These last months have been the toughest I’ve had in my twenty-two years at SF State as the budget crisis hit us with full force by the start of this academic year. Yet, I am confident in saying that we’ve survived the worst intact. We maintain a stellar faculty and dedicated staff, and we can be proud of the quality and productivity of our research which has appeared in the very top professional journals and in the popular media. Our students are accepted into the best Ph.D. programs and medical schools. Our innovative programs reach out to corporate partners and the broader public. Our post-graduation celebration has been a stunning success, giving our graduates and their families a lasting and enjoyable memory of our Department. Loyal alumni work with us to organize events such as the upcoming May 25th Personalized Medicine 3.0 conference which exposes our students to industry and academic leaders, and establishes our Department’s visibility in the field of genomic medicine. (More information at: www.personalizedmedicine.sfsu.edu)

Yet, in the wake of furloughs, hiring freezes and long-delayed salary increases, we face the prospect of losing superb faculty and staff, and have already seen some painful attrition and non-renewed positions for lecturers. With a budget reduced by nearly $1 million, our faculty effectively shrunk from 55 to 40, the attractiveness of our program has swelled the ranks of our undergraduates from 1,200 to nearly 1,700 majors. Raising private, unrestricted funds to improve our infrastructure and day-to-day operation remains a key priority, and we are grateful to those who gave so generously to our program in 2009 (see page 7). Our website (http://biology.sfsu.edu) highlights the research and accomplishments of faculty, staff and students, and has a link “Make a Difference” which makes it easy to contribute to our programs. We must not and will not waiver from our goals of ensuring a superior education, maintaining a highly visible, respected and funded research program, and meeting the needs of our community by insuring that the Bay Area and California has the diverse academic, health professional, technical and teaching workforce and citizenry it needs to assure our place as Ground Zero in the Century of Biology and Biotechnology.
Jack Tomlinson, Professor Emeritus, died November 9, 2009 at age 80. He earned a Ph.D. in Zoology from UC Berkeley in 1956, and joined the Biology faculty in 1957 where he taught until his retirement in 1988.

“Like Darwin,” remembers Professor Emeritus Robert Beeman, “Jack was an expert on barnacles.” Professor Tomlinson was recognized as a world authority on the order of Acrothoricacia (burrowing barnacles) and authored 135 publications. He also worked with Dr. Stan Williams researching the effects of electromagnetic fields on bee communication and the natural antibiosis in some honeys. They maintained an observation hive on campus, and an experimental apiary in the Sierra Foothills. “Jack was a colleague of great energy, dedication and vision who contributed significantly in the growth of San Francisco State College into a University,” said Dr. Williams.

Dr. Tomlinson was a fellow of the California Academy of Sciences, a member of the Society of Sigma Xi, past president of the Western Society of Naturalists, and past Chair of SF State’s Department of Biology.

“I never met anyone else like Jack, and don’t think I ever will,” said Dr. Beeman. “He thought outside the box!” One example of Tomlinson’s thinking outside the box came in the 1960s when he initiated and sealed the world’s largest time capsule in the Mojave Desert—a feat that made it into the Guinness Book of Records.

To make a donation in memory in memory of Professor Tomlinson, visit http://biology.sfsu.edu and click on the “Make a Difference” link. Please write “In Memory of Jack Tomlinson” in the “Comments” box. THANK YOU.
B rinda Govindan found her “calling” after joining the Department as a lecturer in Spring 1999—and she loves it!

Dr. Govindan is both an instructor and lab coordinator for Microbiology and Public Health (BIOL 210/211) and General Microbiology (BIOL 402). She also teaches Genetics (BIOL 355) and Human Biology Lab (BIOL 101).

She enjoys teaching because it engages her creativity and allows her to share her passion for science with her students. “Every semester is a chance to try something new in the classroom or in the lab. There are always new breakthroughs in research to share. And, I thoroughly enjoy keeping up with the scientific literature, and giving students an idea of what’s going on in the field.”

