



CNSM Highlights from the Office of the Dean – A Semimonthly Email
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College and Campus a Buzz with Mathematics!

Dear faculty and staff,

I want to take a moment to recognize the hard work and commend all the CNSM faculty, staff and students who brought upper campus to life this past Saturday with the hosting of our 8th Annual Math Day at the Beach! Three-time reigning champion North Hollywood High School came to defend its Math Day title against 30 other Southern California high schools during the competition. Our Department of Mathematics and Statistics designs and hosts the competition that pits high school teams of six students each against one another in a myriad of problem-solving challenges. The contest emphasizes critical, intuitive thinking rather than computational skill. Students compete in both individual and team rounds vying for prizes, trophies and most importantly for many – bragging rights! What a great day this was for visiting students, their parents and our faculty and staff! We really do make the College and campus shine through an event such as this one.

Special kudos and thanks go out to Kent Merryfield for his event leadership and our sponsors - Beckman Coulter, Pacific Life Foundation, Long Beach Financial Credit Union, University College and Extension Services, and 49er Shops Inc. - for their donations of time and gifts. Wow! Saturday sure was a wonderful *Math Day* at the Beach!

Have a great week!

Laura

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

Spotlight on Students and Alumni

Kristy Forsgren (M.S. Biology 2005) is now in a PhD program in the School of Fisheries and Aquatic Sciences at the University of Washington where she is studying the reproductive biology of Pacific salmon. Kristy's M.S. marine biology research was featured on Animal Planet and her breakthrough research earned the Long Beach Aquarium of the Pacific the internationally coveted [Bean Award](#) in husbandry of aquaria and zoo animals. Well done, Kristy! Great job to all our CNSM faculty and staff who supported and mentored Kristy on her road to success!

Ryan James, undergraduate physics student planning to graduate in Spring 2007, has successfully been working on a project to design, build, and demonstrate the operation of a scanning laser microscope using ac-current. He is working on both the experimental design and the software programs. James is currently in the process of testing the operation; he will present the results at the Materials Research Society meeting in April. James' advisor, [Chuhe Kwon](#), noted that Ryan James is a contributing author on a professional talk, a peer-reviewed conference proceedings and a peer-reviewed journal publication with other faculty and student members of Kwon's research team. James is currently applying to doctoral programs and has already been accepted at UC Davis. Congratulations Ryan James!

Chuck Kristensen, CSULB Chemistry alum, is highlighted in the latest issue [3/5/07] of *The New Yorker* magazine. Chuck received his BS in chemistry in 1980. He did undergraduate research with [Nail Senozan](#). At the time they were working on hemocyanin and Chuck was trying to extract it from spiders. Although Chuck failed to extract the hemocyanin, he taught himself how to harvest their venom. Today Chuck is a leading authority on milking spiders; his methods are vividly described in the article. His company, [Spider Pharm](#), in Yarnell, Arizona is a major supplier of arachnid venom for research purposes worldwide. In a [2004 National Geographic interview](#), Kristensen said, "There are almost 40,000 described species of spider, and possibly two or three times that not yet described...To get one gram [three-hundredths of an ounce] of black widow venom, it takes 50,000 to 100,000 milkings. One milking takes one minute. So it can take us a year to get one gram." Kristensen has been raising and milking spiders for their venom for over 25 years. Happily, *The New Yorker* article does point out that Chuck is a graduate of CSULB.

Spotlight on Faculty and Staff

Richard Behl, [Department of Geological Sciences](#), led a week-long seminar on "Evaluating the Clathrate Gun Hypothesis: The Role of Methane Hydrates in Global Climate Change" at the Austral Summer Institute (ASI) in Dichato, Chile. ASI is a pan-Latin American graduate program sponsored by the University of Concepcion, the

Chilean government, UNESCO and the Woods Hole Oceanographic Institution.
Felicidades, Rick!

Jiyeong Gu, Assistant Professor in [Physics](#), has been very successful since her arrival at CSULB two years ago. She leads a research program in the fabrication and characterization of various magnetic thin films. [Gu](#) has specified and installed a state-of-the-art sputtering instrument for thin-film deposition that allows a very high vacuum, the ability to remove and insert substrates without breaking main chamber vacuum, and the ability to create thin-film multilayers and composites of different materials. In addition, Gu and her colleagues, **Mladen Barbic** [physics], **Chuheee Kwon** [physics] and **Xianhui Bu** [chemistry], were awarded a Major Research Instrumentation (MRI) award from the National Science Foundation to purchase a Quantum Design Physical Property Measurement System (PPMS). The PPMS will be the first instrument of its kind within the CSU system and it will enable research in variable temperature (1.9K – 400K) and magnetic field (up to +/- 9 Tesla) environments. This instrument can be readily incorporated into both undergraduate and master's student research. Congratulations Jiyeong!

