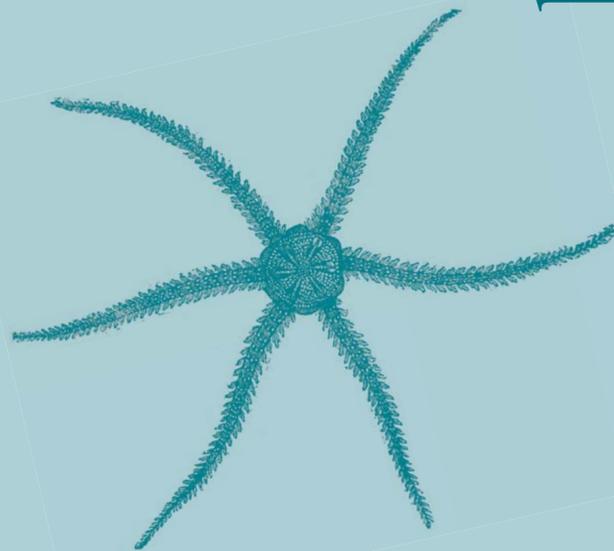




# bayside



SAN FRANCISCO  
STATE UNIVERSITY



Romberg Tiburon Center  
for Environmental Studies

3152 Paradise Drive  
Tiburon, CA 94920

http://rtc.sfsu.edu  
415/338-6063

NONPROFIT ORG.  
U.S. POSTAGE PAID  
TIBURON, CA  
PERMIT NO. 27

## Bay Conference Center at the Romberg Tiburon Center

- Ideal settings for meetings, retreats, seminars and conferences
- Four meeting rooms that include a comfortable lounge with a fireplace
- Indoor dining, outdoor picnic area with local catering referrals available
- Panoramic views of the North Bay from a secluded hillside
- All proceeds benefit the research and programs of RTC

3152 Paradise Drive  
Tiburon, CA 94920  
415.338.3543  
bccinfo@sfsu.edu  
http://bcc.sfsu.edu



## bayside

is published by the  
Romberg Tiburon Center for Environmental Studies

Director: Newell "Toby" Garfield, Ph.D.

Writers: Erin Blackwood, Sarah Davies, Adria O'Dea,  
and Karyn Scurti

Design and Production: Adria O'Dea



Printed on Recycled Fiber

## RTC Classes

### FALL 2007

Biol 582  
Biological Oceanography

Biol 586  
Marine Ecology Laboratory

Biol 862  
Molecular Evolution and Conservation

Biol 862  
Vegetation: Patterns and Processes

Biol 863  
Ecophysiology of Harmful Algal Blooms

Biol 863  
Ecosystems Ecology

### SPRING 2008

Biol 585  
Marine Ecology

Biol 631  
Animal Physiology Laboratory

Biol 863  
Plankton Ecology

For more information visit <http://rtc.sfsu.edu>

### Wetlands Science Series

Courses for Professional Development

Wetlands Restoration Ecology  
BIOL 9395 - 1.6 CEU  
Oct 12-13, Friday & Saturday 8:30-5:00

GIS for Wetlands  
BIOL 9100, 1.6 CEU  
Friday & Saturday, November 2-3, 8:30-5:00

For more information visit:  
<http://online.sfsu.edu/~wetlands>

Or call Aimee Good 415/819-2073.



THE FIELD STATION ON THE BAY ✦ ROMBERG TIBURON CENTER ✦ SAN FRANCISCO STATE UNIVERSITY ✦ FALL 2007

## Full Speed Ahead for Partners RTC & SF Bay NERR

**2007** has been a year of major milestones at the Center! After serving a year as the Interim Director, this past June, RTC's own Toby Garfield was officially appointed to the position. Toby has been with RTC since 1998. He initially came on board with a joint appointment with the Department of Geosciences on the SFSU main campus. As a seasoned member of RTC's scientific faculty, Toby fully understands RTC and its needs.

On the top of Garfield's "to-do" list is a major master planning effort for the 35 acre site. A National Science Foundation award and matching funds from the University will allow RTC to use professional planners. This will ensure that stakeholders from the University, RTC, the scientific community-at-large, and our local community all have a voice in the future of the Center. The effort is scheduled to begin in spring of 2008, and is expected to continue over the next two years.

