

Bios

California State University, Northridge

The Biology Department Newsletter Spring 2007

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Biology Dept., see www.csun.edu/biology

California State University
Northridge

Biology Welcomes Three New Instructors

In 2002 the number of biology majors was just over 1200; four years later that number had surpassed 1500, a 25% increase. To meet the instructional needs necessitated by this influx of new students, in fall 2006 the Biology Department added three full-time instructors to its ranks. Here we introduce these new faculty members.

Dr. Jeffrey Thomas: Organismal Biologist

Dr. Thomas did his undergraduate work at the University of North Carolina, Chapel Hill, where he majored in biology and French. He now comes to us from UCLA where he completed his doctoral dissertation on the behavior of Wrentits, a secretive but common bird of the chaparral. While at UCLA Thomas taught courses in introductory biology, genetics, mammalogy, animal behavior, conservation biology, and a specialty course on the evolution of sex and gender, excellent preparation for his position at CSUN where his teaching responsibilities will focus on organismal biology. His future assignments are expected to include such critical majors courses as Principles of Biology I (BIOL 106) and Evolutionary Biology (BIOL 322), as well as some upper-division specialty courses; this semester he is teaching Avian Ecology (BIOL 514).

In explaining the nature of his doctoral research Thomas suggests that you "Imagine yourself with only a single word in your vocabulary. Suppose 'cow' is your word. When you want to eat: 'cow.' When you ask someone on a date, its 'cow?' You want to express anger: 'cow' again." Clearly, he notes, "Communicating many ideas with a single-word vocabulary poses a big challenge, yet this is just the sort of challenge many animals face." But, says Thomas, "The number of 'messages' possible with this single-word vocabulary can be increased, for example, by changing the pitch of the word, or perhaps by coloring its meaning with body language, tonal shifts and volume." Indeed, that's just what many animals do.

—Please see Thomas, p. 8—

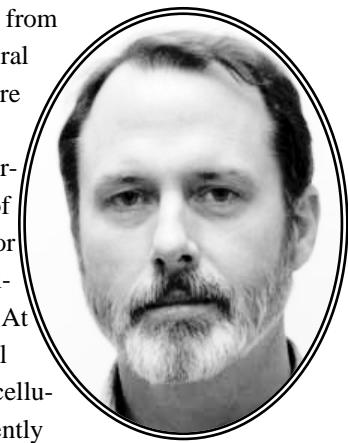


Dr. Daniel Odom: Molecular Geneticist

Dr. Odom comes to Northridge from Connecticut College, a small liberal arts college in New London, where for six years he taught Molecular Biology, Microbiology and General Zoology, and co-taught three of the College's four core courses for Biology majors: Organismal Biology, Cell Biology, and Genetics. At Northridge, Odom's teaching will focus on molecular, genetic and cellular courses in the major. He currently teaches Genetics (BIOL 360) and Recombinant DNA (BIOL 572), and last semester taught Histology (BIOL 411).

While on the faculty at Connecticut College, Odom also involved himself in the Nutrition Department at nearby Univer-

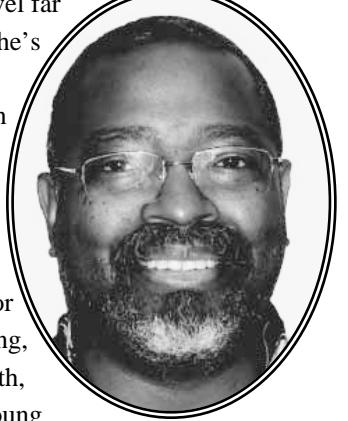
—Please see Odom, p. 8—



Dr. Michael Franklin: Marine Biologist

Dr. Franklin didn't have to travel far to join CSUN's faculty; indeed, he's one of this University's own. He earned both a B.A. (1987) and an M.S. (1991) in Biology at CSUN, the latter under the guidance of the Biology Department's current chair, Dr. Larry Allen. "I've always had a love for the ocean and a passion for fishing, so my thesis project on the growth, abundance and distribution of young white seabass was a natural." From CSUN Franklin moved on to UC Santa Barbara where he completed his Ph.D. in 1999 investigating the population structure of seabass using microsatellite DNA analysis.

Before accepting his current full-time position, Franklin instructed numerous Biology courses at CSUN for several years. The list of courses he has taught is long, but regulars among them were Evolutionary Biology (BIOL 322), Marine



—Please see Franklin, p. 8—

Publications by Biology Faculty and Their Students*

Dr. Dave Gray and collaborators from other institutions have two new papers out, one from field work and one from lab work: *Animal Behaviour* has published “Behavioural specialization among populations of the acoustically orienting parasitoid fly *Ormia ochracea* utilizing different cricket species as hosts,” and *The Canadian Entomologist* has published “Molecular divergence between *Gryllus rubens* and *Gryllus texensis*, sister species of field crickets.”

Dr. Maria Elena de Bellard and collaborators have a paper in *Biotechniques*: “Ex ovo chicken embryo culture.”

Dr. Cheryl Hogue and **Brian Swig** have a new paper, “Habitat quality and endoparasitism in the Pacific sanddab *Citharichthys sordidus* from Santa Monica Bay, southern California.” It is in the *Journal of Fish Biology*.

Ziba Razinia (now in a Ph.D. program at Yale), Drs. **Ed Carroll**, and **Steve Oppenheimer** have a paper in *Zygote*, “Microplate assay for quantifying developmental morphologies: Effects of exogenous hyalin on sea urchin gastrulation.”