Jesse Ramirez and Eileen Tom, from the James L. Jensen Student Access to Science and Mathematics ([SAS](#)) [Center](#), recently showcased our College to CSULB President's Scholar applicants and their parents. Valerie Bordeaux, Director of the President's Scholars Program, noted, "Scholars and parents were particularly impressed by CNSM's diverse and supportive academic environment, resources, research opportunities, access to faculty, and new facilities." Thank you, Jesse and Eileen, for being such excellent and informative spokespeople for our college!

Kelly Young received a CSULB Alumni Association Award to purchase a cadaver for the CNSM Anatomy labs. This [award](#), in conjunction with the use of CHHS funding, allowed Biological Sciences to purchase two "new" cadavers. Cadavers are an important element in establishing and maintaining the quality of the Anatomy Program at CSULB. Congratulations Kelly on earning this Alumni Association Award!

Kudos to CNSM Faculty Seeking and Earning External Funding: It is a challenge to begin and maintain an active, healthy research program amidst our hectic professional lives. Congratulations go out to all who have submitted proposals or been awarded external funding during this past month.

CNSM Faculty and Staff Members who submitted grants during February, 2007:

- **Bell, Richard**, *A Test for Extending the High-Resolution Climate Record back to 1.2Ma- Investigating the Mid-Pleistocene Climate Transition in Santa Barbara Basin*, [Department of Geological Sciences](#), Funding Agency: NSF
- **Horton, Maryanne and Gharakhanian, Editte**, *CSU Marine Biology Fall Semester at Catalina Scholarship*, [Department of Biological Sciences](#), Marisla Foundation

- **Mason, Zed**, *Sample Costing for Alaska EMAP Contract*, [IIRMES](#), Funding Agency: State of Alaska
- **Mezyk, Steve**, *Optimization of Advanced Oxidation Process (AOP) for Water Reuse*, [Department of Chemistry and Biochemistry](#), WaterReuse Foundation
- **Slowinska, Kasha**, *Covalent Organic Mesoporous Material Based on Helical Peptides*, [Department of Chemistry and Biochemistry](#), Funding Agency: NSF
- **Zwiep, Susan and Benken, Babette** et al, *Secondary Teacher Education for English Learner Integration – STEELI*, [Department of Science Education](#) and [Department of Mathematics and Statistics](#), Funding Agency: US Department of Education

CNSM Faculty Member who was awarded external funding during February, 2007:

- **Merryfield, Kent**, *Math Circle – Southern California American Regional Mathematics Leagues*, [Department of Mathematics and Statistics](#), Funding Agency: Mathematical Sciences Research Institute

College, Campus and Community Highlights and Events

Undergraduate Research and Creative Activity Scholarships: CSULB's Women & Philanthropy introduces the 2007 [Undergraduate Research and Creative Activity Scholarships](#). Up to \$20,000 will be awarded in May 2007, with scholarships ranging from \$500 to \$4,000. The application **deadline date is Monday, March 26, 2007**. In 2006 ten students received scholarships for their summer and academic year projects. Questions can be address to Barbara Holden, University Relations & Development, 54126 or holden@csulb.edu

2007-2008 Enhancing Educational Effectiveness Awards – Call for Proposals: EEE awards support curriculum development to enhance student learning and student success. Proposals may be submitted by individuals or collaborative teams, with a maximum budget of \$10,000 and a maximum of 3 units of assigned time for an individual participant. **Proposals are due in the Faculty Center for Professional Development by Friday, April 27, 2007** and awards will be announced by Friday, May 18, 2007. **FPCPD is hosting [two workshops](#), on Friday, March 9, 2007, 9 – 11 a.m and Friday, April 13, 2007, 9 – 11 a.m.** The Call for Proposals can be found at <http://www.csulb.edu/aa/personnel/development/awards/eee> Please direct your questions to Dr. [Valerie McKay](#) or call the FPCPD at 5-5287.

Fitness Opportunities for CSULB Staff, Faculty: The following activities and programs are available (for a nominal fee) to CSULB staff and faculty through the Department of Recreation and Club Sports: [Deep water exercise, Shallow water exercise, Lap swimming, Yoga, Pilates, Line dancing, Circuit workouts on weight machines, Walking, Cardio kickboxing, Faculty/staff fitness program, Golf lessons,

Surfing lessons] For more information or to sign up, stop by the Recreation Office in Physical Education, Room 20 or call 562/985-2570. You may also visit its [Web site](#).

Upcoming Local Science and Math-Related Events of Possible Interest:

Mar 20: [Information Science and Technology Seminar](#), "Collapse or Collaborate: Using Synthetic Biology and Mathematical Analysis to Study Cooperation," Wenying Shou, research associate, Computational Biology Center, Memorial Sloan-Kettering Cancer Center. 11:00 - 12:00 PM, Room 070 Moore Building, Cal Tech.

