

RESEARCH OMNIBUS

A Newsletter for the Cal State L.A. Research Community

Office of Research and Development, Academic Affairs, Cal State L.A.
Office of Research and Sponsored Programs, University Auxiliary Services, Inc.

October 2009

New Award Highlight: Crist Khachikian – “CREST Center for Energy and Sustainability”



Crist Khachikian (Civil Engineering) has received a five-year, \$4,999,997 grant from the National Science Foundation to establish a CREST Center for Energy and Sustainability (CEaS) at Cal State L.A.. Along with co-investigators Frank Gomez (Chemistry and Biochemistry), Darrell Guillaume (Mechanical Engineering), Trinh Pham (Mechanical Engineering), and Feimeng Zhou (Chemistry and Biochemistry), Khachikian aims to increase the number of underrepresented students in STEM (science, technology, engineering, and mathematics) fields and higher education teaching careers; conduct innovative, multidisciplinary research in energy and sustainability; and increase public awareness and engage policymakers in this nascent movement.

The Center's consortium of partners includes representatives from middle and high schools and a community college, all with highly diverse student populations; public and private Ph.D.-granting institutions, including Caltech; the largest energy providers and utilities in the nation, including Southern California Edison; private industry, including Boeing; the Los Angeles Mayor's Office; and national laboratories, including Los Alamos National Laboratory.

Four subprojects will engage in research to address the three cornerstones of energy sustainability: diversity in energy sources, efficiency in energy use, and long-term sustainability. The research projects will focus specifically on biofuels combustion, photovoltaics, fuel cells, and carbon sequestration. In addition, a newly proposed joint doctorate in complex systems will help institutionalize the momentum built by CEaS and elevate research activity and training in these fields at Cal State L.A.

CEaS is the second Center for Research Excellence in Science and Technology established at the University, following the successful Center for Environmental Analysis (CEA-CREST), which was funded by NSF for two five-year cycles. Khachikian had a subproject under CEA-CREST and served as its associate director.

Health Care Panel Opens 2009-10 ORAD Research Forum Series

Confused about health care reform? Need more information? On Tuesday, October 20, ORAD and ORSP will sponsor the first **ORAD Research Forum** of the year, “**Health Care Reform: Can Obama Succeed Where So Many Have Failed?**,” a panel discussion with Walter Zelman, chair, Department of Health Science; Mary Anne Schultz, assistant professor, School of Nursing; Philip Romero, dean, College of Business and Economics; and Beatrice Yorker, dean, College of Health and Human Services (moderator).

The participants will discuss the current status of health care reform, including a review of the major issues, cautionary thoughts, and views from the provider's perspective. The event will be held in the University-Student Union, Los Angeles Room C, from 3:30 to 5:00 p.m. For further information, contact Ellen Stein at estein@cslanet.calstatela.edu or x3798.

ORAD Workshop: Writing Successful Grant Proposals



Philip LaPolt, director of Research and Development, will present a workshop, "Writing Successful Grant Proposals" on **Thursday, October 29** from 3:30 to 5:00 p.m. in Salazar Hall C98/99. The workshop will provide critical information that faculty need to plan, develop and write highly competitive funding proposals. Contact Ellen Stein at x3798 for more information.

Cal State L.A. Students Excel at CSU Research Competition Hosted by Cal State L.A. May 1-2

At the 23rd Annual CSU Student Research Competition held at Cal State L.A. May 1-2, Cal State L.A. students received two first-place awards and one second-place award. **Victor A. Cazares**, graduate student in psychology, received a first-place honor in the Graduate Behavioral and Social Sciences category. **Daniel Pierce**, graduate student in history, also received first-place recognition, in Humanities and Letters. Master of Music student **Tan Hainu** was awarded second place in the Creative Arts and Design category. Information about their presentations, as well as for the other seven Cal State L.A. delegates and winners of the local competition, are featured later in this issue.

A practice and coaching session for the system-wide event was conducted by emerita Janet Fisher-Hoult (Education) and her husband, Charles Hoult, from Northrop-Grumman Corporation. ORAD is grateful to them for their time and dedication.



