

The Science Scene

◆◆Cal State East Bay◆◆

◆◆College of Science◆◆

The Newsletter of the College of Science Volume 9, Issue 3 June 2006

Math Major Wins First Place at CSU Research Competition

The Cal State East Bay team won two First Place Awards and two Runner Up Awards at the 20th Annual CSU Research Competition held at California State University, Channel Islands on May 5 and 6, 2006. The College of Science was well represented at the competition.

Xiaoyin Zhong (BS student in Mathematics) won first place in the Undergraduate Business, Economics, and Public Administration category for her research presentation on "Women: Work or Not?" Xiaoyin is completing a BS in Mathematics; she will be



Eric Suess and Xiaoyin Zhong at the 2006 Honors Convocation



CSUEB student researchers at the competition at CSU Channel Islands in Ventura County.

entering a Master's program at UC Santa Barbara in the fall. Her faculty sponsor was **Eric Suess** (Statistics).

Ashley Williamson (BA student in Psychology) was first runner-up in the Undergraduate Behavioral and Social Sciences category for her research presentation on, "The Effect of Intercollegiate Athletics on Risk Taking." Her faculty sponsor was **Kara Gabriel** (Psychology).

Over 170 CSU students participated in 22 categories. Each campus was allowed to enter a maximum of 10 presentations. Cal State East Bay entered students in 8 categories winning 4 prizes, which is an indication of the great job our students do with research as well as the excellent preparation they receive from our faculty. Only three other campuses received more awards than Cal State East Bay.

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All of the College of Science students who participated in the CSU Research Competition did an outstanding job of representing the university. The other student presenters were:

- **Tara Arends** (BS student in Chemistry)
 - **Janilee Benitez** (BS student in Physics)
 - **John Polos** (MS student in Biology)
 - **Niloufar Sarraf** (BA student in Psychology).
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Julia Norton Steps Down as Statistics Chair

After serving as Acting Chair and then Chair of the Department of Statistics since November 1995, Professor Julia Norton is returning to full time teaching and research at the end of the current academic year.

Some of the major events in the department under her leadership have been the establishment of four endowed Statistics Scholarships; a three-fold increase in the size of the Statistics MS Program; hiring of six tenure track faculty members, partly to replace two senior faculty who retired and two entering FERP (Faculty Early Retirement Program); significant curriculum revision, including the establishment of five options in the MS program and shepherding the proposal for the new MS in Biostatistics; and overseeing the name change proposal (still pending approval) for the department from the Department of Statistics to the Department of Statistics and Biostatistics. Also during these years, Professor Norton served one year as Chair of the Academic Senate; served multiple terms on the Executive Committee of the

Academic Senate; served on several standing committees of the Senate, chairing CAPR for two years; served on administrative review committees and search committees; taught graduate courses in her areas of specialization, and pursued research in the area of assessment of basic statistics courses. In June 2003, Dr. Norton was recognized for her contributions to the faculty, receiving the Sue Schaefer Award for Faculty Service.
-- Bruce Trumbo

***STATS Magazine* Features CSUEB Students and Faculty**

During the last few years, students and faculty from our Department of Statistics have been frequent contributors to *STATS Magazine*, the student magazine published by the American Statistical Association. The Spring 2006 issue contains an article on recent developments in binomial confidence intervals by Professor Eric Suess, and graduating MS students Daniel Sultana and Gary Gongwer. In his role as a member of the editorial board of the magazine, Professor Bruce Trumbo writes a regular column on computation and simulation (the current one on Monte Carlo integration, acknowledging the assistance of graduating CS honor student Alain Valois) and occasional unsigned one-page "Snapshots" on a variety of topics of interest to elementary students (currently, a simulation study on the significance level for multiple tests). Altogether, half of the pages devoted to articles in the Spring 2006 issue originated at Cal State East Bay.

Chevron Supports Geology Summer Field Camp

The Geology Department's summer field program received a \$15,000 donation from Chevron this year. Dr. Robert Kieckhefer presented the donation to Geology Professor Luther Strayer at a recent Geology Department noontime seminar. Dr. Kieckhefer, Staff Geophysicist at Chevron's San Ramon office, gave a talk on "Sea-floor Properties from the Inversion of Seismic Data at a Submarine Mud-volcanic Flow in the Caspian Sea." Dr. Strayer will be teaching the Field Geology course in Montana this summer.



Dr. Robert Kieckhefer of Chevron presents Professor Luther Strayer with a donation to help support the summer Field Geology course.

