will hold all green slips and turn them in at the appropriate time.

Upper-division writing exam, a must for graduation

Students expecting to graduate must attempt the Upper Division Writing Proficiency Exam no later than the semester in which they have completed 90 units. Students planning to graduate in spring 2003 must pass the exam no later than April 26. For more information call the Testing Office at 677-3303.

Expecting to graduate next year? File grad check now!

Undergraduates expecting to graduate spring or summer 2004 must file a Graduation Evaluation form (Grad Check) no later than May 2. Students may have their forms completed at the Biology Advisement Center.

Accessing advisement info

A free Biology Advisement Handbook provides invaluable information on program requirements and course equivalencies. The Advisement Handbook can be obtained in the Advisement Center or at www.csun.edu/biology.

Career information available

Career sheets are available in the Advisement Center. Each sheet describes career opportunities associated with the various Biology options.

native states in biology: Their use in studying variation in natural systems." This past spring, Dr. Dudgeon also gave invited seminars at Northeastern University and at the Moss Landing Marine Laboratories.

Dr. Janet Kübler gave an invited seminar in June at Queen's University in Belfast, Northern Ireland. While there, she forged a research collaboration with Dr. Jim Provan, a population geneticist in the Department of Biology and Biochemistry.

Last spring, **Dr. Virginia Vandergon**, together with Dr. Maureen Rubin (Service Learning), presented a paper at an NSF-sponsored StemTec Conference in Arlington, Virginia. The paper was on "Using service-learning to train future teachers through the Tomorrow's Scientists after-school program." The paper was also presented at a Cal State Northridge faculty retreat.

Ten Days Under the Sea

In June, **Dr. Peter Edmunds** led an international research team to the Florida Keys to study reef corals. To carry out its work, the team lived for ten days 50 feet under the sea, housed in the World's only undersea laboratory, *Aquarius*. The group's research endeavors and their life in the dry, comfortable confines of the 45-foot-long chamber, were filmed by the Discovery Channel for an hour-long episode of "Science in the Deep," tentatively scheduled to air 14 December.

The team's goal was to investigate the effects of global climate change on the reproductive biology of corals, with special focus on how high temperatures affect coral larvae. In addition to Dr. Edmunds, the team included Drs. Ruth Gates of UCLA and Ove Hoegh-Guldberg from the University of Queensland, Australia. The project is funded by the NOAA National Undersea Research Program in Key Largo, Florida.

Several students from Cal State Northridge assisted in the work. **Joshua Idjadi**, who completed his MS with Dr. Edmunds last spring, was a saturation diver in the habitat. **Casey Terhorst**, currently completing his Master's research with Dr. Steve Dudgeon, was a surface support diver, as was **Laurie Requa**, who begins her graduate work with Dr. Edmunds this fall. Senior **Sergio Saucedo** assisted with on- and off-shore surface

support, his first taste of off-campus marine biology research. Says Dr. Edmunds, "With high seas, torrential rain, and wildly pitching decks, Sergio received a real trial-by-fire experience!"

After his work in Florida, Dr. Edmunds moved on to St. John, US Virgin Islands, where he continued a long-term monitoring of a shallow reef. In this work he was accompanied by Laurie Requa and another new graduate student, **Goeff Horst**. The work, carried out in conjunction with the Virgin Islands National Park, is supported by a two-year grant from the University of Puerto Rico's Sea Grant Program.

Student Organization Recognizes Biology Instructors

The University Ambassadors, a student group, honored two Biology instructors—**Drs. Geoffrey Frank** and **Luis Cardenas**—with their "Polished Apple Award." The awards, the Ambassadors' way of recognizing, honoring and thanking professors "who have made a difference in their lives," were presented at a public ceremony.

Many Attend Open House

Each year, usually in April, the University holds an Open House, an annual event to introduce prospective students and their families to the campus and its programs. Of the thousands of attendees this year, about 80 were prospective Biology majors.