CSU Student Research Competition delegates (front row, l. to r.) Lisa Fong, Jennifer Milanese, Tan Hainu, Sveti Patel, and Sara Esparza. (Back row, l. to r.) Danielle Trathen, Anthony Obisesan, Daniel Pierce, Victor Cazares, and Alexander Alegre.

Campus Student Symposium Winners Announced at March 5 Reception

A reception to honor the oral and poster presenters at the 17th annual Cal State L.A. Student Symposium on Research, Scholarship and Creative Activity, as well as their faculty mentors, was held on March 5. Winners in both categories were announced, and the 10 students selected to represent Cal State L.A. as statewide delegates to the CSU Student Research Competition were named. In addition, a Phi Kappa Phi \$1,000 travel award was given for the best presentation of the symposium. The symposium was co-sponsored by the Office of Research and Development, Office of Research and Sponsored Programs, Office of Graduate Studies and Research, and The Honor Society of Phi Kappa Phi. Students receiving awards in each category are listed on the following pages.

Oral Presentations

Creative Arts and Design

1st place – Tan Hainu, Statewide Delegate

M.M. Composition

Quintet Sounds of Wind for Flute, Clarinet, Violin, Cell and Piano

Faculty Mentor: Dr. John Kennedy

2nd place – Juan Landeros

B.A. Anthropology

Concrete Memories: The Murals of Ramona Gardens

Faculty Mentor: Dr. Kate Sullivan

Education

1st place – Diana Neskovska

M.A. Special Education, Option in Mild/Moderate Disabilities

Adolescent System Upgrade: Effects of Assistive Technology on Reading

Faculty Mentor: Dr. Diane Haager

2nd place – Thor Gibbins

M.A. Education, Options in Reading/Language Arts, Research and Evaluation

The Effects of Reading & Writing Workshop as an Intervention on Struggling Adolescent Students: An Action Research Project

Faculty Mentor: Dr. Deborah Oh

Engineering/Mathematical Sciences

1st place – Sara Esparza, Statewide Delegate and Travel Award Recipient

M.S. Mechanical Engineering

Supersonic Combustion

Faculty Mentor: Dr. Darrell Guillaume

2nd place – Alexander Alegre, Statewide Delegate

B.S. Electrical Engineering

Implementation and Quantitative Analysis of an Aerospace Information Server

Faculty Mentor: Dr. Charles Liu

Physical Sciences

1st place – Undergraduate – Anthony Obisesan, Statewide Delegate

B.S. Microbiology

Detection of Polycyclic Aromatic Hydrocarbon in Sediment and Water Collected from Ballona Creek

Faculty Mentor: Dr. Krishna Foster

2nd place – Undergraduate – Larry Lam

B.S. Biology

Protein Microarray Imaging with Phase-Modulated Ellipsometry

Faculty Mentor: Dr. Feimeng Zhou

1st place – Graduate – Sveti Patel, Statewide Delegate

M.S. Chemistry

Studies on coordination chemistry

Faculty Mentor: Dr. Feimeng Zhou

2nd place – Graduate – Huy Do

M.S. Chemistry

Electrochemical SPR investigation of electron transfer across α -helical peptides

Faculty Mentor: Dr. Feimeng Zhou

Humanities and Letters

1st place – Daniel Pierce, Statewide Delegate

M.A. History

Growing Up Red: Emigrant Youth and the Role of the Family in the Soviet Union

Faculty Mentor: Dr. Choi Chatterjee

2nd place – Jennifer Milanese, Statewide Delegate

B.A. English

Vicki Hearne and her Ability to Manipulate and Influence through Rhetorical Means

Faculty Mentor: Dr. Michelle Hawley

Behavioral and Social Sciences

1st place – Barney Bartelle

M.A. Anthropology, Archaeology Option

A Recently Recovered Dog Burial From Tule Creek Village, San Nicolas Island, California: Osteological Analysis and Life-History