Faculty Accomplishments

Joy Cooke Andrews (Chemistry and Biochemistry) published a review chapter in a journal series, the chapter title, "Mercury Speciation in the Environment Using X-ray Absorption Spectroscopy," which appeared in *Recent Developments in Mercury Science*

Structure and Bonding 120:1-35 (2006).

- In April 2006, Dr. Andrews led a group of scientists from the Stanford Synchrotron Group and other neutron research facilities to Washington DC, where they lobbied for the importance of physical science funding and encouraged approval of the American Competitiveness Initiative (a federally sponsored science funding initiative).

Kevin Brown (Mathematics and Computer Science) and **Leann Christianson**

(Mathematics and Computer Science) co-authored a chapter, "DCT-Based Audio Decomposition: Bandwidth Adaptation for Real-Time Audio Streams," in a recently published book, "Adaptation Techniques in Wireless Multimedia Networks," Nova Science Publishers, 2006.

- Drs. Brown and Christianson also co-authored a paper, "Student Projects in Computer Networking: Simulation Versus Writing Code," that will be presented at the 2006 *International Conference on Frontiers in Education: Computer Science and Computer Engineering* (FECS '06) in June 2006 in Las Vegas.

Jack Carter (Mathematics and Computer Science) published an article, "Proportional Reasoning," in the Public Broadcasting Service (PBS) Teacher Source Series, "MathLine: Blazing the Trail, An Algebraic Thinking Math Project." The PBS Teacher Source Series is a weekly newsletter from PBS designed specifically for K-12 educators.

Mitchell Craig (Geological Sciences) co-authored a poster with **Mindy Kimball** (MS Geological Sciences, 2005), "Near-Surface Geophysical Surveying of East San Fran-

cisco Bay Faults”, and presented it at the Centennial Meeting of the Seismological Society of America, in San Francisco, in April 2006.

- Dr. Craig gave a talk, “You are in Earthquake Country,” at the Hayward Public Library, followed by a walking tour of the Hayward fault in downtown Hayward in April 2006. He also led a geological field trip of the Hayward fault for the Northern California Geological Society in April 2006.

Kara Gabriel (Psychology) co-authored an article, “Topiramate Does Not Affect the Acquisition or Expression of Ethanol Conditioned Place Preference in DBA/2J or C57BL/6J Mice,” published in the journal *Alcoholism: Clinical and Experimental Research* 30:783-90.

- Dr. Gabriel gave a talk at the New Faculty Research Panel sponsored by the Office of Faculty Development and the Faculty Center for Excellence in Teaching at CSUEB. In this workshop, she was one of four new CSUEB tenure track faculty from a range of disciplines who gave presentations on the connection between their research and teaching.

Julie Glass (Mathematics and Computer Science) co-authored an article, “A 2-Chain Can Interlock with an Open 11-Chain,” published in the journal *Geombinatorics* in April 2006.

- Dr. Glass (Mathematics and Computer Science) gave a Colloquium Presentation “Interlocking Linkages,” presented at Saint Mary’s College in November 2005; it was co-authored with Dr. Jianyuan K. Zhong from Sacramento State.

- She gave a talk, “A Dollar For Penny: Classroom Activities,” at the *Collaborative for Higher Education, Teacher Institute* in February 2006.

Michael Hedrick (Biological Sciences) attended the Society for Experimental Biology (SEB) meeting in Canterbury, England in April 2006. At the meeting he chaired a session on “General Animal Biology” and gave two invited talks. The talks were entitled, “Lung Ventilation is Coupled to Lymph Movement in Anuran Amphibians,” and “Glutamatergic Regulation of Respiratory Rhythm Generation During Development in the Bullfrog (*Rana Catesbeiana*).”

- Dr. Hedrick recently gave three invited departmental seminars: His talk, “Development of Respiratory Rhythm Generation in the Bullfrog,” was presented to the Department of Zoology at the University of Toronto; his talk, “Lymph Pools in the Basement, Sump Pumps in the Attic: The Anuran Dilemma for Lymph Movement,” was presented to the Department of Biological Sciences at San Jose State University; and another talk, “Development of Respiratory Rhythm Generation in the Bullfrog,” was presented to the Department of Biology at Northern Arizona University.

Hilary Holz (Mathematics and Computer Science) received a grant from the National Science Foundation for her project, “A Study of Gender-based Differences and Ethnic and Cultural Models in Each of the Computing Sciences.”