Before coming to SF State, Dr. Govindan earned a B.S. in Biology (cum laude) from Cornell University (1989), and a Ph.D. in Cell Biology from Yale University (1995). She taught at UCSF where she was awarded a 3-year Damon Runyon postdoctoral research grant, then worked as a consulting scientist for Proteome, Inc.

In Spring 2009, Dr. Govindan was selected for the NSF-funded Biology Scholars Program, and is currently working on projects to improve undergraduate microbiology education. She also compiled and edited the first edition of Annual Editions in Microbiology published by McGraw-Hill in fall 2009.

When asked about her approach to teaching, she describes her classroom as an active learning environment where “students have to be on their toes and think. I want to create an atmosphere that encourages discussion...this helps students learn from each other because they all have important experiences that they bring to the classroom.”

Dr. Govindan strives to make what she teaches relevant by showing students how what they are learning relates to their own lives. And, judging by the number of students who “come to me long after they’ve taken my classes and tell me about something they heard or read about that relates to what we discussed in class” —she is succeeding in her goal of advancing microbiology education at SF State.

Dr. Govindan can be contacted at: brinda@sfsu.edu

NEWS BRIEFS

TWO NEW ACADEMY FELLOWS

Drs. Gretchen LeBuhn, Associate Professor of Biology and Frank Cipriano, Director of the Conservation Genetics Laboratory were elected Fellows of the California Academy of Sciences. The fellowship is a governing group composed of a maximum of 300 eminent scientists who are elected in recognition of their notable contributions to the natural sciences.
LETICIA MÁRQUEZ-MAGAÑA, Ph.D.

“My research interests lie in disentangling the biological and sociopolitical causes of cancer disparities.”

What are the best practices for training minority students to become future transdisciplinary researchers that are needed to eliminate cancer disparities?

“We have submitted a proposal to gather qualitative data from Latinas about their sociocultural beliefs to better understand why some minority populations are generally reluctant to donate biospecimens for scientific investigations,” said Dr. Márquez-Magaña.

One preliminary survey result suggests that minority populations are more likely to donate saliva than blood or tissue. In a collaborative project led by graduate student Cathy Samayoa and Biochemistry Professor Ursula Simonis the feasibility of using saliva as a culturally-acceptable biospecimen for breast cancer research is being studied.

“We are studying the NMR spectra of saliva obtained from healthy women, and will compare it to the NMR spectra of breast cancer patients,” said Dr. Márquez-Magaña. “If reproducible molecular differences are found in the saliva from these populations, we may be on the path to identifying a more culturally-acceptable approach to early diagnosis of breast cancer.”

Her cancer disparities team is also interested in learning more about the beliefs of physicians with regard to clinical studies because their attitudes may be a barrier to including minority populations in these studies. Thus, undergraduate investigator Angel Ku is developing a survey for community-based physicians. The overall goal of this collaborative project with Kathy Kim, the Health Equity Institute Professor in Residence in Biology is to create an automated Clinical Trial Alert system for these physicians that matches electronic health records to eligibility criteria for active clinical trials.

Before joining the Biology faculty in 1994, Dr. Márquez-Magaña earned a B.S./M.S. in Biological Sciences from Stanford University and a Ph.D. in Biochemistry from UC Berkeley. She was a post-doctoral fellow in Molecular Pharmacology at the Stanford Medical Center.

As professor, researcher and mentor, Dr. Márquez-Magaña is committed to the success of her students. In her lab, students are treated as young scientists who are integral members of the research team. She describes mentoring as one of her “most profoundly rewarding activities at SF State. I am able to combine my fascination with scientific discovery and my need to serve the community by being a role model for students wishing to pursue careers in science that are aimed at the attainment of social justice.”

Dr. Márquez-Magaña can be contacted at marquez@sfsu.edu
Richard Coleman was 16 years old when he first set foot on a beach — little did he know then that a decade later he would be a graduating marine biologist.

“I always saw the ocean from afar, but never had a chance to touch the waves and explore it,” recalls Richard who grew up far from the beach in Japan’s interior at the Fussa City U.S. Air Force Base. “The lack of access to a marine environment instilled the goal in me to be a marine biologist.”

