Dear Faculty and Staff,

On October 23rd, the Department of Geological Sciences hosted a reception and dinner to honor Dr. Matthew Becker, our new Bert and Ethel Conrey Endowed Chair in Hydrogeology. This is the first endowed chair in the college and the third in the university. In some ways, I think it signifies a real turning point in our college on the emphasis on development and the excellence we can attain with fundraising and the collaborations we set up with our alumni, industrial/business partners, and friends in the community. Added on to that is the first naming for our new Hall of Science. One of the two 80-seat lectures halls will be known as the Georgia Griffiths/GS Software Systems Lecture Hall for Georgia’s generous gift to endow a scholarship in the Department of Mathematics and Statistics with her gift of $112,000.

Over the past two years, we have gone from having very few prospects to having identified a number of top prospects for gifts. This is due in great part to Maryanne Horton, our Director of Development, but many of you are also helping move development forward. For example, recently, Maryanne Horton and Chuhee Kwon were at lunch with prospective donors. At the end of the lunch, one of them pulled out a checkbook and wrote a check for $10,000 for equipment for the applied physics program – obviously because Chuhee had a vision they supported. We have Foundations that identify us and invite us to submit proposals. Jim McKibben just received a $10,000 check from the Severns Family Foundation to help install a solar panel on our Mobile Science Museum to power the exhibits – solar power being an area of great interest to the Foundation. One of his student volunteers was moved to connect us with her family’s Foundation. Her several hundred dollars of discretionary funding turned into $10,000 through additional conversations that revealed a priority held in common. This type of giving is increasing and making a real difference for us.

Our last Highlights reported that the faculty had received over $173,000 in research support from private foundations. Since July 1 of this year, we have had gifts totaling $348,171. I greatly appreciate the efforts that many of you take to write proposals, help identify prospective donors, meet with donors, and keep in touch with alumni. This is really important and the only way we are going to fund some of our programs and build endowments for current and new programs, student scholarships, and equipment and upkeep. Thanks for your dedication - please keep up the excellent work!

Laura Kingsford, Ph.D.
Dean
College of Natural Sciences and Mathematics
California State University, Long Beach

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**Student Spotlight**

Vincent Luong
Chemistry

Vincent Luong, a freshman this fall at CSULB, and a Chemistry major in the College of Natural Sciences and Mathematics, is fulfilling his lifelong dream of attending a school located only ten minutes away from the beach. While an avid extreme sports enthusiast, he’s decided to put some of these interests on hold as he attempts to achieve his goal of graduating in four years. The faculty in the College of Natural Sciences and Mathematics have challenged Vincent’s abilities, and assisted him in narrowing down his career goals. Currently, he is seeking opportunities to volunteer in a laboratory to gain hands-on experience. Vincent suggests that future freshmen consider living in the dorms to improve their whole college experience, and that they prepare themselves for the difficulties in parking.
function of blood-forming (hematopoietic) stem cells. These studies have progressed to initial clinical trials of hematopoietic stem-cell therapy for AIDS. It is hoped that in time Dr. Zack’s studies will help find a more effective treatment than the multidrug therapy now in use to treat HIV disease.

From tennis pro to cutting-edge AIDS researcher. Faculty impact doesn’t get much better than that!

Prior to CSULB, Jerry Zack describes himself as a mediocre student. So mediocre in fact, that academically he was in no position to get into grad school after completing a bachelor’s in biology at UCI. Instead, he went back to being a tennis pro.

A year later, with the help of CSULB professor and family friend Dr. David Carlberg, Jerry enrolled in CNSM’s medical microbiology MS program under the tutelage of Dr. Henry Fung. Dr. Fung lit a fire under Jerry and re-motivated him. Jerry’s grades went up and with the novelty of his master’s thesis (something he thinks he wouldn’t have been allowed to do anywhere else) he was able to get into the top immunology PhD program in the country at University of Texas Southwestern. The rest, as they say, is history.