Acta Histochemica is publishing, “Cyclodextrin, a probe for studying adhesive interactions,” by **Sahar Sajadi**, **Pat Rojas**, and Dr. **Steve Oppenheimer**. Oppenheimer is also author of a review article, “Cellular basis of cancer metastasis,” in *Acta Histochemica*.

Dr. Peter Edmunds has authored three recent publications: “Physiological ecology of the clonal corallimorpharian *Corynactis californica*,” in *Marine Biology*; “Temperature mediated transitions between isometry and allometry in a colonial, modular invertebrate,” in the *Proceedings of the Royal Society of London*; and “The demographics of a 15-year decline in cover of the Caribbean reef coral *Montastraea annularis*,” published in *Ecology*.

Dr. Larry Allen and colleagues published a paper on “The fish assemblages inside and outside of a marine reserve at Santa Catalina Island, California,” in the *Bulletin of the Southern California Academy of Sciences*.

Biology Students Present Their Research at Student Symposium

Biology had a great showing at CSUN’s Annual Student Research and Creative Works Symposium:

- **Shieva Davarian** spoke on “Effects of exercise on pro-inflammatory cytokine expression in brain tissue”
- **Vernita Davis** on “The neuroprotective effects of 17- β -estradiol in the *spastic* Han Wistar Rat”
- **Ann Dorsey** on “Tradeoffs between early and later reproduction in *Dudleya*”
- **Joseph Ireland** on “Characterization of putative aminopeptidase in *Nostoc punctiforme*”
- **Nomiki Kolettis** on “Glucocorticoid evoked apoptosis in a human osteosarcoma cell line is thought to occur through E4BP4 dependent transcriptional repression”

• **Piotr Orzechowski** on “E4BP4 diphosphorylation increases E4BP4 dependent transcriptional repression and facilitates glucocorticoid evoked apoptosis of human leukemic CEM-C7-14 cells”

• **Stephanie Talmage** on “Variation in abundance and carbon allocation for *Sargassum mangarevense* across gradients in herbivory and hydrodynamic exposure in Moorea”

• **Hollie Putnam** won 2nd place among oral presentations for “Physiological response of scleractinian corals to a highly variable thermal environment”

• **José Monzón**’s title was “The benefits of a hot meal: Identifying the advantages of postprandial thermophily in snakes”

Posters were presented at the Student Research and Creative Works Symposium by the following students on the topics indicated:

• **Laura Nary** won 2nd place for a poster for “Role of E4BP4 in regulation

of glucocorticoid evoked lymphoid cell apoptosis”

- **Yasuko Hirakawa** won 3rd place among posters for “Glucocorticoid evoked up regulation and phosphorylation of the modulatory calcineurin interacting protein isoform 1 (MCIP1.1) correlates with apoptosis in human leukemic CEM cells”

- **Taylor Anderson-McGill** on “Reproductive tradeoffs: Effects of breeding opportunity manipulations in female Merriam’s kangaroo rats”

- **Taya Cummins** on “Annual plant growth form as an indicator of competitive ability in a California grassland”

- **Haike Ghazarian** on “Phase transitions, molecular detection, and biological application in a lipid membrane-derivatized silica colloid”

- **Karen Koch** on “Current investigations of *Methanobrevibacter smithii* phage PG”

- **Valentina Korchagina** on “Akinete promoter analysis in *Nostoc punctiforme*”

- **Stacy Krueger** on “Genome evolution of stiptophyte green algae”

- **Jedidia Lobos** on “Expression of the carbofuran hydrolase gene (*med*) in alternative hosts”

- **Nancy Muehllehner** on “The effect of increased carbon dioxide on the calcification rate, linear extension rate, and morphology of reef corals”

- **April Ochoa** on “The pharmacological role of mGluR5 receptors in mediation neurodegeneration in the cerebellum of the *spastic* Han Wistar Rat”

- **Jarrod Peercy** on “Effects of stress on anti-predator behaviors”

- **Abigail Poray** on “Forecasting relative wave exposure as a predictive tool for coastal salt marsh structure and distribution”

- **Ricardo Rosales** on “Dyskeratosis Congenita”

- **Tarja Sagar** on “Bryophyte flora of the Santa Monica Mountains”

- **Melissa Spitler** on “Intraspecific variation in *Acanthophora spicifera* between reef habitats in Kaneohe Bay, Hawaii”

* Readers will find full citations & often PDFs at www.csun.edu/biology/faculty.

- **Jessica Tuharsky-Bredvik** on “Productivity comparison of young of the year opaleye (*Girella nigricans*) and their algal food source”
- **Aracele Vasquez** on “Repression of high-affinity bicarbonate transporter by CRP in cyanobacteria”
- **Jennifer Hedger** on “Testing bioinformatic predictions of gene regulation in *Synechocystis* PCC 6803”

Recent Research Presentations at Scientific Meetings, etc.

The following presented their research at the CSUPERB meeting: graduate students **Jennifer Hedger**, **Joseph Ireland**, **Shieva Davarian**, **Amy Lindgren**, **Ruchika Loya**, **Matt Somerville**, and undergraduates **Khachik Najaryan** and **Kim Vaccaro**. The meeting was also attended by Dr. **Virginia Vandergon**, as well as **Karen LeGrand**, **Jenevieve Polin**, and **Araceli Vasquez** from Dr. Summers’ lab.