Mar 20: Karl Rubin, [UCI's Thorp Professor of Mathematics](#), will discuss how his doctoral adviser -- Andrew Wiles of Princeton -- **solved Fermat's Last Theorem**, 7:30 a.m., Beckman Center, Irvine, next to the UCI School of Medicine.

Mar 20: [High Energy Physics Seminar](#), "Matter—Antimatter Oscillations at Three Trillion Hertz," Ivan Furic, postdoctoral scholar in physics, University of Chicago 4:00 - 5:00 PM, Room 248 Lauritsen, Cal Tech.

Mar 21: [Eban Goodstein of Lewis and Clark College](#) will discuss, "**Focus the Nation: Global Warming Solutions for America**," 2 p.m., Room 3101 Croul Hall, UCI campus.

Mar 26: [Computation and Neural Systems Seminar](#), "The Desert Ant's Navigational Toolkit: Mini Brains—Mega Tasks—Smart Solutions," Rudiger Wehner, professor of zoology, University of Zurich, Switzerland, 4:00 - 5:00 PM, 24 Beckman Labs, Cal Tech.

Mar 27: [Chemical Physics Seminar](#), "Simulations of the Multi-Scale Motions of Proteins," Yi-Qin Gao, assistant professor of chemistry, Texas A&M University, 4:00 - 5:00 PM, Room 147 Noyes, Sturdivant Lecture Hall, Cal Tech.

Mar 27: [Applied Physics Seminar](#), "Optical Interactions of Photonic Crystal Fibers," Alexander Gaeta, professor of applied and engineering physics, Cornell University, 4:00 - 5:00 PM, Room 104 Watson, Cal Tech.

Mar 27: UCI will hold a [symposium on women's cancer](#) that will focus on the latest research, treatment and prevention methods, 8:30 am - 12:45 pm, Irvine Barclay Theater, UCI campus.

March 28: "Little Brains with Bright Minds: Communication, Navigation and Learning in the Honeybee", Randolph Menzel, Free University of Berlin, 7:30 p.m., [Irvine Barclay Theater](#), UCI campus.

Mar 28: [General Biology Seminar](#), "Evolution of Adaptive Immunity," Max Cooper, professor of medicine, department of developmental and clinical immunology, University of Alabama at Birmingham, 4:00 - 5:00 PM, Room 119 Kerckhoff, Cal Tech.

Mar 29: [Chemical Engineering Seminar](#), "Toward Cheaper, More Durable, and More Efficient Fuel Cells: Engineering Catalysts and Membranes with Nanotubes and Nanoparticles," Yushan Yan, professor of chemical engineering and materials science, UC Riverside, 4:00 - 5:00 PM, 106 Spalding Lab, Hartley Memorial Seminar Room, Cal Tech.

Apr 2: [Biophysics Lecture Series](#), "Two Studies of Connections between Evolution and Physiology," Michael P. Brenner, professor of applied mathematics and applied physics, Harvard University, 4:00 - 5:00 PM, Beckman Institute auditorium, Cal Tech.

Apr 2: [Applied Mathematics Colloquium](#), "Fast Algorithms for Variational Problems Constrained by Elliptic and Evolution Equations," George Biros, assistant professor, department of mechanical engineering and applied mechanics, and department of computer and information science, University of Pennsylvania, 4:15 - 5:15 PM, 101 Guggenheim Lab, Lees-Kubota Lecture Hall, Cal Tech.

Apr 3: UCLA Annual [Science Faculty Colloquium Series](#), "Crystals of Pores Without Walls for Clean Energy", Omar Yaghi, Professor of Chemistry & Biochemistry, 4:00-5:15pm, Room 1425 Physics and Astronomy, UCLA campus

Apr 3: [General Biology Seminar](#), "Growth Factor Signaling Specificity in Mouse Development," Philippe Soriano, Fred Hutchinson Cancer Research Center, 4:00 - 5:00 PM, 119 Kerckhoff, Cal Tech.

Apr 4: "Innovating Innovations," [John Seeley Brown](#), former chief scientist at Xerox, 7 p.m., Crystal Cove Auditorium, UCI campus.

Apr 5: [Scripps Chemistry Lecture Series](#), "Synthesis and photophysics of architecturally diverse fullerene-porphyrin hybrids, David I. Schuster, Professor Emeritus, NY University, 2:00-4:00pm, W.M. Keck Foundation Amphitheater, The Beckman Center for Chemical Sciences.

If you know of information that you feel should appear in future issues of my semimonthly emails, please email Maureen McMahan, CNSM Director of Research and External Support at mmcmahon_csulb@yahoo.com