Jerry is now Associate Director of the UCLA AIDS Institute and a professor in the Departments of Medicine as well as Microbiology, Immunology & Molecular Genetics at the David Geffen School of Medicine. The author of more than 100 scientific publications, he is best known for his innovative work on how HIV replicates and causes disease, and in developing new therapeutic approaches for eradicating the AIDS virus. Most recently, Dr. Zack’s success in flushing HIV out of hiding and eliminating latent virus has drawn considerable attention. Dr. Zack’s work has also shown that the AIDS virus can inhibit the function of blood-forming (hematopoietic)

With assistance from Advisory Council member Steve Rucknick, the Chemistry and Biochemistry Department was awarded $5,000 from Allergan, Inc. in support of the Department’s Seminar Series and Distinguished Visiting Lecturer, as well as $7,000 from Allergan Foundation for two undergraduate summer research fellowships.

Long time friends of the Physics and Astronomy Department, Gisela and Wilfried Eckhardt, presented Chuhee Kwon with a $10,000 check over lunch to help purchase equipment for the Advanced Experimental Physics Lab.

Kelsey Severns, a student volunteer in the Science Learning Center, paved the way for a $10,000 gift from the Severns Family Foundation in support of Jim McKibben’s project to convert the Mobile Science Museum from a generator based power system to a solar power system for both the exhibits and air conditioning while providing a new “green power” exhibit for students.

The Geological Sciences Department celebrated the college’s first endowed chair and presented the new Bert and Ethel Conrey Endowed Chair in Hydrogeology, Dr. Matt Becker, to alumni and industry at a dinner on October 23rd. Not only did the event net $3,000 for the Hydrogeology Program through sponsorship and benefit-priced tickets, but it also netted the department great goodwill among alumni and industry guests as well as the beginnings of an advisory council. Sue Ollweiler, Executive Director of the Carl W. Johnson Foundation, and Dave Slater, COO and Executive VP of Signal Hill Petroleum, were recognized for their sponsorship of the dinner.
**Highlighting New Faces**

Welcome to Highlighting New Faces – our way of introducing you to new people in the college. We hope that this will give you a little insight into the person along with his/her professional background and achievements. At the very least, it will give you something to talk about when you introduce yourself to the individual.

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**Marine Lab Team Makes New Home Possible** *(contributed by Kim Anthony)*

Hermit crabs, blennies, rockfishes, stingrays and a sex-changing fish are just a sample of what you’ll find in the CSULB Marine Lab. The lab houses a huge variety of local marine animals found anywhere from zero down to 300 feet deep! All of the animals are collected in the intertidal, by snorkeling, by scuba diving, or by the boat offshore, and cared for by the Marine Lab Volunteers. Our longest-term and most dedicated student volunteers are Leah Sloan, Lauren Shiosaka, Sarah Anderson, DJ Schuessler, Pablo Barillas, Jared Leewood, Erin Vincent, Marris Velarde, and grad assistant, Thomas Farrugia. They are instrumental to this fast-paced support lab’s success.

Last March, we took on the ominous task of moving the marine lab from PH3 to PH2. Volunteers, with the help of the CNSM Shop, moved live animals, tanks and equipment, schlepping, pounding, sanding and painting their way to our temporary location, PH2-021. In the midst of the chaos, classrooms, faculty, and graduate students still received the support they needed during the move. In our first semester operating in PH2, we continue to collect animals and algae and provide them to marine and general biology classrooms, assist faculty and graduate students with their field work and invite classroom and school group tours. We also engage in elementary school outreach, bringing live animals to students in Long Beach and Los Angeles that have never seen sea life under the water. None of this would be possible without the dedication and diligence of the Marine Lab Team.

The Marine Lab will be hosting an Open House on November 20th from 6:00-10:00 p.m. See flyer on Page 2 and on the Biology Home Page. But don’t wait for an invitation—please stop by the Marine Lab any day to check out our animals and meet our volunteers.
Jim Kisiel, Assistant Professor, Science Education

If you’ve ever been to an aquarium, chances are that you encountered a touch tank exhibit—a shallow pool or tank designed to allow visitors to easily and safely touch a variety of marine animals (such as sharks, rays, sea stars, or anemones). One of the underlying assumptions of these wildly popular yet maintenance-intensive exhibits is that the proximity to nature and first-hand experiences (and associated interpretation) facilitate a variety of learning outcomes, including a new/renewed appreciation for ocean life, improved attitudes (or actions) toward animal or habitat conservation, and a decreased sense of fear of these animals (especially sharks). However, there is limited evidence to suggest that such outcomes result. Although several research studies (as well as anecdotal evidence) suggest that touch tanks are engaging and valued experiences, few studies have attempted to understand the characteristics of this engagement, or examine what factors might qualitatively improve these potentially rich science learning experiences.