Faculty Mentor: Dr. René Vellanoweth

2nd place – Tatiana Basáñez

M.A. Psychology

Effect of TV Stereotypes on Racial Attitudes and Opposition to Affirmative Action among Hispanics

Faculty Mentor: Dr. Kimberly King

Biological Sciences: Ecology and Evolution

1st place – Lisa S. Fong, Statewide Delegate

M.S. Biology

*Confirmation of Facilitative Interactions of California Mussels (*Mytilus californianus*) on Rocky Shores in British Columbia*

Faculty Mentor: Dr. Carlos Robles

2nd place – Danielle Y. Trathen, Statewide Delegate

M.S. Biology

Comparative phylogeography of Caribbean Sea Slugs with long-lived vs. short-lived larvae

Faculty Mentor: Dr. Patrick Krug

Biological Sciences: Molecular/Microbiology/Behavior

1st place: Victor A. Cazares, Statewide Delegate

M.A. Psychology

Orbitofrontal cortex lesions impair responses to cue predicting shifts in work to reward in rats

Faculty Mentor: Dr. Alicia Izquierdo

2nd place: Michael A. Jansen

M.S. Biology

Optimization of Fatty Acids Separation using Reverse Phase HPLC and an Artificial Neural Network

Faculty Mentor: Dr. Edith Porter

Poster Presentations

Behavioral and Social Sciences

Kevin Linares, Angie Guan, and Roy Cheng

M.A. Psychology/B.A. Psychology/B.A. Psychology

Exploring Virtual World Social Interaction in Second Life

Faculty Mentor: Dr. Kaveri Subrahmanyam

Biological Sciences – Group 2

Christopher Lam, Stephanie Tan, and Adrian Esqueda

B.S. Biochemistry/B.S. Biochemistry/B.S. Microbiology

Cloning of Bacterial Essential Genes and Purification of Encoded Products of Escherichia coli and

Acinetobacter baumannii

Faculty Mentor: Dr. Howard Xu

Biological Sciences – Group 3

Cheryl Chow

M.S. Biology

The expression of BDNF and TrkB receptor within neurons and oligodendrocytes of the lumbar spinal cord in spinally transected rats after treadmill training

Faculty Mentor: Dr. Ray de Leon

Biological Sciences – Group 4

Angels Nguyen, Michael A. Jansen, Abebayehu N. Yilma, and Jivianne Lee

B.S. Biology

Upregulation of Host-Derived Antimicrobial Peptides and Lipids in Patients with Chronic Rhinosinusitis

Faculty Mentor: Dr. Edith Porter

Physical Sciences

Yi C. Hu, Nareh Abrahamian, and Clarisse S. Juan

B.S. Chemistry

Encapsulation of Chlorambucil-Tempol Adduct into PLGA-PEG Nanoparticles for Targeted Drug Delivery

Faculty Mentor: Dr. Yong Ba

Ray de Leon Appointed to NIH Study Section for Four-Year Term



The Center for Scientific Review at the National Institutes of Health has appointed Ray de Leon (Kinesiology and Nutritional Sciences) to serve as a member of the Clinical Neuroplasticity and Neurotransmitters Study Section, for the term beginning August 2009 and ending June 30, 2013. Members are selected on the basis of their demonstrated competence and achievement in their scientific discipline, as evidenced by the quality of research accomplishments, publications in scientific journals, and other significant scientific activities, achievements, and honors. de Leon holds a prestigious NIH R01 research award that supports his research on neural signaling mechanisms regulating plasticity of the nervous system.

Study sections review grant applications, make recommendations to the appropriate NIH national advisory council or board, and survey the status of research in their fields of science. Membership on a study section represents a unique opportunity to contribute to the national biomedical research effort.

ORAD Fall Quarter 2009 Event Calendar at-a-Glance

ORAD Research Forum

“Health Care Reform: Can Obama Succeed Where So Many Have Failed?” **October 20, 2009**

IRB Student and Faculty Workshop **October 26, 2009**

Grant Writing Workshop **October 29, 2009**

Contact: Ellen Stein, x3798

ORAD Has a New Location!