All prospective Biology majors, most accompanied by parents, were treated to a guided tour of some of the Biology Department's key facilities: Electron Microscope lab, DNA sequencer facility, Vertebrate Collection/Herbarium, Marine Wet Lab. **Drs. Steve Oppenheimer** and **Randy Cohen** also welcomed the visitors to their research labs where they talked about the possibilities for student involvement in research.

Attendees also met Associate Dean **Robert Park**, heard an overview of the College from **Frankie Augustin** and **Angelica Mata** from the SMAC Office and were warmly greeted by then-Biology Chair **Dr. Jim Dole**.

Another open house is scheduled for spring semester. Watch for it and encourage interested friends to attend.

Biology Dept. Welcomes Instructors, Research Collaborators

Seven part-time instructors joined the Biology faculty over the past year. Last spring saw the addition of **Dr. Ali Ebnishahidi**, who teaches human anatomy; **Dr. Cynthia Kay-Nishiyama**, instructor of cell biology and introductory biology; and **Dr. Dean Lauritzen** who currently teaches human physiology and introductory biology.

Fall semester saw the addition of **Dr. Ora Gordon**, an expert in the genetics of cancer, who is teaching a course in Medical Genetics, her specialty. **Dr. Mora-Garcia**, the instructor of Human Pregnancy and Embryology is one of our own, having finished her BA and MS at CSUN in '91 and '94, respectively, before moving to UCLA where she earned her Ph.D in 2002. **Dr. Deepa Shankar**, also the recipient of a doctorate at UCLA, is teaching Biology 100. In addition, **Ms. Jennifer Termeer**, who completed her MS at Cal State Northridge, is teaching introductory biology.

Six Adjunct Faculty members—**Drs. Ruth Gates, Ora Gordon, Marlene Kristeva, Dean Lauritzen, Daniel Pondella** and **Loretta Roberson**—have been added to the Biology Department's roster of distinguished scientists. All are collaborating in research efforts with one or more of the Department's permanent faculty.

Faculty Invite Students To Do Research

Students interested in doing research on the role of cell surfaces in development and cancer are invited to talk with Dr. Steve Oppenheimer. He can be found in his basement lab, Science 2005 (Science 2). Says Dr. Oppenheimer, "Over 200 students have co-authored publications from my lab and many have gone on to advanced programs at major universities, including Harvard, Berkeley, Stanford and Johns Hopkins. His email address is steven.oppenheimer@csun.edu.

Spring Semester Course

Molecular Diagnostics, Biology 571, is scheduled for spring 2003 to be taught by Dr. Rheem Medh. The

course will focus on the use of molecular technology in the diagnosis of genetic diseases. Students will learn about the latest molecular methods in genetic testing and data analysis using examples of various disorders for which there are well established methods.

Biology Alumni News

Sarah Kimball, who did her Master's work with Dr. Paula Schiffman, is now in a Ph.D. program at UC Irvine. She has already begun her dissertation on the maintenance of plant species boundaries.

Christin Slaughter, a former student of Dr. Steve Dudgeon, is now in a Marine Science graduate program at the University of North Carolina, Wilmington. She is working under the supervision of Dr. Michael McCartney and continuing a study of blue mussels she began during her 2001 NSF REU fellowship in Maine.

Jamie Kneitel, a former graduate student who worked with Dr. Paula Schiffman, has completed his Ph.D. at Florida State University. For his dissertation, Jamie studied the relationships among biodiversity, trophic interactions and spatial scale in the micro-ecosystems living in carnivorous pitcher plants. He is now a postdoctoral researcher at Washington University in St. Louis, MO and has recently published his work in *Advances in Ecological Research* and in *Ecology*.

Ileene Anderson (Biology M.S., 1992) will be a guest speaker for Dr. Schiffman's Biological Conservation course (BIOL 328) on October 30. Ileene, a biological consultant with considerable expertise in plant conservation in California, will discuss the good, the bad, and the ugly of environmental laws and the realities of protecting wild organisms and ecosystems.