A contingent from CSUN gave talks to the Southern California Botanists in a symposium on the Santa Monica Mountains. Dr. **Paul Wilson** spoke on mosses, **Ann Dorsey** spoke on rare and common succulents, and **Jolene Pucci** spoke about her work on the endangered plant *Pentachaeta lyonii*. Written papers will appear in a special issue of *Crossosoma*.

At the annual graduate student meeting of the California Botanical Society three students gave talks: **Taya Cummins** on plant competition, **Ann Dorsey** on life-history tradeoffs, and **Tarja Sagar** on moss floristics.

Jessica Dooley, **Diego Sustaita**, and Dr. **Fritz Hertel** presented papers at the North American Ornithological Conference.

Joanne Moriarty presented her research on suburban bobcats at the Defenders of Wildlife’s Carnivores 2006 conference.

Graduate students **Nancy Muehllehner**, **Hollie Putnam**, and **Stephanie Talmage** gave papers at the Moorea Long-term Ecological Research All Scientists Meeting.

Dr. **Randy Cohen**, Dr. **Maria Elena de**

Bellard, **Dina Antonacci**, **Vernita Davis**, **April Ochoa**, **Lisa Correa**, and **Amali Samarahsinghe** presented their research at the Society for Neuroscience Meeting.

The following professors attended the Southern California American Society of Microbiologists meeting: **Larry Baresi** (who organized and moderated a session), **Nancy Bishop**, and **Mike Summers**. Graduate students **Jennifer Hedger**, **Joseph Ireland**, and **Jedediah Lobos** won first, second, and third place, respectively, for their poster presentations. The meeting was also attended by students **Karen Koch**, **Mari Mazidzhyan**, **Olivia Oliveros**, and **Jenevieve Polin**.

At the meeting of the American Society for Cell Biology, K-12 teacher **Greg Zem**, and students **Laurie Goldstein**, **Erin McNicholas** and **Harout Khanjian**, representing 17 other student co-authors from Steve Oppenheimer’s lab presented a poster, “Microbead analysis of inhibitors of lectin-cell binding.”

Maribel Alvarez, an Oppenheimer student, presented her summer research at the annual national conference of the Society for the Advancement of Chicanos and Native Americans in Science.

Dr. **Robert Espinoza** has given colloquium talks at Cal Poly San Luis Obispo and at University of Northern Colorado under the title, “Small, cold-climate lizards break the ‘rules’ of herbivory in reptiles.”

Marine biology students and faculty presented their research at the Western Society of Naturalists Meeting, presided over by our own Dr. **Larry Allen**. Only the presenting author is cited here:

- **Dawn Bailey**, “Nearshore marine fisheries research program effects of accumulation of large piscivores in structuring fish communities”

- **Melissa Spitler**, “Intraspecific variation in *Acanthophora spicifera* between reef habitats in Kaneohe Bay, Hawaii”

- **Stacy Krueger**, “Genome evolution of streptophyte green algae”

- **Robin Elahi**, “Consequences of fission in the coral *Siderastrea siderea*: Growth rates of small colonies and clonal

input to population structure”

- **Daniel Green**, “A decadal shift in the relative abundance of corals on caribbean reefs that favors a weedy species”

- **Dr. Mark Steele**, “Extrapolating from small-scale ecological experiments to large-scale dynamics: Density dependence in coral reef fishes”

- **Stephanie Talmage**, “Variation in abundance and carbon allocation for *Sargassum mangareverse* across gradients in herbivory and hydrodynamic exposure in Moorea”

- **Hollie Putnam**, “Does frequent variation matter? Physiological response of scleractinian corals to a highly variable thermal environment”

Research done before arriving at CSUN was presented by **Christina Vasquez**, who studied phenotypic plasticity in the intertidal mussel *Mytilus californianus*, and by **Abigail Poray**, who was in the business of forecasting relative wave exposure and coastal salt marsh distribution.

Schiffman to Speak

Dr. **Paula Schiffman** has been invited to give a presentation about her research at UC Santa Barbara in March. Her title is “Relict analysis of California grasslands: Forbs, bunchgrasses, and homogenization by non-natives.”

Schiffman also has been invited to give a less technical presentation about her work at the March meeting of the local Santa Monica Mountains chapter of the California Native Plant Society.

Schiffman and colleagues, Drs. Carla D’Antonio (U.C. Santa Barbara), Mark Stromberg (U.C. Hastings Reserve), and Jeffrey Corbin (Union College in New York), are organizing a symposium for this year’s Ecological Society of America meeting in San Jose. The symposium, entitled “Ecological constraints to the restoration of California grasslands,” will include Schiffman’s presentation on, “What were pre-European state grassland like in California? Competing hypotheses and challenges for selecting restoration targets.”

The Students' Forum

This space is used for students to report on particularly exciting activities they have done related to the Biology major. In this issue we feature an article by **Christine Bruno**, a student of Dr. Espinoza. She traveled with him to Argentina over winter break and will be returning with Espinoza's family for next year's sabbatical. Other students who would like to contribute to this space in future issues are invited to contact the editor.

Toads in the Austral Summer

—Christine Bruno

When I decided to attend CSUN, I never imagined that I'd be doing my research in a foreign country. At the end of my first semester, I had the opportunity to travel to Argentina to pick out field sites for my thesis research. I will be studying elevational variation in a DNA-repair enzyme (photolyase) and the sublethal effects of UV-B exposure on the Andean toad *Bufo spinulosus*.