Effective this past June, the Office of Research and Development (ORAD) was relocated to Golden Eagle 314, where it resides with the Office of Research and Sponsored Programs (ORSP), UAS. The two offices work closely together to provide pre-award services to PIs, with ORAD focusing on promoting research opportunities and oversight of research compliance issues, and ORSP, on the technical and financial issues related to proposal submission. ORSP serves as the designated Sponsored Programs Administrator for externally sponsored projects (grants and contracts) and provides post-award administration for principal investigators. Both ORAD and ORSP may be reached at x5366.

Recent Grant and Contract Awards

A number of new and continuing grants and contracts have been awarded since July 1, 2009, in a wide range of disciplines. Funding levels shown are annual amounts, and total over \$14 million to date. Congratulations to these PIs on their awards!

<u>Principal Investigator</u>	<u>Project Title</u>	<u>Funding Source</u>	<u>Awarded Amount</u>
Wendy Baker	"Tribute to Thelonius Monk"	NEA	\$10,000
Fary Cachelin	"Development of a Self-Help Program to Treat Binge Eating in Mexican Americans"	NIH	\$322,522
Ray de Leon	"Robotic Training and the Modulation of BDNF Activity in Spinally Transected Rats"	NIH	\$74,215
Desdemona Cardoza	CSULA-RIMI: Faculty Career Development, Core Facility	NIH	\$1,020,323
Jane Dong	"HP Collaborative Learning Center to Enhance Recruitment and Retention in Engineering and Computer Science"	Hewlett-Packard	\$20,000
Karin Elliot Brown	"Inter-University Consortium"	L.A. County DCFS	\$1,772,000
Karin Elliot Brown	"CALSWEC: Title IV-E Social Work Training Program"	U.C. Berkeley (Dept of Ed)	\$1,576,101
Andre Ellis	"Collaborative Research: Chromium isotopes as redox indicators – Oxidation and isotopic equilibration experiments"	NSF	\$85,203
Mary Falvey/Diane Haager	"Los Angeles Urban Teacher Residency Program"	U.S. Dept of Ed	\$1,725,796
Krishna Foster	"Investigations of PAH Photodegradation in Solutions"	NIH	\$27,936
Carolyn Frank	"Los Angeles Writing Project at Cal State L.A."	National Writing Project	\$46,000
Carolyn Frank	Cal State LA Writing Project	U.C. Regents	\$52,000

<u>Principal Investigator</u>	<u>Project Title</u>	<u>Funding Source</u>	<u>Awarded Amount</u>
Jose Galvan	"Title Vb Grant: Expanding Opportunities for Pre-Health Professionals"	U.S. Dept of Ed	\$549,481
Frank Gomez	"International Research Experience for Students - Ireland: Applications in the Chemical Separations Sciences"	NSF	\$50,000
Borislava Gutarts	"Active Approach to Algebra or A^3"	NSF	\$139,103
Carlos Gutierrez	"Minority Access to Research Careers (MARC)"	NIH	\$646,062
Carlos Gutierrez	"MARC NIH Recovery Act Funds"	NIH	\$91,174
Carlos Gutierrez	"RISE NIH Recovery Act Funds"	NIH	\$107,989
Bianca Guzman	"CHOICES' CAMP School Project"	CA Dept of Public Health	\$127,000
Hassan Hashemian	"CSLA-Summer Transportation Institute"	CA Dept of Transportation	\$45,381
Hassan Hashemian	"Dwight David Eisenhower Transportation Fellowship Program – 2009 Eisenhower HSI Fellowship Grant"	U.S. Dept of Transportation	\$39,000
James Henderson	"Improving Quantitative Skills of Life Science Majors at Cal State L.A."	NIH	\$267,181
Barry Hibbs	"Engaging Underrepresented Graduate Students in Water Sustainability and Water"	U.S. Dept of Education	\$123,753
Cynthia Hughes	"On-Site Nursing Programs (MSN)"	Cedars-Sinai Medical Ctr	\$77,129
Cynthia Hughes	"Cedars on-site BSN Program"	Cedars-Sinai Medical Ctr	\$219,999
Alicia Izquierdo-Edler	"Methamphetamine Effect on Cognitive Flexibility"	NIH	\$144,500
Margaret Jefferson	"CSU-LSAMP Scholars Program 09/10"	CSU Sacramento	\$7,500
Margaret Jefferson	"Louis Stokes Alliance for Minority Participation Program Phase IV (LS-AMP)"	CSU Sacramento	\$192,245
Crist Khachikian	"CREST Center for Energy and Sustainability"	NSF	\$999,999
Nancy McQueen	"Correlation of Sendai Virus Mutations with Pathogenicity"	NIH	\$108,375
Holly Menzies	"California Reading Literature Project"	U.C. Office of the President	\$49,600