Before Richard became a full time student, he worked in finance for six years, but his passion for marine biology remained, so he enrolled in SF State’s Department of Biology. “I chose to attend SF State because of the marine research station at Tiburon.” said Coleman. “The classes offered there provided hands-on opportunities to go out in the field and get dirty.”

Richard’s interest in seastars began during a visit to a rocky intertidal zone where he was helping another graduate student who was researching seastar reproductive ecology. Now a graduating senior in Dr. Sarah Cohen’s lab, he researches the ecological genetics of six-rayed seastars in the genus *Leptasterias* (photo below). His research addresses pressing questions about how nearshore habitat diversity may promote species diversity. Richard has characterized in detail the genetic and morphological traits of 158 individuals from diverse microhabitats using PCR and sequencing to identify different species. “Although there have been numerous studies regarding the systematics of *Leptasterias*,” explains Richard, “few studies have focused on Central California (Greyhound Rock to Fort Ross) so their taxonomic status remains unresolved.”

Coleman is a National Science Foundation Undergraduate Biology and Math Fellow. He presented his research at the West Coast Biological Sciences Undergraduate Research Conference, SFSU Student Project Showcase, and the 2010 Benthic Ecology meeting where he won an award for his poster. He will attend the M.S. degree program in Zoology at the University of Hawaii, Manoa where he plans to specialize in marine biology.

“Richard is a whiz at picking up new techniques for genetics and figuring out how to keep invertebrates in the lab happy.” - Dr. Sarah Cohen

*Identifying the Stars of the Sea*

by Chantal Jolagh

Painting by Ben Saturen
Carla Bonilla (MA Cell and Molecular Biology ’02) received a Ph.D. in Biological Sciences from UCSF (2008) and is a Post Doc at the Massachusetts Institute of Technology. Dr. Connie Clark (MA Ecology and Systematic Biology ’01) is a Woods Hole Oceanographic Institution Consortium Delegate who participated in the December 2009 U.N. Climate Change Conference in Copenhagen. Mari Kimura (MA Ecology and Systematic Biology ’02) received a Ph.D. in Ecology and Evolutionary Biology from Cornell University (2008) and is an AAAS Science and Technology Fellow at the National Science Foundation’s Division of Biological Infrastructure. Eric Mabery (MA Cell and Molecular Biology ’05) received a Ph.D. in Immunology (2010) from Stanford University. Jeremy Mallari (BA General Biology ’01) received a Ph.D. in Chemical Biology from UCSF (2008) and is a Post Doc at Washington University. Monica Macal (MS Cell and Molecular Biology ’04) received a Ph.D. in Immunology from UC Davis (2009) and is a Post Doc at UC San Diego. Dr. Brian Perry (BS Ecology ’96; MA Ecology and Systematic Biology ’02) is an Assistant Professor of Biology at the University of Hawaii, Hilo. Reno Reyes (MS Cell and Molecular Biology ’05) received a Ph.D. in Neuroscience from the University of Alabama, Birmingham (2009) and is a Post Doc at UCSF. Amy Rogers (MA Ecology and Systematic Biology ’01) received a Ph.D. in Ecology and Evolutionary Biology from UC Los Angeles (2008) and is a Post Doc at the Pinchot Institute, Ecuador. Rowena Suriben (BS Cell and Molecular Biology ’04) received a Ph.D. in TETRAD/Psychology (2009) from UCSF.

8 SF State Biology Graduates Work Towards their Ph.D.s.....

Are you an alumna, alumnus, alumni or alum?
An Alumna is a female graduate or former student of a college or university.
An Alumnus is a male graduate or former student of a college or university.
Alumni is the plural form for both genders.
Alum is the informal term for both genders.
Whichever you are, your contributions to the past and future of the Department are highly valued.
So, please keep in touch!

