

# Highlights from the Office of the Dean

## College of Natural Sciences and Mathematics, CSULB

CNSM Faculty & Staff Newsletter  
September 14, 2007

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## Message from the Desk of the Dean

Dear Faculty and Staff,

I hope this Highlights Newsletter finds you enjoying your first few weeks of the Fall 2007 semester. Thanks to all of you for a good start to our new academic year! I would like to take a few lines of this newsletter to strongly encourage all faculty to consider applying for the upcoming Scholarly and Creative Activities Committee (SCAC) Awards. This campus-based avenue for funding offers support for both basic and applied research. This is a funding avenue that we need to consider worthy of our time.

SCAC proposals are due September 24<sup>th</sup>. All the details can be found on page 3 of this newsletter. The [Office of University Research](#) has posted proposal guidelines as well as successful SCAC proposals from prior years to use as models when planning and writing your SCAC proposal. Please take time to look over the SCAC opportunities. Good luck with your proposal writing.

Regards,  
*Laura*

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

## NIH Launches Interdisciplinary Research Consortia

The National Institutes of Health (NIH) Roadmap for Medical Research will fund [nine interdisciplinary research consortia](#) as a means of integrating aspects of different disciplines to address health challenges that have been resistant to traditional research approaches. The funding of these consortia represents a fundamental change in both the culture within which biomedical and behavioral research is conducted and the culture within the NIH where research projects are normally managed by an individual Institute or Center (IC).

These consortia will not only develop new ways to think about challenging biomedical problems, but will provide a stimulus for academic research culture change such that interdisciplinary research becomes the norm. Dr. Alan Krensky, the newly appointed Director of the Office of Portfolio Analysis and Strategic Initiatives (OPASI), said, "The Roadmap is a learning laboratory both scientifically and administratively. Forging inter-disciplines is a new enterprise. These consortia will focus on a variety of different areas, bringing individuals of diverse backgrounds together to tackle complex problems." (Excerpted from NIH press release, 9/6/07)

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*Many future scientific advances will be made at the interface of traditional disciplines...*

*Larry Tabak*

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*I feel blessed to be able to have a career where I am able to do what I love, what I enjoy doing... Stan Finney*

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**CSULB 3E Awards** are made to those faculty proposing changes in educational processes designed to enhance student learning and/or support collaborative efforts in instruction

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*30% Discount Available on Select UCES Professional Development Courses and Programs for Staff*

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## Faculty and Staff Highlights

### Stan Finney is Chosen as CNSM's First Pretty Darn Good Professor

Under the leadership of the College Council, the CNSM faculty created a new faculty award to honor their own. The Faculty Award for Excellence, a.k.a. the Pretty Darn Good Professor Award, was developed to recognize excellence in their peers. The annual awardee receives the acclaim of the faculty and a cash prize.

The award was given for the first time this year; it went to [Dr. Stan Finney](#), Professor and Chair of Geological Sciences. Rick Behl, professor of Geological Sciences and past Chair of the CNSM College Council, presented the award at the Fall 2007 College meeting and luncheon on August 31, 2007. Dr. Finney eloquently and humbly thanked the faculty for this honor and talked about how blessed he felt to have the opportunity to engage in a career where he was able to enjoy all facets of his work. He encouraged young faculty members to stay passionate and to believe that this profession - the academic professorship - can be both enjoyable personally and meaningful for all those (students and others) that we touch along the way.

### CNSM Professors Earn Enhancing Educational Effectiveness (3E) Awards

Four professors from CNSM received [3E awards](#) for their proposed creative projects to be conducted in 2007-2008. Professor Gao from the Department of Mathematics and Statistics and Professors Gomez-Zwiep, Martin-Dunlop, and Straits from the Department of Science Education received funding topping \$17,000 for their proposed ideas. The Enhancing Educational Effectiveness Awards Program integrates the following previously separate awards: Educational Innovation, Assessment, Community Service Learning, International Education and Academic Computing Services. This award funds projects related to General Education as well as those related to majors and programs. Congratulations, Tangan, Susan, Catherine and Bill!!!

### UCES Launches New Staff Discount Program

Staff Human Resources and [University College and Extension Services](#) (UCES) are launching the CSULB Staff Employee Discount Program for UCES Professional Development for non-credit courses and programs. This program entitles CSULB staff employed for six months or more to a 30 percent discount on select UCES Professional Development courses and programs. A list of covered courses / programs as well as more information are available at either Staff Human Resources (Brotman Hall, Room 335, UCES Registration windows (located in the Foundation Building, 1st Floor), or by calling 562/985-5561.