Caron Inouye (Biological Sciences) presented two talks at the 9th CSU Regional Symposium on University Teaching held at CSU Dominguez Hills in April 2006. The first talk was entitled, “Making Lemonade From a Lemon: Renovating a Physiology Course With Existing Resources.” The second talk, “Emerging Themes in an Interdisci-

plinary Faculty Learning Community,” was presented as part of a panel discussion with other CSUEB faculty: Craig Wilson (Teacher Education), David Nickles (Teacher Education), and **Gretchen Reevy** (Psychology).

• Dr. Inouye presented a talk, “Less is More: Strategies For Maximizing Student Learning in an Animal Physiology Laboratory,” at the *First Annual Northern California Science Education Symposium* held at UC Davis in May 2006. She also led a breakout session at the same conference.

• Dr. Inouye and **Tandee Dillon** (MS student in Biology), presented their poster, “the House Sparrow as a Model for PBDE Exposure: a Preliminary Investigation,” at the *NorCal Society of Environmental Toxicologists & Chemists 16th Annual Meeting* held at UC Davis in May 2006.

Clayton M. Johnson (Mathematics and Computer Science), **William Thibault** (Mathematics and Computer Science) and **Anu Bhat** (MS student in Computer Science) co-authored a paper, “An Evolutionary Approach to Camera-Based Projector Calibration,” to be presented at the GECCO 2006 (Genetic and Evolutionary Computation Conference) in July 2006 in Seattle Washington. At the same conference, Dr. Johnson and **Anitha Katikireddy** (MS student in Computer Science) will present their paper, “A Genetic Algorithm with Backtracking for Protein Structure Prediction.”

C.C. Lee (Mathematics and Computer Science) will present his research paper, “Power-Aware Data Management for Mobile Devices,” at the *2006 IEEE International Conferences on Cybernetics & Intelligent Systems and Robotics, Automation & Mechatronics* in Bangkok, Thailand in June 2006.

At the same conference, he will chair a technique session entitled, “Intelligent Systems III.”

Susan Penner (Nursing and Health Sciences) was awarded faculty development funds from the School of Nursing at the University of San Francisco. She will use the award to attend the *Western Cooperative for Educational Telecommunications Annual Conference* in Portland, Oregon in November 2006.

Gretchen Reevy (Psychology) gave a presentation, “Storytelling as a Strategy for Teaching College Courses,” at the 9th CSU Regional Symposium on University Teaching at CSU-Dominguez Hills in April 2006.

Mitchell Watnik (Statistics) recently co-authored two published papers. The first, “Portrayals of Branded Soft Drinks in Popular American Movies: a Content Analysis,” was published in the *International Journal of Behavioral Nutrition and Physical Activity* in March 2006. The second paper, “Multinutrient Supplement Containing Ephedra and Caffeine Causes Weight Loss and Improves Metabolic Risk Factors in Obese Women: a Randomized Controlled Trial,” was published in the *International*

UNIX Help Available for Cal State East Bay Students

ACUT (the Adaptive Collaborative UNIX Tutorial), an online learning resource based on an informal education metaphor, is now available to CSUEB students. Students can register for ACUT (it’s free) online, at <http://acut.csueastbay.edu/>.

ACUT has an organized, annotated set of resources for developing competence in UNIX.

--Hilary Holz

Students in the News

- ◆ **Anna Chen** (MS student in Biology) presented a poster, “Glutamatergic Regulation of Respiratory Rhythm Generation During Development in the Bullfrog Brainstem,” at the annual *Experimental Biology* meeting held in San Francisco in April 2006.
- ◆ **Jeanninne Darrow** (BS student in Biology) has been accepted into a Ph.D. program at the University of Chicago.
- ◆ **Katja Hoffman** (MS student in Computer Science), Catherine Reed (Teacher Education), and Hilary Holz co-authored a paper, “Unobtrusive Data Collection for Web-Based Social Navigation,” to be published in the *Proceedings of the Workshop on the Social Navigation and Community-Based Adaptation Technologies*.
- ◆ **Monica Jain** (MS in Computer Science, 2005), Hilary Holz (Mathematics and Computer Science) and collaborators co-authored a paper, “A Hybrid, Recursive Algorithm for Clustering Expressed Sequence Tags in *Chlamydomonas Reinhardtii*,” to be published in the *Proceedings of the International Conference on Pattern Recognition, 2006*.
- ◆ **Amanda Kahn** (BS double major in Biology and Chemistry) will be attending the summer session at the Hopkins Marine Station, a branch of Stanford University’s Department of Biological Sciences, in Monterey. She will spend her summer scuba diving, studying sub-tidal ecology and conducting research; which she will present at the end of the session.
- ◆ **Miguel Mendoza (BS student in Biochemistry)** has been accepted into medical school at UCSF.
- ◆ **Shuhei Okumura** (BS student in Statistics) has been accepted into a Ph.D. program in statistics at Carnegie Mellon University.
- ◆ **John Polos** (MS student in Biology) presented a poster, “Hypaxial Musculature is Recruited During Increased Respiratory Drive in Anuran Amphibians,” at the annual *Experimental Biology* meeting held in San Francisco in April 2006.
- ◆ **Jorge Rocha** (MS student in Chemistry) has been accepted to a MD/Ph.D. at the Mayo Clinic College of Medicine.
- ◆ **Daniel Sultana** (MS student in Statistics) has been accepted into a Ph.D. program in statistics at UC Davis. While he has been completing his Master’s degree at CSUEB, he has been working for the California Environmental Protection Agency in the area of cancer prevention.