While there is a growing body of research on learning and engagement at interactive science exhibits, such as those found in science museums, we lack the basic information about how visitors interact with and potentially learn from interactive exhibits that include live animals.

In February 2008, Dr. Jim Kisiel, Assistant Professor in the Department of Science Education, was awarded $136,000 (with Co-PI Dr. Shawn Rowe of Oregon State University) from Oregon Sea Grant to develop a better understand of just what happens at a touch tank encounter, and what factors seem to be most important in shaping these experiences. The project, coined Event (Examining Visitor Engagement at Touch Tanks) involves studying family group interactions at these exhibits in four Pacific Coast Aquariums: The Aquarium of the Pacific and Cabrillo Marine Aquarium in Los Angeles area, and the Oregon Coast Aquarium and Hatfield Marine Science Visitor Center in Newport, OR.

Data collection, most of which occurred this past summer, involved capturing family actions and discourse during their visit to a touch tank via video recording at each site. Several Science Education Masters students assisted in recording these episodes, which were then followed by a brief interview with the family members to understand their reactions to their touch tank encounter, as well as prior experiences and motivations for visiting that day. This information helps the researchers to place the family’s actions and responses in the broader context of their life experiences, and will shed light on the extent to which the touch tank encounter might be considered a ‘learning experience.’

Analysis of the nearly 50 family videos and interviews will continue through 2009. Findings from the study will be shared with educators and exhibit staff at the study sites, as well as others working in informal science institutions, as a way to inform future exhibit and programming development that facilitates learning at these unique animal encounters.

NEW FACES, CONTINUED

adventurous. During the work week he might fly to a glacier or hike to 3000 m to install some instrumentation. On the weekends, the whole family will take a walk in the breathtaking Dolomites, a trip to a lake, or just have a pizza in town with friends.

Matt arrived in late August from Buffalo (via Italy) so his wife, Amy, and their three boys (ages 5, 9, 11) are still getting settled. Amy is a special education teacher (Autism Classroom) at Bixby Elementary and all three boys attend the same school. Bixby is a 10 minute walk from their home and Matt bikes to work in about 10 minutes. The family enjoys living and working in the same community. They have been pleasantly surprised by the friendliness of the people of Long Beach. Matt thought that moving to a relatively urban community would mean people would be a little more closed off, but they found the opposite is true. Being surrounded by such a diversity of cultures was one of the big draws of moving to LB. Buffalo is comparatively provincial.
Welcome to Center Spotlights: The college has three centers: The James L. Jensen Student Access to Science (SAS) Center; the Institute for Integrated Research in Materials, Environments, and Society (IIRMES); and the Science Learning Center (includes the Mobile Science Museum). These centers serve both our students and faculty as well as the larger community. Each month will feature both updates and in-depth reviews of the Centers.

SAS Center

The SAS Center has been a hub of mid-semester anxieties. We see students every day who are struggling to achieve success in their math or science coursework, and thankfully, we can provide help. I’m referring to the Peer Tutoring program: we have twelve upper level undergraduate tutors who tutor in a wide variety of CNSM subjects, and oftentimes, in other subjects as well. All of our Peer Tutors have witnessed a growth this semester in the usage of their tutoring services, compared to a year ago. We have students who come in regularly to work with their tutor of choice. If our tutoring schedule conflicts with a student’s schedule, we have another option for them: Learning Assistance Center referrals. The SAS Center issues no-cost referrals to CNSM majors for the Learning Assistance Center (where typically a tutoring session will run between $40-60). If you know a student who is struggling in a lower division Chemistry or Mathematics course, we invite you to send them our way. Make sure they bring their notes and their book! We will try to assist them as best we can. Our tutoring hours and subjects are also listed on our website: www.sascenter.org.

The Science Learning Center & Mobile Science Museum

The Severns Family Foundation has awarded a grant of $10,000 to the CNSM Science Learning Center’s (SLC) Mobile Science Museum (MSM) for continued support for establishing the MSM. The SLC and the MSM. The SLC model has been emulated by a number of other groups, including the City of Philadelphia, a “science wagon” in rural China, and a “science truck” in Thailand. Together, the SLC and MSM have received more than $120,000 in grants and donations in the past 15 years. More than $35,000 of these funds have been from the CSULB Alumni Association Grant Program making the SLC/MSM the most successful Alumni grant recipient in the program’s history. Initial support for establishing the MSM was through a California Sea Grant, and additional funding was provided by the College.