<u>Principal Investigator</u>	<u>Project Title</u>	<u>Funding Source</u>	<u>Awarded Amount</u>
Hrushikesh Mhaskar	"Modeling of Multiscale Objects and Functions on Data Determined Manifolds"	Army Research Office	\$43,629
Hrushikesh Mhaskar	"RUI: Localized function approximation based on Spectral and Scattered Data on Manifolds"	NSF	\$59,983
Milan Mijic	"REU Site: Consortium for Undergraduate Research"	NSF	\$109,986
Jamil Momand	"CSULA-COH Collaborative to Study Cancer Disparities"	Beckman Research Institute, COH	\$25,000
Jamil Momand	"CSULA-COH Collaborative to Study Cancer Disparities"	NIH	\$316,941
Keith Moo-Young	"MESA/MSF Scholarship"	U.C. Office of the President	\$3,125
Rose Ochi	"FY2009 Congressionally Selected Awards"	Dept. of Justice	\$500,000
Patricia Ramirez-Ulloa	"Child Development Program"	CA Dept of Ed	\$573,047
Debasree Raychaudhuri	"MOEBIUS-Mathematics On Education Based Integrated Understanding Scholars"	NSF	\$118,558
Jaime Regalado	"Public Policy Education Program"	Sony Pictures Entertainment	\$10,000
Carlos Robles	"CSU Louis Stokes Alliance for Minority Participation (CSU-LSAMP), Bridges to Doctorate Program VI"	CSU Sacramento	\$486,000
Jose Rodriguez	"Theoretical Study of Quantum Magnetism in New Iron-Arsenic High Temperature Superconductors"	Air Force Office of Scientific Research	\$35,987
Tony Ross	"WorkAbility IV (WAIV) Program"	CA Dept of Rehabilitation	\$231,411
Tina Salmassi	"RIG: Investigations of Phosphorus Redox Chemistry in the Termite Hindgut"	NSF	\$108,596
Jennifer Symon	"Collaboration of Autism Specialists Training (COAST) Project"	U.S. Dept of Ed	\$200,000
Lois Weinberg	"Project S-PLUS"	U.S. Dept of Ed	\$200,000
Xin Wen	"Effects of Hofmeister Anions on Antifreeze Protein Activity"	NIH	\$45,000
Howard Xu	"Antibacterial Target Identification Using Expression of Essential Genes"	NIH	\$70,959

<u>Principal Investigator</u>	<u>Project Title</u>	<u>Funding Source</u>	<u>Awarded Amount</u>
Feimeng Zhou	"Alpha-Synuclein-Metal Complexes and Oxidative NIH Stress in Parkinson's Disease"	NIH	\$361,250

Institutional Review Board—Human Subjects News

If a research project involves human subjects, approval must be obtained from the Cal State L.A. Institutional Review Board-Human Subjects (IRB) prior to beginning the project. This includes biomedical, behavioral, survey, and educational projects, and both funded and unfunded research projects by faculty, staff and students. The purpose of the review is to assess risk to and protect the rights of human research subjects, in accordance with federal regulations. Please contact Ellen Stein at x3798 if you have any questions regarding IRB requirements.