This summer, the final nine acres of waterfront property were transferred from NOAA to SFSU, making the NSF award quite timely. "The land transfer means plans for revitalization of the waterfront can begin," says Garfield. "Launch capabilities and berthing for research vessels on Center property are necessary for RTC scientists and students to adequately perform their shipboard research. A working pier, available to research vessels along the coast of California, will encourage collaborations between scientists from outside academic and research institutions. While the impacts of a working pier on the research community will be tremendous, it will also have significant impacts for the education and outreach programs at the Center."

One of RTC's significant partnerships was formed on August 27, 2003 when the San Francisco Bay National Estuarine Research Reserve was designated. Plans for the administrative headquarters of the Reserve began in earnest. Four years and three phases of reconstruction later, Jaime Kooser, the Reserve Manager, gratefully moved her team into their new space in Building 36 and quickly doubled the size of her staff. In addition to the anxiously awaited headquarters for the

NERR, the renovation created new offices for RTC and much needed classrooms and laboratories.

The RTC and NERR communities were excited about reoccupying the main laboratory building and having space to work efficiently. Dr. Drew Talley, NERR Research Coordinator, spoke highly of the new lab: "The NERR lab is a well designed, multi-use space. We have room for our monitoring technicians to calibrate sensitive electronic equipment for our water quality and weather monitoring stations, while our CalFED Post-doctoral Fellow Christine Whitcraft and I sort muddy plant samples on the other lab bench."

Proud partners SF Bay NERR, NOAA, RTC and SFSU inaugurated the newly renovated facility and celebrated the land transfer on August 30th. 'A Celebration of Partnerships in Science' was hosted by Jaime Kooser and Toby Garfield. Speakers included Congresswoman Lynn Woolsey from California's 6th Congressional District; Timothy R.E. Keeney, Deputy Assistant Secretary for Oceans and Atmosphere at NOAA; Mike Chrisman, California Secretary for Resources; Robert Corrigan, President of San Francisco State University; and Ed Ueber, Romberg Tiburon Center Board of Directors.

In addition to the festivities, NOAA presented retired Army Colonel John Kern with a commemorative National Geodetic Survey marker. Kern is a valued RTC board member who volunteered countless hours towards the completion of the construction project. Commemorative markers are produced in very limited quantities, so this was a truly special recognition of Col. Kern's assistance.

When *bayside* asked how he would summarize the achievements in 2007, Director Toby Garfield stated, "RTC has had an amazing year and we're all excited to take the next step in the Center's development."



From left to right: John Kern's NOAA Award of Recognition; August 30 speakers Tim Keeney, Jaime Kooser, Lynn Woolsey, Ed Ueber, Toby Garfield, Robert Corrigan, Mike Chrisman; Building 36 Atrium.

## Farewell to a Friend: RTC says "goodbye" to Board Member Dr. William Atchley



Dr. Atchley and his *Salty Dog*.

When Bill Atchley retired from the medical profession, he took on one last patient, the environment. His years of treating human patients led him to believe that to be truly healthy, we needed to live on a healthy planet. Bill took on his new charge with passion and resolve, and never missed an opportunity to speak about his favorite cause, global warming. A resident of Tiburon and neighbor of the Center, he joined the RTC Board of Directors in 1998, and served as Chairman of the Board until 2005 when illness forced him to step down.

Bill was very active with the RTC community and he regularly went into the field with Dr. Kathy Boyer and her graduate students. Kathy and her crew required a boat that could make it into the shallow water where eelgrass beds are found. Bill had just that vessel, his Cape Dory named the "Salty Dog." Said Kathy of those days on the Bay, "We'd come out of the water on many of our eelgrass research trips with Bill, freezing cold and dripping wet. Bill would shuffle us inside his cabin where he had put the heater on for us. It was heavenly. We would get his boat so dirty, but Bill would get the biggest smile on his face and say that the *Salty Dog* felt so happy and important to assist with science that mattered to the Bay. It was much better than going out on recreational trips."

This year, RTC established The William Atchley Environmental Service Award to honor Bill and his commitment to both the environment and the Center. The award is made to the RTC graduate student whose research promotes conservation, preservation and restoration (CPR) of marine and estuarine environments. Although Dr. Atchley could not attend the ceremonies, his enthusiasm was as strong as ever, and he proudly donated a scholarship award for the first recipient, Joelle Tirindelli.

Our long time friend and hero, Dr. William Atchley, passed away on August 9, 2007. On October 2, under a flag flown at half mast, his ashes were scattered into the San Francisco Bay just off the RTC waterfront.