IIRMES

The Institute for Integrated Research in Materials, Environments and Society (IIRMES) hosted "Biology Magnified" as part of Junior University Day for over a hundred children from Laurelcrest, Mayfair and Tincher elementary schools. Previously called "Kaleidoscope Academic Day", Junior University Day allows approximately 2,000 students from kindergarten through high school (K-12) to spend a "day at college," participating in fun, educational activities including an opportunity to have an opportunity to see some of the technologies and devices used in scientific discovery today. Throughout the day, the groups were given short lectures on the theoretical principles of the Scan...
The MSM, refurbished under the direction of President Alexander earlier this year, stands at the ready to demonstrate “hands-on” science to area schools and other local events. Together, the SLC and the MSM play a vital role in the College by connecting it to the community it serves.

Founded in Spring 1980 by the late Professor Emeritus John V. Hutchenson of Physics, the SLC, first known as The Natural Sciences Museum (NSM), was followed by the MSM in Fall 1980, under the leadership of Roger Bauer, former Dean of the School of Natural Sciences (now CNSM) and the direction of Mike Schaadt, former Outreach Coordinator (now with the Cabrillo Marine Museum). The initial presentation of the MSM to the University on October 12, 1980, was a tremendous success.

The MSM vehicle, a 26-foot GMC Trans-mode van (recreational vehicle) began life on October 12, 1980, as a mobile television studio called “On-The-Go Video”. Originally purchased with a public television grant, the van was abandoned after three years because the video recording equipment of the time did not operate properly in a portable generator-based system. When the concept of a mobile science van was proposed to then Vice President for Academic Affairs David Adamany, he suggested the conversion of the “On-The-Go Video” vehicle. Authorized by the University, the CNSM Shop and Facilities Management shops cooperated on the conversion of the van interior from a television studio to a science lab suited for the mobile hands-on exhibits for which the MSM is known.

The inspiration for the “hands-on” exhibits came from The Exploratorium in San Francisco, one of the first hands-on science museums. Professors Hutchenson and Dean Ayers, also of Physics, applied Exploratorium concepts to the development of the MSM displays and exhibits. Current Director Jim McKibben, a graduate student at the time, assisted. In 1990, Jim was appointed interim director, followed by a permanent appointment as director in 1993. In 1990, the NSM moved to its present location in PH2-010 and was renamed The Science Learning Center.

The MSM is known for its “hands-on” exhibits such as the Wimshurst Machine, one of the SLC exhibits for hands-on electricity exploration. Electron Microscopy (SEM) and were then asked to test their insect identification skills of familiar bugs and bug parts magnified to image the micron-level world of biology.

Following the lecture, students were treated to a live interactive demonstration of the FEI Quanta 200 SEM. Students viewed a wide variety of specimens including butterflies, spiders and the scales of a great white shark. The images reached up to 15,000x magnification and gave the children a new perspective and appreciation for the capabilities of this technology and the bewildering world of micro-scale anatomy and morphology. It was a fascinating and eye opening experience for the children as most had only used a light microscope prior to their trip to IIRMES. One young ‘scientist to-be’ exited the lab and exclaimed, “This was the coolest thing I have ever seen!”

It’s now safe to say that Science in the College of Natural Sciences and Mathematics is “The coolest!” – according to a fifth grader at least.


Matt wishes he had some interesting hobbies to share but they are all theoretical. Theoretically, he can’t wait to spend time sailing and hiking in the mountains, which he loves, but in reality his hobbies are helping the kids with homework and attending little league baseball games. They all spend as much time as possible at the beach. He’s hoping to get his boys on surf boards soon! He tries to swim every day and loves being able to swim in the sunshine here on campus.

On campus, Matt has been very pleased to hear how much the students appreciate CSULB and are happy to be here. He’s impressed by the energy and commitment of the students and especially their efforts to form a community that extends beyond class. He finds this rare in a commuting campus.

We enter a time, I believe, when hydrogeology will become critical for human health and economics, hydrologists will need to be imaginative, flexible, and have a formidable toolbox to meet the challenge.

— Matt Becker