Over winter break, my advisor, Dr. Robert Espinoza, and I traveled to three provinces—Salta, Catamarca, and Jujuy—to find breeding populations of *Bufo spinulosus*. During our stay in Argentina I was able to work alongside Dr. Fernando Lobo from the Universidad Nacional de Salta and two of his Ph.D. students, Sebastián Quinteros and Juan-Manuel Diáz-Gómez.

We spent two weeks in the field traveling throughout northwestern Argentina collecting data on the lizard genera *Lio-laeus* and *Phymaturus*, as well as on *Bufo spinulosus*. Dr. Espinoza was able to collect preliminary temperature data for his big project, while I was able to take preliminary measurements of UV-B intensity in the Andes and identify several field sites for research to be conducted in the coming year.

As we traveled from low elevations to high, we encountered a variety of organisms ranging from subtropical insects to xeric scorpions and many reptiles. At the

highest elevations, I got altitude sickness. One of the other highlights of the trip was to be able to see a living amphisbaena, or worm lizard. Being from New York, I had never seen an amphisbaena in the wild. I also discovered that llamas can be very curious creatures and won't hesitate to approach a team of field biologists, just to see what they're doing.

It was wonderful traveling, seeing new environments and new organisms, and learning from established scientists. The expedition was filled with discovery and excitement. I look forward to seeing more of Argentina's beautiful wildlife and breathtaking landscapes in the fall.

What Are You Doing Next Summer?

Science students have many opportunities to participate in research during the summer. The MARC/MBRS office in EH 2128 invites all students to investigate the opportunities for summer research experiences.

According to Dr. Maria Elena Zavala, Director of the MARC/MBRS programs, "Most programs run between 8-10 weeks, are paid, provide housing, and some are in exotic places. It's a great opportunity to expand your horizons beyond Los Angeles!"

Deadlines for applying to the programs vary from January to late March. Drop by the office; maybe you will find yourself in a tropical rainforest doing research for the summer!

Big Beetle Book Published

A Field Guide to Beetles of California by Arthur Evans and our own Dr. Jim Hogue has now been published. It is the companion to their earlier book *Introduction to California Beetles*. The new guide treats 569 species and includes 300 color photos and 110 drawings.

Research Opportunities

Dr. Cheryl Hogue is looking for students to assist with her research on parasites of fishes. Her office is CS 3220B.

Dr. Steve Oppenheimer welcomes students interested in doing research related to cancer or developmental biology. See him in the basement of EH 2005.

The Nearshore Marine Fish Research Program, Dr. Larry Allen, director, is looking for students to help with its extensive field work. This is a great opportunity for students to get invaluable research experience on professional projects. For more information, contact Brent Haggin at X-4037 or stop by the NMFRP lab in MG 4112.

Dr. Virginia Vandergon is looking for a research technician to oversee day-to-day operation of her lab studies of antocyanin genes in silversword plants. Ideal candidate would have a Master's degree and be familiar with standard molecular biology techniques and equipment. The one-year, full-time position pays \$2600 monthly, plus benefits. If interested, contact Vandergon at virginia.vandergon@csun.edu or 677-6362.

Graduate students interested in aiding Dr. Mary-Pat Stein's effort to identify multi-protein complexes used by the microbe Legionella to survive in macrophages should contact her in LO 1226. She can also be reached at mary-patricia.stein@csun.edu

Help Wanted to Organize Class

Dr. Steve Oppenheimer seeks student help with his Biology of Cancer course scheduled for fall 07. See Oppenheimer if you are interested in working with him on this award winning course. The class, which features distinguished cancer experts, is now a General Education course in the Lifelong Learning section. The popular class received the Public Education Award from the American Cancer Society.

Students, Faculty Receive Scholarships, Fellowships and Grants

Students **Karen LeGrand** and **Dona Roonalika Wisidagama** have been awarded Presidential Scholars Scholarships for the 2007-2008 academic year. This prestigious honor is reserved for CSUN undergraduates with high GPAs. A Presidential Scholar receives a \$5,000 tuition scholarship, a textbook discount at the bookstore, priority registration for classes, and recognition at the President's fall Convocation. LeGrand and Wisidagama will be doing research under the wing of Drs. Michael Summers and Cindy Malone, respectively.

Student Projects grants from the University Corporation, each valued at several thousand dollars, were awarded to **Shieva Davarian, Vernita Davis, and Jennifer Hedger**.

Graduate Thesis Support grants (\$500-\$900 each) were awarded to the following students: **Taylor Anderson-McGill, Alisara Ateerat, Christine Bruno, Azalia Contreras, Shieva Davarian, Jessica Dooley, Haire Ghazarian, Claudia Hernandez, Carin Huizenga, José Monzón, Jehan Murugaser, Mohammad Nasseri, Jarrod Peercy, Hollie Putnam, Ricardo Rosales, Araceli Vasquez, Erin Yokoyama, and Sania Zaidi-Merchant**.

Christine Bruno received funding for her work on the effects of UV exposure on toads from Sigma Xi's Grants-in-Aid of Research program.

Stacy Krueger was awarded one of six scholarships for 2007 from the Women's Environmental Council. Krueger was also awarded a Sigma Xi Grant. Also, through the Sally Casanova California Pre-Doctoral Scholarship program, Krueger will be fully funded to work from August through November in the laboratory of Dr. Myriam Valero at the Station Biologique de Roscoff in Brittany, France.

Dr. Cindy Malone has received word that she will be awarded an NIH R15 AREA grant: "CCWGG methylation in developmentally regulated B cell-specific

gene silencing."