## A MESSAGE FROM THE DIRECTOR

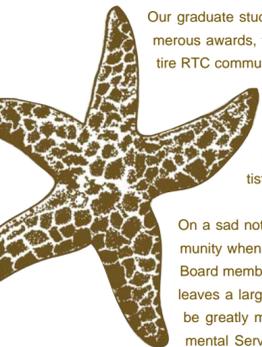
It's been a fascinating first year! In the twelve months since my first bayside address as Interim Director, I was offered and accepted the position of RTC Director. I'm thrilled to have the opportunity to lead this community of stellar scientists, students, staff and volunteers.

As you read in our headline article, we have met some major milestones this year. The completion of the San Francisco Bay NERR Headquarters and RTC Administrative Offices in our main laboratory building is a significant step towards bringing the community together in one centralized location. The new laboratories and classrooms in immediate proximity will greatly enhance the educational experience for our students and collaboration opportunities for our faculty.

We celebrated the transfer of nine acres of waterfront from NOAA to SFSU, giving the University ownership of the entire 35 acre campus. This has important implications for the Center, especially the revitalization of the waterfront, which will include a pier with berthing capabilities and an over water classroom.

Our new Education and Outreach Coordinator, Erin Blackwood, has jumped in with both feet. Under her leadership, RTC and SFSU will host a regional competition of the National Ocean Science Bowl. The NOSB is a high caliber high school competition that we are pleased to add to our outreach program efforts.

NSF has awarded RTC scientists three grants in the last few months. Drs. Carpenter, Stillman, and Komada were awarded funds to study how a calcifying phytoplankter responds to ocean acidification. Dr. Komada (with David Burdige at Old Dominion University) was also given funds to trace transformations of organic carbon in marine sediments. And I, with Drs. Cochlan and Komada, received an award to move forward with a master plan for the center. Stay tuned for information on the master planning process. We intend to have the scientific community outside RTC and SFSU involved, as well as our neighbors and other stakeholders who have an interest in our future.



Our graduate students are the recipients of numerous awards, too many to list here. The entire RTC community is extremely proud of their achievements, and I encourage you to visit our website to read about the many successes of our young scientists.

On a sad note, I speak for the whole community when I say that the passing of RTC Board member Bill Atchley this past August leaves a large hole in our "family." He will be greatly missed by all, but the Environmental Service Award will leave a lasting legacy for future RTC students.

In closing, a big thank you to everyone who attended our Discovery Day Annual Open House on October 14th. We look forward to seeing you all again next year!

Best regards,

*Toby*

## On the 'Scope with Graduate Student Alison Gould



Alison Gould joined RTC's growing cadre of graduate students in the spring of 2006. As a student in Wim Kimmerer's Lab, she has conducted research for a collaborative study on the Delta Smelt food web. *Bayside* recently got a chance to catch up with Alison just after she completed her final early morning research cruise for this project.

**What made you want to become a marine biologist?** While studying biology as an undergraduate at The University of Virginia, I decided to take a summer course in the Bahamas. It was a mini research project on San Salvador Island. It sounded fun, but it opened my eyes that marine biology is a serious science, not just playing with dolphins. I double majored in both math and biology, with a specialized concentration in conservation.

**What can you tell us about your thesis?** The title is "The Population Dynamics of *Limnithona tetraspina*: The Success of an Introduced Copepod in the San Francisco Estuary." It coincides well with the Delta Smelt food web study because copepods are the primary food source for juvenile smelt. It's an abundant species, yet little is known about its life history. For two straight summers, I have participated in research cruises that departed at 4:30AM. It was a great experience, and we worked in both good seas and bad. There were times when the swells were so rough, we had to hold onto each other as we collected water samples. I enjoyed working with so many people. Now, for the next year, I'll be in the laboratory on the 'scope!

**What does it mean to be "on the 'scope'?"** I'm spending most of my time on the microscope going through all of the zooplankton samples that we collected on the Foodweb Cruises during 2006 and 2007. This work mostly involves looking at my species of copepod in the samples, and identifying their life stages, sex, and how

many eggs the gravid females are carrying.

**What were your most challenging and rewarding experiences so far?** Moving to San Francisco was the most challenging and rewarding experience in my life. I had always dreamed of moving back to the Bay Area so that I could reconnect with "my roots," but it was difficult moving so far away from my family and friends. It was hard to start fresh in a new city where I didn't have many friends, but it was also exciting to be able to explore a new area. It made every day an adventure!