## Teaching Perspectives & Tips

### Using Case Studies in Science & Math Courses

Although the case method has been used for years to teach law, business, and medicine, it is not yet all that common in science. However, the use of case studies holds great promise as a pedagogical technique for teaching science, particularly to undergraduates, because it humanizes science and well illustrates scientific methodology and values. It develops students' skills in group learning, speaking, and critical thinking, and since many of the best cases are based on contemporary—and often contentious—science problems that students encounter in the news (such as human cloning), the use of cases in the classroom helps to make science relevant.

The University of Buffalo houses the [National Center for Case Study Teaching in Science](#) to promote the development and dissemination of innovative materials and sound educational practices for case teaching in the sciences. Their website provides access to an award-winning library of case materials and offers a variety of opportunities for science faculty to receive training in the method. Their work has been supported over the years by the National Science Foundation, The Pew Charitable Trusts, and the U.S. Department of Education. The Center also offers research to support their work on a site titled [Assessing Case-Based Instruction](#).

#### Using Case Studies in the College Classroom

It has been used as the core of entire courses such as "Scientific Inquiry" or for single experiences in otherwise traditional lecture and lab courses.

Check out Case Studies Resources at [this website](#)

## Funding News: SCAC Applications Due Soon!

**SCAC APPLICATIONS FOR MINI-GRANTS, SUMMER STIPENDS, AND ASSIGNED TIME ARE DUE IN DEPARTMENT OFFICES, MONDAY, SEPTEMBER 24, 2007**

This fall the Scholarly and Creative Activities Committee (SCAC) Awards process for the 2007-08 academic year will encompass all categories of awards: mini-grants for spring 2008, summer stipends for summer 2008, and assigned time to be taken during the 2008-09 academic year. **Applications for all three awards are due to departments on September 24, 2007.** The SCAC application directions on the Office of University Research website state: "A total of FIVE (5) copies of the application are required, one copy is retained by the Department..." The call for SCAC applications including directions and the 2007 application form is now available on the [Office of University Research](#) website along with examples of highly rated SCAC proposals previously funded. The following activities are **eligible** for all Scholarly and Creative Activities Awards: a) Basic Research, b) Applied Research, and c) Creative Activities in the Arts. The following activities are **ineligible** for any Scholarly and Creative Activities Awards: a) Curricular development or improvement including pedagogical research, b) Department or college programs or facilities. C) Completing requirements for an advanced degree, and d) Community service. There are **SCAC support workshops** scheduled on Sept. 12th and 13th, 12-1pm – both to be held at the Anatol Center Conference Room.

**Please note:** Reports of work accomplished for all outstanding previous SCAC awards, except assigned time awards to be taken in Fall-07 or Spring-08, are due in the Office of University Research (OUR) by September 17, 2007. These reports must be filed at OUR in order to be eligible for a new award. Questions concerning the application process may be directed to Dale Jorgenson ([djorgens@csulb.edu](mailto:djorgens@csulb.edu)), Director for Research Compliance.

## 21<sup>st</sup> Century Competencies

Futurists predict a novel set of competencies will be needed by our current students if they are to successfully navigate their future workforce environment. The following areas are predicted to be of particular importance: Continuum of Change, Economics, Global Awareness and Global Issues, Environment, Science and Technology, Local and Global Demographics, Organization and Leadership, and Human Resources Understanding and Management. Please see **21<sup>st</sup> Century Competency Chart** at the end of this newsletter for more details. (*Adapted from Ed Barlow, Futurist, 2007*)

## Campus Highlights

**Open Enrollment Health Fair:** Stop by the [Health Fair](#) on Thursday, September 27, 10am – 1pm, to receive information about the benefits available during the open enrollment period (Sept. 17- Oct. 12). Free information and health screenings from various healthcare organizations will be available. The fair is located on the third floor of Brotman Hall.

**The [California Public Employees' Retirement System \(CalPERS\) Member Home Loan program](#)** is designed to give eligible members significant benefits that can help buy or refinance a home. You can take advantage of this unique program, with features for qualified borrowers including: Conventional Fixed & FHA loan programs; 100% Financing Option (restrictions apply); Purchase and refinance; Competitive interest rates; Set loan fees thanks to CalPERS maximum fee controls; No cost 60-day rate lock; Two opportunities to receive a lower CalPERS rate—if rates drop during final loan approval or when final documents are issued to complete the loan; Lower your mortgage insurance costs with some loan options; Lower typical title and escrow fees; Increased program jumbo loan limits

## Local STEM Events & Talks

Please share events with undergraduate and graduate students

**9/14/07** 12:00 – 1:00PM, Location: Natural Science 1, UC Irvine, [Lipid Dysregulation and Metabolic Disorders](#), Jae Bum Kim, Department of Biological Sciences, Seoul National University

**9/18/07** [General Biology Seminar](#), 4:00 PM - 5:00 PM, 119 Kerckhoff Hall, Cal Tech; "Stress, Neurodegeneration, and Strategies for Saving the Endangered Neuron," Robert Sapolsky, professor of neurology and neurological sciences, Stanford University.