Steven Vollmer, a former student of Dr. Peter Edmunds currently working on his Ph.D. at Harvard, is co-author of a paper recently published in *Science*, the premier journal of science in the country. The paper, co-authored with his current mentor, Stephen R. Palumbi, is entitled "Hybridization and the evolution of reef coral diversity."

Catalina Marine Biology Semester Off & Running

The fall 2002 semester saw the start of the third "Catalina Semester," a series of marine biology courses taught entirely on Catalina Island. The course, hosted by CSUN faculty, is geared towards students with a serious interest in marine science careers. This year's class includes fourteen students from three CSU campuses (Northridge, Long Beach, Fullerton) and Brown University.

Students in the program take courses in invertebrate zoology, marine algae and fish ecology. In addition, there is a capstone experience in independent research. All classes include extensive field work with intertidal forays, snorkeling and SCUBA diving (for certified students). Classes typically run all day five days a week plus half-day on Saturdays. Evening labs and sampling are common.

This unique program offers an exciting opportunity for students to obtain the experience and training necessary to succeed in a field oriented career. It will be offered again by Cal State Northridge faculty in fall '04. Faculty from other CSU campuses will teach a similar program fall '03. Interested students are encouraged to talk with any CSUN marine biology faculty members—Drs. Allen, Carpenter, Dudgeon or Edmunds.

Zavala Receives Service Award for SACNAS

The Society for Advancement of Chicanos and Native Americans in Science (SACNAS), currently headed by **Dr. Maria Elena Zavala**, is this year's institutional recipient of the 2002 National Science Board Public Service Award for an institution increasing public understanding of science and engineering. As a long-time member and most recently as its President, Dr. Zavala has been instrumental in directing the organization.

The award, given annually, is intended to recognize an institution that has made outstanding contributions in communicating, promoting or helping to develop broad public policy in science and engineering. SACNAS was tapped for its contribution to mentoring nascent Latino and Native American scientists and engineers.

Since its inception in 1972 the organization has grown to more than 4,100 mem-

bers and has connected thousands of minority students with career scientists and engineers.

Hispanic Business recently identified Dr. Zavala as one of the hundred most influential Hispanics in the US. In addition, an article detailing Maria Elena's life and accomplishments has been published in *Hispanic Outlook*. From her decision to become a scientist through her survival of a plane crash twenty years ago to her current role as Biology Professor and President of SACNAS, the article spells out how she reached her current pinnacle of performance and her many influences on minority students.

Genetic Counseling Program

Although the Genetic Counseling Program (GCP) is interdisciplinary, the Biology Department plays an essential role. Indeed, the Director of the program, **Dr. Aida Metzberg**, is a member of the Biology faculty.

This semester, the GCP welcomes Dr. Ora Gordon, M.D. as its new Medical Director and as the instructor of Medical Genetics. Dr. Gordon, a board-certified genetic counselor, is a medical geneticist who specializes in hereditary cancer and heart disease. She is a faculty member at UCLA and holds adjunct faculty status in the Cal State Northridge Biology Department. She looks forward to helping to guide and enhance the Genetic Counseling Program.

Maria D'Addario, Associate Director of the GCP, and fifteen students attended the biennial regional meetings of the National Society of Genetic Counselors in Asilomar last spring. Highlights included sessions on screening for deaf/hard of hearing newborns with Connexin 26 mutations, genetic counseling in end-stage cancer, and ethics in genetic counseling.

The GCP welcomes the Class of 2004: **Pia Banerji, Kimberly Banks, Gina Berquist, Sharon Chan, Ginger Chisholm, Mindy Greenberg, Tina Pesaran** and **Summer Pierson**. They join the Class of '03: **Veleka Allen, Kristen Borsack, Cheryl Cina, Adity Khanna, Jina Faurot, Tami Johnston** and **Lisa Lelis**. More information about the GCP can be found on the web at <http://www.csun.edu/~hcbio033/>.