**What are your future plans?** I am looking at Ph.D. programs within California. I want to do research in marine ecology and to focus on coastal environments. It would be great to become a professor and have my own research lab some day. Being responsible for grants is a scary thought, though.

**What do you do for fun?** I am a tennis coach for the Junior Varsity team at the Sacred Heart Cathedral Preparatory School in San Francisco. I also like to scuba dive. Some of my favorite places so far are Monterey and Alaska. I completed a Research Experience for Undergraduates scholarship one summer in Alaska, and I got to wear a dry suit for the first time. The marine life is very different there, and you can hear humpback whales underwater a couple hundred meters away.



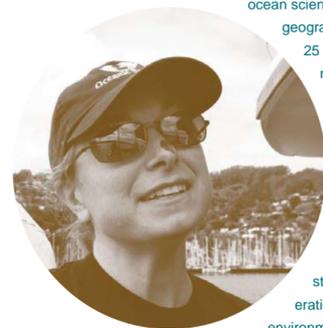
Alison Gould out and about on San Francisco Bay

## The New Buzz in Outreach

We are pleased to introduce Erin Blackwood as RTC's new Education and Outreach Coordinator. Erin joins the Center with an impressive background. She has a Master's in Science of Education and ten years of practical teaching experience on and about San Francisco Bay. Formerly at the Bay Area Discovery Museum (BADM), Erin worked with RTC's previous outreach coordinator on a joint NSF program, so she was well prepared to take on her new role.

"I worked with RTC for four years while at the BADM, so I came with some insight into the scientific research and education that is conducted here. I'm excited that I can apply my experience and connections from the local science education community to bring new outreach projects to the Center. The National Ocean Sciences Bowl (NOSB) is one such project I'm currently spearheading. The NOSB is a strong addition to our program, since we will be participating in outreach at the national level."

The NOSB is an academic event in which teams of high school students participate in a timed "buzz in" competition. Questions cover ocean science topics in the fields of biology, physics, geology and chemistry (as well as related geography, technology, history, and current events). Competitions are held regionally at 25 locations around the US. The winning team from each regional site goes on to the national competition, which is held in April and rotates among regional sites each year.



Under Erin's guidance, RTC and San Francisco State University will become the Northern California Regional Site for the NOSB in 2009. Erin will coordinate the competition in the transition year of 2008, when the NOSB "Otter Bowl" will still be held at Monterey Peninsula College on Saturday, February 23. In 2009, the competition will move to SFSU, and will be christened with a new name.

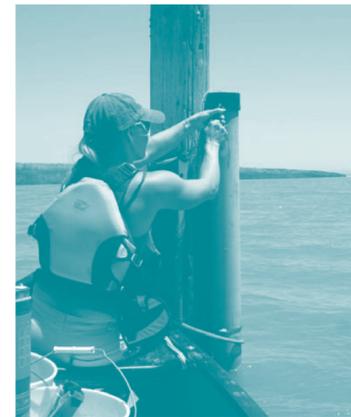
Says Erin of the program, "This is an exciting opportunity to encourage bright, diverse students to study marine science." The NOSB is a "program that prepares the next generation of marine scientists, policy makers, teachers, explorers, researchers, technicians, environmental advocates, and informed citizens to accept this challenge," and this fits perfectly with the mission of RTC and SFSU: to train the next generation of ocean scientists.

To learn more about the "Otter Bowl" and the NOSB, please visit <http://rtc.sfsu.edu/otterbowl>.



## San Francisco Bay NERR NOTES

### Detecting Changes in the National Estuarine Research Reserve



Jessica Schneider deploys a datalogger that measures the water quality of Gallinas Creek.

One of the hallmarks of NOAA's National Estuarine Research Reserve System (NERRS) is the suite of long-term monitoring programs which track water quality, weather, and populations of plants and animals across the 27 reserves. Data collected through long-term studies of basic science, like the NERRS' monitoring programs, help researchers detect changes within the estuary over time and provide insights for scientists exploring experimental questions.

Looking at long-term data can lead to interesting questions such as: why are the nutrient levels periodically very high at China Camp? The data can also provide valuable pre- and post- event observations when natural or human caused disturbances occur. For example, monitoring in the Grand Bay NERR in Mississippi captured data before and after a large phosphate spill. This allowed scientists to determine both the extent of the damage caused by the spill and appropriate restoration objectives. On a more day-to-day level, monitoring data can help scientists choose the best place for their experiments, and keep visitors to the Reserves informed about the weather and water conditions.