Dr. Peter Edmunds received \$75,000 from the Sea Grant Program to support his investigations of coral reefs in the U.S. Virgin Islands. In addition, Edmunds was awarded \$3,000 from the National Science Foundation to support an undergraduate, **Danny Green**, who is working with him. Green also has received a prestigious Sally Casanova Predoctoral Award.

Hollie Putnam was awarded a scholarship that enabled her to enroll in classes at the University of Washington's Friday Harbor Lab.

Dr. Virginia Vandergon, together with Drs. Gerry Simila (Geological Sciences) and David Kretschmer (Elementary Education), received a \$400,000 grant from California Post-secondary Education Commission to support their California Science Project Teacher Retention Initiative, a project targeting the retention of middle school science teachers.

Dr. Mary-Pat Stein was awarded a CSUPERB Faculty-Student Collaborative Research Seed Grant to support her study of Legionella pneumophila effector complexes required for intracellular survival.

Visits to other Institutions

Dr. **Janet Kübler** was one of a team of biologists presenting a workshop on the topic of "Biomimicry for the sustainable built environment" to the American Institutes of Architects in San Francisco.

The lab of **Dr. Maria Elena de Bellard** visited the Scripps Aquarium and got some shark embryos for a project with high school students.

Dr. Paul Wilson worked at the UC Berkeley herbaria over winter break.

Dr. Steve Oppenheimer was invited to serve on the National Science Foundation grant evaluation panel on "Disease Diagnostics and Prognostics."

Biology Professor **Dr. Jennifer Matos**, currently serving as CSUN Faculty President, has been invited by San Francisco State University to share her expertise with the university's Graduation Requirements Task Force. Her input was requested as

SFSU searches for ways to alter its baccalaureate requirements without diminishing its academic integrity. Matos recently oversaw a similar endeavor at CSUN.

While Chair of this University's General Education Committee she shepherded a 10-unit reduction in GE requirements, thus speeding graduation for many students.

Evolution of BIOL 100, Introductory Biology (for non-majors)

There is new evidence of descent with modification! Fall 2006 saw the introduction of BIOL 100OL (online), the first completely internet-based versions of the popular GE lecture course. The online versions were developed by Drs. **Lynn Haugen** and **Janet Kübler**.

This semester, Kübler is teaching an even more modified version of the on-line course that emphasizes how life has solved problems of design, architecture and engineering in elegant, efficient, and life-sustaining ways. The goal is to give students another reason to admire and learn from life in all its glorious diversity.

Next fall, the Department will even be rolling out hydrids (no, not cars or roses): the BIOL 100L labs are undergoing a complete overhaul to provide students with a mixture of live and online experiences. Says Kübler, "With all new laboratory experiences, the added breadth of material in simulations, and a new computer lab, it's going to be fabulous!"

New Funds Available for Student Research — Apply Now!

There are two new grant opportunities for students. For all areas of biology, undergraduates and graduates may apply for a Bellinger Grant, named in honor of the late Dr. **Peter Bellinger**, a founding member of the Biology Department and an expert on tiny but ubiquitous arthropods called Collembola.

Graduate students working in terrestrial ecology of southern California may apply for a Newhall Grant, supported by a hefty donation from the Newhall Land Company of Santa Clarita.

Information regarding both grants is available in the Biology Department Office. Applications are due March 1.

Fulbright in Argentina

Dr. Robert Espinoza has been awarded a prestigious Fulbright Scholarship. The award will pay for three months of lecturing and scholarship in Argentina where Espinoza will be spending the 2007-08 academic year on sabbatical leave. Together with Argentine colleagues and he will conduct research on lizard ecophysiology.

The Crick Connection

Francis Crick, prominent co-discoverer of the structure of DNA and Nobel Prize winner, collaborated for over a decade with our own Dr. Steve Oppenheimer. The two scientists worked together on K-12 teacher enhancement, and several times Crick spoke at CSUN. Sadly, he passed away last year. Recently, his wife, Odile Crick, visited CSUN, and Oppenheimer presented her with tokens of appreciation.

On his visits to CSUN Francis Crick signed a great many copies of his books for Oppenheimer. Many students who met the Nobel Laureate received copies of his books, but many others were left in Oppenheimer's possession. Recently, these autographed copies were donated to the University, after being appraised as conservatively worth \$44,100.

Goings-on in Marine Universe

There are three new faces in Dr. Steve Dudgeon's lab, including one graduate student, **Christina Vasquez** (B.A., 06, UC Davis), and two undergraduate students, **Carly Ryan** and **Holy Jauwena**. All three students are working on an NIH-funded project looking at the regulation of morphological development in colonial hydrozoans.

Dr. Peter Edmunds' team has completed its second year of research on Moorea (an island near Tahiti), a part of a long-term NSF-sponsored project to study coral

reefs. Joining Edmunds were graduate students **Hollie Putnam**, **Mairead Maheigan**, **Nancy Muehllehner**, and research technician **Mike Murray**. Another of Edmunds' research teams has just completed 20 years of continuous research on the reefs in the U.S. Virgin Islands, work supported by both the NSF and the University of Puerto Rico. On the team studying long-term dynamics of shallow water reefs were graduate students **Mairead Maheigan** and **Hollie Putnam**, undergraduate **Danny Green**, and a local high school teacher, **Carig Didden**. Also working with Edmunds were Dr. Ruth Gates (U of Hawaii) and William Goldenheim, a Brown University student.