**9/20/07** [Special Kellogg Seminar](#), 2:00 PM - 3:00 PM, Lauritsen Library, Cal Tech; "Status of Neutron Lifetime Experiments," Peter Geltenbort, Institut Laue-Langevin.

**9/21/07** [Von Karman Lecture Series](#), 7:00 PM - 8:00 PM, Pasadena City College, 1570 E. Colorado, the Vosloh Forum (south of Colorado on Bonnie), Dr. Alan Cummings, a senior scientist in Caltech's physics department will present a talk called "Voyager: 30 Years in Space."

**9/21/07** [Scripps Research Institute Chemistry Lecture Series](#): Penetrating Biomechanistic and Biosynthetic Puzzles: Challenges in Natural Products Chemistry and the Exploitation of Synthesis, 2:00pm in Valerie Timken Amphitheater, Robert Williams, Ph.D., Department of Chemistry, Colorado State University, Fort Collins, CO

**9/26/07** [Scripps Research Institute Chemistry Lecture Series](#): Bio-Based Electronic Switches and Digital Memory, 2:00pm in W.M. Keck Foundation Amphitheater of The Beckman Center for Chemical Sciences, Yang Yang, Ph.D., Professor, Department of Materials Science and Engineering, University of California, Los Angeles

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## Preparing Students for the 21st Century Economy Student – Worker – Employer – Community

<b>21st Century Competencies (Knowledge and Proficiency Needed)</b>	
<b>Continuum of Change</b>	<ul style="list-style-type: none"> <li>Creating a mental desktop</li> <li>Environmental scanning</li> <li>Strategic and Scenario Planning</li> <li>Knowledge management and speed learning</li> <li>Goal setting and time management</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>Free enterprise system</li> <li>Private, government, non-profit sectors</li> <li>Wealth creation strategy development</li> <li>Financial planning and management</li> <li>Multiple job management</li> <li>Social "entrepreneurism" and volunteerism</li> </ul>
<b>Global</b>	<ul style="list-style-type: none"> <li>Population growth, migration, religions</li> <li>Regionalization: Asia-Pacific, Middle East, Latin and South America, Europe, Africa, North America</li> <li>International economics and currencies</li> <li>Metric system</li> <li>Language and culture: art, music, literature</li> <li>Tier 1: English, Spanish, Mandarin Chinese, Arabic</li> <li>Tier 2: Japanese, German, French, Latin</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>Inter-planetary systems</li> <li>Earth systems and climate</li> <li>Natural Resources: water, fuels, minerals, land</li> <li>Bio-diversity</li> <li>Sustainable Development</li> </ul>
<b>Science and Technology</b>	<ul style="list-style-type: none"> <li>Applied math and science</li> <li>Molecular science: life, bio, nano</li> <li>Advanced materials, mechatronics, robotics</li> <li>Information technology: virtual, digital, artificial intelligence</li> <li>Human relationship to technology (ethics)</li> </ul>
<b>Demographics</b>	<ul style="list-style-type: none"> <li>Population growth, migration</li> <li>Diversity: ethnic, generational, religious, gender</li> <li>Intra/interpersonal communications</li> <li>Culture: art, music, literature</li> <li>Local geography</li> </ul>
<b>Organization</b>	<ul style="list-style-type: none"> <li>Self-sufficiency and entrepreneurship</li> <li>Accountability and business ethics</li> <li>Innovation and process improvement: TQM/EQM, Six Sigma, Kaizen</li> <li>Creativity and innovation</li> <li>Management: change, project, cost</li> <li>Customer service</li> <li>Leadership: coaching, mentoring, servant</li> </ul>
<b>Human Resources</b>	<ul style="list-style-type: none"> <li>Lifelong learning</li> <li>Career exploration and development</li> <li>Knowledge technologist</li> <li>Communication: oral, written, verbal, virtual</li> <li>Health and wellness</li> <li>Emotional intelligence</li> </ul>

*Adapted from the work of Futurist,  
Ed Barlow, 2007*