Who is Biology’s oldest living alum?
Think you know?
Email: silver@sfsu.edu

SF State Department of Biology Faculty and Staff in 1978
Do you have a story or photograph to share? Email silver@sfsu.edu
Every gift we receive in this critical time plays a role in assuring the affordability of a college education, recruiting and retaining the very best faculty and staff, and fostering new programs and innovative research. **We gratefully acknowledge the following individuals for their gifts during 2009.**

Anonymous (7)  
Alex Abbas  
Behrooz Aval  
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Dan Bulos  
Michael and Mary Burgett  
John and Catherine Campbell  
Robert and Ellen Case  
Hilary Clark  
Benjamin Colombo  
Maria Corea  
Katherine Crump  
Amanda De La Vega  
Sylvia de Trinidad  
James Duncan  
Carol Evkhanian  
Kathleen Faraday  
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Ellen Macneale  
Daniel and Barbara Maher  
Shalimar Manalili  
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Alex Nie  
Dr. Thomas Niesen  
Denise Nishita  
Martha Nobles  
Anna Panuco  
Dr. Sally Pasion  
Rosemary Paw  
Dr. Dragutin Petkovic  
Svetlana Pidashiva  
Russell Pittenger  
Elaine Plaisance  
Dr. Wenshen Pong  
Dr. Ellen Prager  
Elena Ramirez  
Dr. Robert Ramirez  
Shirley Rasmussen  
Carl Rogers  
Sina Rostam  
Leticia Santos  
Marian and Perri Seto  
Amy Shen  
Eddie Simeon, Jr.  
Claire Spahn  
Dr. John Stevens  
Christopher Surrell  
David and Margaret Svoboda  
James and Claribel Sweeney  
John Bosch  
Joseph and Maggie Tierger  
Mina Torabi  
Nancy Towle  
Marc Ussini  
Stephen Volland  
Jay Vora  
Jennifer Wessel  
Potter Wickware  
Douglas and Pam Wong  
Dejin Zhan

One Way You Can Support Biology:

**Janis Kuby Memorial Fund**

*This fund provides scholarships to undergraduate students majoring in Cell and Molecular Biology or Microbiology.*

Dr. Janis Kuby received her Ph.D. in 1978 from the University of California, Berkeley, and joined SF State's Biology faculty in 1979. Her skill and enthusiasm as a professor and researcher in Immunology were widely recognized. She authored an immunology textbook which gave a comprehensive introduction to the principles and research in the field. *Kuby Immunology* became a best-selling text for immunology courses.

Dr. Kuby lost a long battle with cancer within weeks of completing the 3rd edition of her textbook in 1997, but the quality of the original textbook is so great newer editions have been continued in Janis Kuby’s name by a trio of authors. Upon learning of her death, one of her students, Elizabeth Crabb Breen, wrote, "Janis Kuby will never be forgotten by anyone who has ever had the benefit of her knowledge and love of immunology, either face-to-face, or through her writing."
Since Biology’s new website went online in April 2009 over 80,000 visitors from over 140 countries have come to our site looking for program information, admissions policies, and advisor contact information. And, we have had our share of unusual requests...

- A Marin Theatre Company set designer wanted to tour a marine biology lab to get some ideas for an upcoming play.
- A French photo researcher asked for high resolution photos of glowing mushrooms for a science magazine “La Recherché.”
- A York University professor working on a Canadian Broadcasting Company documentary about Charles Darwin wanted to know if Emeritus Professor Robert Bowman had recorded finch songs.
- A Presidio Native Plant Nursery member who is creating a list of lichens growing in the Presidio asked to look at the Department’s lichen collection.
- A South San Francisco High School student asked for advice on how to construct a greenhouse he wanted to build for his senior project.
- A SF State Cinema major sought permission to film in Biology’s greenhouse for his CINE 310 project.
- A Oceana High School student wanted to interview faculty for his senior thesis project on biological weapons.
- A Castle Rock (Colorado) High School student had questions about simple tests that could be performed to compare dolphin eyesight to human eyesight.

These are just a few examples of the emails we received from the science-interested community.

We hope you’ll visit us at http://biology.sfsu.edu soon, and please feel free to drop us a line.