Summer School Expands

As the University moves toward more summer classes, the Biology Department is expanding its offerings. In addition to its core courses, Biology now offers summer students selected upper-division classes. In summer 2007, the following specialty courses are scheduled:

- **Behavioral Ecology** (BIOL 528/L/492B). This set of courses, to be taught in summer session 2, June 4–July 13, meets the ecology requirement and the field requirement of the B.A. The instructor, Dr. **Dave Gray**, claims, "It is both interesting and fun. Students will learn about the evolutionary fitness consequences that have shaped behavioral evolution, do research projects, and enjoy two weekend camping trips to boot." Sign up, or email dave.gray@csun.edu with inquiries.

- **Parasitology** (BIOL 435/L). This class, scheduled for summer session 2, June 4–July 13, will look into the diversity of wild-n-crazy life cycles of parasites and their effects on hosts. The class fulfills the comparative biology requirement and will be taught by Dr. **Cheryl Hogue**, an expert on the parasites of fishes.

- **Immunology** (BIOL 485/L). Dr. **Lisa Banner** will teach this class during summer session 2, June 4–July 13. The course counts toward the 7-unit requirement in the B.A. in physiology/ cell/molecular

biology. Last summer it was extremely popular, so be sure to sign up quickly.

- **Marine Biology** (BIOL 421/L/492B). This class, scheduled for summer session 3, July 16–August 17, meets the Ecology requirement for the B.A. degree. Dr. **Michael Franklin** will be the instructor.

Graduate Offerings for Fall

Dr. **Cindy Malone** will be offering a Seminar in Genetics (BIOL 655D) on "Epigenetic and genetic mammalian gene regulatory control." The class is scheduled for Tuesday and Thursday afternoons.

Dr. **Fritz Hertel** is to offer a Seminar in Ecology (BIOL 615C), to meet on Thursday evenings.

A third graduate course, Seminar in Microbiology (BIOL 655A), will be overseen by Dr. **Paul Tomasek**. His class will meet on Monday evenings.

Dr. **Steve Dudgeon** will offer his 'much-beloved' Biometry (BIOL 502/L) on Tuesday and Thursday evenings in fall 2007. Get your seat while they are still available. The class promises to be a mind-altering experience!

K-12 Outreach Continues

Dr. **Steve Oppenheimer** presented an invited address to hundreds of K-12 administrators held at the Flight Path to the Future Symposium at the Airtel Plaza Hotel, in February. He focused on the usefulness of his Library of Congress-listed *New Journal of Student Research Abstracts* for inspiring youngsters in science. Parents and teachers of K-12 students interested in publishing their research in this journal should contact steven.oppenheimer@csun.edu. The deadline for abstracts submission is June 1, 2007.

In January, Dr. **Polly Schiffman** did Science Day presentations in the greenhouses and botanic garden for a mother-daughter College Preparation program sponsored by CSUN's Outreach and Recruitment Office.

Distinguished Guest Scientists to Present Special Evolution Talks

As part of this year's graduate seminar in evolution, the Biology Department is fortunate to have the participation of two distinguished scholars: Drs. Andreas Wagner (University of Zurich) and Geerat Vermeij (UC Davis). The visits of these world-class scientists are sponsored by CSUN's Distinguished Visiting Speakers Program.

On Friday, March 9, Dr. Wagner will present a seminar about genetic networks and natural selection. His presentation in Sequoia Hall 104 is scheduled for 1:00 and will be followed by a reception (2:00 to 2:30) in the MARC/MBRS office. The reception is intended to honor both Dr. Wagner and Drs. Peter and Bridet Satir, speakers at the Friday colloquium. To accommodate both talks, the colloquium on that day only will begin at 2:30 instead of its usual 2:00 start time.

On Friday, May 4, Dr. Vermeij, a world-renowned evolutionary biologist, will present a seminar on "Chance, necessity and history: What evolutionary innovations reveal about our past." His talk, a part of the colloquium series, is scheduled for the usual 2:00 time slot but will take place in the Library Presentation Room.

Biological Ecology and Evolution Reading Club

The purpose of the BEER Club is to provide students and faculty a forum for discussing the literature and project ideas in the fields of ecology and evolution. Through these interactions, students become familiar with the literature and hone their critical thinking and reading skills. All students and faculty are invited.

The BEER Club meets Fridays at 3:30 PM in LO 1322. Pizza and soda are available at the meetings for a small charge; sodas and snacks can also be purchased at other times in LO 1322. Proceeds fund BEER Club events.

For more information or to be added to the club's email list, contact club presi-

dent José Monzón at X- 5737 or jose.monzon@csun.edu.

Biology Alumni Check In

Rebecca Kordas (M.S. 06), presently a research technician in marine ecology at UC Davis, has been accepted into Ph.D. programs at Davis and at University of South Carolina. She is still being considered for several other doctoral programs in marine ecology, so has not yet decided where she will enroll.

U.S. Forest Service scientist Dr. **Marc Meyer** (B.A. 93, M.S. 97), presented his research on the effects of fire and tree thinning on tri-trophic interactions in Sierra Nevada forests in a Biology Colloquium seminar on February 2. Dr. Meyer earned his doctorate from U.C. Davis in 2003. CSUN's Distinguished Visiting Speakers program sponsored his visit.

Clarence Gillett (B._. 9_) recently earned his Ph.D. from the University of Minnesota. Dr. Gillett is now a postdoc in immunology at UC San Francisco.

Cecilia Martinez (B.A. 97) recently earned her Ph.D. in Biological Sciences from Purdue University. Her research is in neurobiology.