Next IRB Workshop to be Held on October 26

On **Monday, October 26**, from **4:30-5:30 p.m.**, ORAD is offering the first of three quarterly workshops for students who are planning to conduct research with human subjects. The workshop, which is also open to interested faculty, will be held in the Library Conference Room (LibN B530). Space is limited, so reserve a space early by contacting Ellen Stein at estein@cslanet.calstatela.edu or x3798.

The remaining workshop dates for 2009-10 are: **Tuesday, January 26**, 3:30-4:30 p.m. and **Wednesday, April 14**, 4:00-5:00 p.m.

2009-10 IRB Meeting Calendar

Fall Quarter	Winter	Spring	Summer
October 23	January 22	April 9	July 2
November 13	February 12	April 23	July 16
	March 12	May 14	August 13

Meetings take place from 10:00 a.m. to 12:30 p.m. Contact Ellen Stein at estein@cslanet.calstatela.edu or x3798 for meeting location.

Note: Download the CSULA IRB Guidebook from the ORAD website,
www.calstatela.edu/academic/aa/orad

Institutional Animal Care and Use Committee News

The use of animals in instructional activities or research (whether funded or unfunded) requires prior approval from the Cal State L.A. Institutional Animal Care and Use Committee (IACUC). The IACUC maintains oversight of University animal facilities and animal care procedures, and carries out such activities as required by law to assure the humane treatment of animals, in compliance with federal regulations.

Note: The latest versions of Animal Protocol forms A and B may be found on the ORAD website, www.calstatela.edu/academic/aa/orad

2009-10 IACUC Meeting Calendar

Fall Quarter	Winter	Spring	Summer
November 5	January 7	April 1	July 1
December 3	February 4	May 6	August 5
	March 4	June 3	September 2

Meetings take place from 2:30 to 4:00 p.m. Contact Ellen Stein at estein@cslanet.calstatela.edu or x3798 for meeting location.

Funding Agency News

NIH Restructures, Shortens Application Format

The National Institutes of Health will implement a shortened and restructured application format for submissions beginning with due dates on or after **January 25, 2010**.

Page Limits: For page limits currently less than 25, the new page limit will be 6; for those at 25 pages, the new limit is 12; and for those presently greater than 25, applicants should consult the specific funding opportunity announcement. One additional page will be permitted for Specific Aims. For resubmissions and revision applications for most programs, the Introduction will be limited to one page.

Research Plan: Three sections of the Research Plan – Background and Significance, Preliminary Studies/Progress Report, and Research Design and Methods – will be consolidated into a new section within the Research Plan, entitled Research Strategy, which will be sub-divided into Significance, Innovation, and Approach. The Approach subsection will include both Preliminary Studies for New Applications and Progress Report for Renewal/Revision Applications.

Resources: The Facilities and Other Resources section will require a description of how the scientific environment will contribute to the likelihood of the project's success, unique features of the environment, and, for Early Stage Investigators, the institutional investment in the investigator's success.

Biographical Sketch: A new Personal Statement will be included as Part A. The list of peer-reviewed publications will be limited to 15, with their selection based on recency, importance to the field, and relevance to the proposed project.

In addition, **new forms** will be required for grant submission. NIH advises applicants to turn to the Funding Opportunity Announcement (FOA), or reissued Parent Announcement, to which they are applying to download the new application packages. Additional information can be found at <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-149.html>.

New NSF Requirement: Training in Responsible Conduct of Research for Students, Postdocs

Effective January, 2010, the National Science Foundation will require that institutions applying for NSF funding have an institutional plan in place to provide and document student training in the responsible conduct of research. All students and postdoctoral fellows supported by NSF funds will be required to complete this training. ORAD and ORSP are currently developing such a plan to meet this requirement. Further details will be announced in the near future.

This newsletter is published bimonthly and is transmitted via email to all faculty, senior administrators, and ORSP and ORAD staff. For further information on newsletter content, email Ellen Stein, Regulatory Compliance and Research Development Analyst, at estein@cslanet.calstatela.edu or Philip LaPolt, Director of Research and Development, at plapolt@exchange.calstatela.edu. We welcome your comments and suggestions on how to improve this publication.