Although the monitoring programs at San Francisco Bay NERR were only established three years ago, we are already making thorough observations of water quality, weather, and invertebrate populations at Rush Ranch and China Camp. Each of these programs was developed by San Francisco Bay NERR's lead Monitoring Technician, Jessica Schneider, with guidance from Research Coordinator Drew Talley and assistance from Graduate Research Fellow Heidi Weiskel.

In the spring of 2007, the monitoring program moved into a fully-equipped lab in the newly renovated Building 36. After successfully orchestrating this move and building the monitoring programs from the ground up, Ms. Schneider is making a change of her own. She is returning to school to pursue a Master's degree in Environmental Interpretation at the State University of New York's Environmental School of Forestry. Nicole Christiansen and Lara Martin have taken over Ms. Schneider's role, and have already developed plans to continue expanding the programs.

You can learn more about San Francisco Bay NERR's monitoring programs, and find out just how windy it is at Rush Ranch, or whether the water is a good temperature for swimming at China Camp today, by visiting our website at [www.sfbaynerr.org](http://www.sfbaynerr.org).



### PI Profile: Dr. Tomoko Komada

Like many in the marine sciences, Tomoko Komada's journey to oceanography has been an interesting one. Originally from Tokyo, Japan, Tomoko's family was in the seaweed business for generations. Her mother feared the sea because people didn't always return, and seasickness ran in the family. Tomoko was unlucky enough to inherit this trait. As a result, she did not spend time at the ocean as a child.

Tomoko was always interested in the cycles of the elements, and earned a B.A. in Chemistry from International Christian University. In graduate school at Rutgers University, she studied environmental science for a semester before moving on to the Institute of Marine and Coastal Sciences, where she decided to pursue an oceanography degree.

For her Master's, Tomoko profiled the chemistry gradient in mud, looking at inorganic carbon, or CO<sub>2</sub>. When she continued on for her Ph.D., she began studying organic carbon, as she has ever since. After a postdoctoral fellowship at UC Irvine, Dr. Komada came to SFSU and RTC in 2004. Now Dr. Komada hopes to learn what leads to preservation of organic carbon. Organic carbon that is not respired, less than 1% of global primary production, is preserved for geologic time. Studying the isotopic signatures of carbon that is respired and not respired may lead to information about why this is so.

Dr. Komada just received a 3-year grant of \$402,743 from the National Science Foundation to trace the transformations of organic carbon in marine sediments using natural C isotopes in Santa Monica Basin. She hopes to explore what controls carbon degradation. The project will also investigate the role that the ocean floor plays in supplying dissolved organic carbon to the water column. Field work will take place in March of 2008, and will require several days at sea, taking sediment core samples. Let's hope the seas are calm that week.

As an Assistant Professor of Chemistry, Dr. Komada is teaching classes on campus this fall. In addition, she will continue with her research on ocean acidification and assist with the RTC master planning project over the next two years. And when she has any spare time? Dr. Komada likes traveling to new places. Just like a good scientist exploring unanswered questions, she has always enjoyed taking the road less traveled.



### Advisory Board

Henry J. Broderick, J.S.D.  
Chair

Robert Ohrenschild  
Vice Chair

Sheldon Axler, Ph.D.  
Executive Secretary

Howard Allen  
Scott Anderson

George B. Brewster, J.D.  
Margaret Gould Burke, Ph.D.

Margaret Elliott  
Toby Garfield, Ph.D.

Terrence Gosliner, Ph.D.  
Robert Heller, Ph.D.

Millie Hughes-Fulford, Ph.D.  
Russell D. Keil, Jr.

James Kelley, Ph.D.  
Michael Keran

John H. Kern  
Donald Lollock

John Northwood, Ph.D.  
Mark Reynolds, Ph.D.

Ann Stephens  
Ed Ueber, Ph.D.

Effie Westervelt  
James G. Wilson, AIA

Alissa Arp, Ph.D.  
Sarane Bowen, Ph.D.

Phyllis Faber  
Marty Griffin, M.D.

Bettina Hughs  
Gabriella Isaacson

Mike Josselyn, Ph.D.  
Doug McConnell

John McCosker, Ph.D.  
Betsy Scarborough

John Silcox  
Tom Spencer, Ph.D.

David Werdegar, M.D.