ACS Undergraduate Research Conference

Our Chemistry and Biochemistry students did a great job presenting their research at the *American Chemical Society Undergraduate Research Conference* in May 2006, at San Jose State University. Following is a summary of our students' presentations.

Talks given:

- **Brandy Barnett** (MS student in Chemistry), "Continuous In-Situ Monitoring of Eastern San Francisco Bay"
- **Bridget Mooney** (BS student in Environmental Science), "Comparative Analysis of Mercury Accumulation in *Spartina Foliosa* and *Spartina Alterniflora*-Hybrid"
- **Jamie Kulp** (BS student in Chemistry), "Setting up and Optimizing the In-Vitro RNA Transcription System Using T7 RNA Polymerase for Structural Studies on RNA Motifs."

Posters presented:

- **Kathleen Randall** (BS student in Biochemistry) and faculty co-author, **Anne Kotchevar**, "Development of a Mitochondrial System to Study the In-Vitro Metabolism of Polybrominated Diphenyl Ethers"
- **Thanh Nguyen** (BS student in Biochemistry) and faculty co-author, **Michael Groziak**, "Synthetic Approaches to Transglycosidically Tethered Adenine Nucleotides"
- **Huy Ho** (post-baccalaureate student in Chemistry), **Ave Florance** (BS student in Environmental Science), **Jeanine Darrow** (BS student in Biology) and **Wingsze Yu** (BS student in Chemistry), "Total Mercury Levels in Human Hair as a Bioindicator of Methylmercury from Fish Consumption"
- **Wally Chu** (BA student in Biology) and faculty co-author, **Chul-Hyun Kim**, "In-vitro Preparation of an Important RNA Motif of Brome Mosaic Virus and its Preliminary Structural Studies"
- **Amanda Kahn** (BS double major in Biology and Chemistry), **Cynthia Patty** (BS student in Environmental Science), **Bridget Mooney** (BS student in Environmental Science) and faculty co-author, **Joy Andrews**, "Comparative Analysis of Mercury Accumulation in *Spartina foliosa* and *Spartina Alterniflora*-hybrid"
- **Cindy Yee** (BS student in Chemistry), **Cynthia Patty** (BS student in Environmental Science), **Rachel Porras** (BS student in Environmental Science) and faculty co-author, Joy Andrews, "Mercury in Small Fish in San Francisco Bay"
- **Khaldeyah Awwad** (BS student in Biochemistry) and faculty co-author, Michael Groziak, "Synthetic Approaches to Transglycosidically Tethered Guanine Nucleotides."





Engineering Chair, Saeid Motavalli enjoys the view from his future office.

New Home for Engineering

In April, the Engineering Department took a tour of its future home in the new Valley Business and Technology Center. They saw their new department office, faculty offices, and labs. Major construction is expected to be completed in the late summer, the move will take place in the fall, and the building will open in January 2007.

Native Plant Garden

The Hayward Environmental Action Team (HEAT), composed of students from several departments at CSUEB, has planted a new garden consisting of native species. The garden is located at the west end of the North Science Building, at the top of the stairs that lead down to the Union. HEAT is a student organization that is supported by the Associated Students.



From left: Clark Pennelly (BS student in Physics), Cynthia Patty (BS student in Biology/Environmental Science), and Naomi Gillespie (BS student in Environmental Studies), at work on the new garden.

Dates to Remember



Monday, June 19	Summer Quarter Begins
Tuesday, July 4	Independence Day University Closed
Monday, August 28	Final Exams Begin
Monday, September 4	Labor Day University Closed
Wednesday, September 27	Fall Quarter, Classes Begin

Visit the College of Science website for the electronic version of the Science Scene, as well as past issues.
www.sci.csueastbay.edu/

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