Reports That Can Go to Your Head

In 2004, Dr. **Robert Espinoza** and colleagues had a paper published in *Proceedings of the National Academy of Sciences*, "Recurrent evolution of herbivory in small, cold-climate lizards: Breaking the ecophysiological rules of reptilian herbivory." That paper was caricatured in the *Faculty of 1000 Biology* Calendar as "a must read" and "controversial." The *Faculty of 1000 Biology* is an electronic service that ranks research publications. They enlist experts in various fields of biology to read and rank papers in their specific area of expertise.

A paper out of Dr. **Steve Oppenheimer**'s lab, "Cellular basis of cancer metastasis: A review of fundamentals and new advances" was the second most widely requested paper for down-

loads of hundreds published in *Acta Histochemical* from 2004 to 2006. Two other papers from the Oppenheimer lab were also in the top 15, both in the area of cancer biology.

Oppenheimer is Part of Glycomics Consortium

Dr. Steve Oppenheimer was appointed as one of 300 investigators worldwide to utilize a new \$41 million five-year NIH grant to the Consortium for Functional Glycomics. The Consortium is charged with making discoveries about the role of sugars and sugar-binding receptors in health and disease.

When Oppenheimer was invited to participate in the Consortium's annual investigators' meeting, he brought along 17 CSUN students and two other research associates. The CSUN contingent was the largest from any institution attending, and the only participants from the CSU system. Oppenheimer was cited in front of the audience for bringing so many students, starting a new generation of glycoprofessionals.

Microbiology Students Association (MSA) News

The MSA is open to all students (not just microbiology majors). The organization offers students a chance to engage in activities that can expand their knowledge of the microbial world.

Microbiology is relevant to many career paths, among them health, industry, biotechnology, environmental science, food science, and research on infectious disease, antibiotic resistance, even counter-terrorism.

This spring club speakers will include:

- Dr. Wenyuan Shi, Ph.D. from UCLA School of Dentistry, who on March 15 will talk about biofilms and microorganisms that thrive in the oral cavity, and
- Dr. Mike Teitel, a forensic pathologist at UCLA, who on May 8 will talk about his career and relevant work.

The organization also plans to invite a

—con't on age 9—

—Thomas, con't from p. 1—

Thomas research focuses on discovering how animals solve this communication problem. "Using birds as a model," he says, "I have examined the presence and importance of different types of variation in systems of communication." He found, for example, that Wrentits convey information about their level of aggressiveness by making very small-scale changes in the timing of their otherwise quite simple song. "Effectively," says Thomas, "the meaning and intent of its single-word vocabulary is altered by the manner in which it utters its song."

But Thomas' interests in communication go far beyond Wrentits. He is also interested in the ecological and evolutionary factors that have led to such communication systems. By comparing songs of many species, he hopes to identify the selective pressures or phylogenetic constraints responsible for sending each communication system down its particular pathway, and to discover how local environments affect the type and style of communication. In his pursuit of an understanding of communication systems, Thomas has also studied vocalizations of Red-shouldered Hawks in North Carolina and of frogs in Thailand; he has even detoured a bit from his focus on communication per se to study the mating systems of some California desert wasps.

—Franklin, con't from p. 1—

Biology (BIOL 421), and Life in the Sea (BIOL 325), courses he expects to continue teaching in the future. He also has taught courses in marine biology and marine ecology at the Claremont Colleges, where he modified the offerings to reflect current research in the field.

Franklin's new assignment at Northridge also takes him into the field of teacher training in the sciences, as a part of the University's grant-supported Teachers for a New Era (TNE) program. He comes well prepared for that job having served on a Kern County education

committee responsible for establishing guidelines for math and science education in grades K through college, and as distance learning instructor for the Young Scholars Program, CSU Dominguez Hills. Moreover, from fall 2001 through spring 2004, he taught for CSU Bakersfield at the University's satellite campus in the Antelope Valley, where he lectured both to the local students and via closed circuit television to those on the Bakersfield main campus. "My students were Liberal Studies majors, and most were in the teacher credential program. The majority of the prospective teachers were fearful of science and it was my job to help them become more secure in their understanding." He did so not by making the subject matter easier, he says. Rather, "By modeling pedagogical practices that will make science less intimidating to the teachers and more interesting to their students, I tried to make the subject more understandable, less intimidating, and more approachable."

Franklin and his wife, Patti, have five children: Rebecca, 23, Nicole 21, Christopher 10, Matthew 7, and Samuel born January 12, 2007. And, he says, "All of us are big Los Angeles Kings fans."

—Odom, con't from p. 1—

sity of Connecticut. There he and co-workers used a wide range of methodology—from microarrays to real-time PCR—as they sought to discover how vitamin A and its derivatives influence gene expression. His interest in gene expression was a natural progression from his earlier graduate studies, begun at Case Western University's Medical School but completed at the University of Chicago. At Case Western, in the Medical School's Department of Developmental Genetics and Anatomy, he began studying *Drosophila* (fruit fly) mutations under the guidance of Dr. Anthony Mahowald. However, when his mentor was appointed Chair of the Department

of Molecular Genetics and Cell Biology at the University of Chicago, Odom tagged along to complete his studies on mutations that blocked the cleavage divisions in very early development. In 1994 he received his Ph.D. from Case Western.

Though he arrives from Connecticut, Odom is no stranger to the west. The son of an Air Force professional who moved frequently, he lived for a while and completed high school in Merced, California. After high school, a stint in the Coast Guard took him to Miami Beach, Florida, where he used his evenings productively to earn an AA degree in Biology at Miami-Dade Community College. His military obligation done, he again headed west to UC Santa Cruz, ultimately earning a BA in Biology.

Says Odom, "My father retired in Merced, and most of my family still live in or near central California, so I am quite happy to be on the West Coast again. I've enjoyed the few months I've been at Northridge and look forward to teaching the courses for which I was hired."

Scholarship Available for Prospective High School Teachers

Students aiming towards a career as teachers of high school science or math are invited to apply for a Noyce Scholarship. Says Dr. **Virginia Vandergon**, "The scholarship pays awardees as much as \$7,500 yearly for a maximum of two years, money intended for use to help defray educational expenses."

Application forms for the scholarship will be online by the end of March, and can be accessed from the College of Science and Mathematics website. Criteria for a successful application include academic performance, as indicated by GPA, and financial need. For more information Vandergon can be contacted at virginia.vandergon@csun.edu.

—con't from age 7—

guest speaker from the Department of Water and Power to talk about water purification and treatment. In the works also is a free field trip for members to a winery where they will learn about the importance of *Saccharomyces cerevisiae* in fermentation.

Other current microbiological issues are addressed at club meetings. We will also provide a free lunch.

The group also advertises ASM conferences and events that may impact students' education and future direction, and encourages those who wish to pursue research in microbiology and all related fields. Members of MSA are also eligible for research grants from the ASM (American Society for Microbiology).

Last but not least, the association organizes free social events for members: bowling tournaments, movie nights, miniature golfing, karaoke, and the like. A kim-wipe football game is planned.

Membership in the group costs just \$5. Applications available on the club's web site: <http://csun.msa.googlepages.com>

Of a Group Underrepresented in the Biomedical Sciences?

The purpose of the National Institutes of Health-supported MARC and RISE programs is to increase the participation in basic biomedical research of students belonging to ethnic groups that have traditionally been underrepresented in the field. But note, these programs are intended for students interested in research careers, not for those planning to enter clinical work.

According to Dr. Maria Elena Zavala, Director of the programs, invitations to apply to the two programs will be sent out during the week of February 21. Information about the programs can be obtained from the CASA office in EH 2128.

Is Grad School in Your Future?

Students considering applying to graduate school need to begin their searches as juniors. Moreover, to be suc-

REMINDERS FROM THE ADVISEMENT CENTER

Advisement Center hours

Students are invited to stop by the Biology Advisement Center to have academic questions answered. Faculty advisors Drs. **John Kontogiannis, Joyce Maxwell** and **Dan Odom** are assisted this semester by graduate students **Alex Li, Mohammed Nasser and Melissa Spitler**. The Center, in EH 2133, is open Monday through Friday, 9:00-5:00.

Accessing advisement info

A free Biology Advisement Handbook provides invaluable information on program requirements and course equivalencies. The handbook can be obtained in the Advisement Center.

Upper-division Writing Exam required for graduation!

Students expecting to graduate must attempt the Upper Division Writing Proficiency Exam no later than the semester in which they complete 90 units. Students planning to graduate in spring 2007

must pass the exam no later than April 22. For more information call the Testing Office, 677-3303.

Expecting to graduate this spring or next year?

Students planning to participate in the spring, 2007, commencement or who expect to complete their requirements by fall, 2007, must submit Graduation Evaluation and Application forms before March 2. Those expecting to graduate spring or summer of 2008 must file the two forms by July 6, 2007.

Students may have their forms completed at the Biology Advisement Center. When completed, the forms must be submitted to the Admissions and Records Office.

Career information available

Career sheets are available in the Advisement Center. Each sheet describes career opportunities associated with each option in the Biology major.

Biology Club Up and Active

The Biology Club welcomes returning members and invites biology students, majors in other sciences, even non-science majors to join. The club's focus is on the health sciences fields, such as medicine, pharmacy, and dentistry.

The club plans a variety of speakers from many fields of science. In addition, club members have an opportunity to participate in the Annual Pre-Health Conference, a confab arranged by CSUN students from many health related clubs to inform students and the community.

Membership in the Club costs \$5 annually, but every meeting comes with a free lunch. For additional information, contact the club's President **Prana Yenkosky** at ph8205@gmail.com.

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Bios: The Biology Department Newsletter

Health Professions Advisement Center Opens, Dispenses Advice

Students with aspirations for careers in the health professions are encouraged to drop by the Health Professions Advisement Center, EH 2133B. There they will receive help in curricular issues, including course selection and sequencing, as well as suggestions for enhancing their marketability via extracurricular activities, such as clinical volunteer work and research. When the application process begins, advisors will also review and critique personal statements, make suggestions for improvement of the overall application, and provide information about school choices.

At the Center, three experienced and

knowledgeable advisors—Drs. **Daisy Kuhn, Terri Richardson, and Kent Robbins**—aid students seeking careers as physicians (including allopathic and osteopathic physicians), pharmacists, optometrists, physician's assistants, veterinarians, or podiatrists. All interested students, whether undergraduate, post-baccalaureate or graduate are welcome, as are alumni.

Dr. Richardson suggests that students not delay in visiting the Advisement Center but "... seek advice as soon as they decide they want to attend professional school. Clinical volunteer or paid work must begin early to be competitive, and

applications are typically submitted a year before matriculation."

Many professional schools require that applications include an official letter written by a "pre-health committee," in this case the three pre-professional advisors. For those it deems qualified, the committee also compiles letters of recommendations submitted to it and forwards an official application packet to professional schools.

For more information, call for an appointment with Dr. Richardson (677-7305), Robbins (677-3356), or Kuhn (677-4600).