



CEA-CREST Quarterly

A Publication of the Center for Environmental Analysis-
Centers of Research Excellence in Science and Technology

California State University, Los Angeles

Spring Quarter, 2004

Fifth Annual Environmental Science Conference

CEA-CREST announces its Fifth Annual Environmental Science conference on May 28, 2004 at the Pasadena Sheraton in Pasadena, CA. A distinguished Keynote Speaker and three specific science sessions will encourage intellectual exchanges to bridge theories and broaden understanding of Southwestern ecosystems.

Monitoring Regional Marine Populations for Conservation and Management

Investigating genetic and demographic impacts of fisheries, visitor use, and ocean climate change on coastal and nearshore species in the coast of California and western Mexico.

The Human Dimensions of Ecosystem Function

Examining perturbations, both natural and anthropogenic, to ecosystem processes, and will consider the impact of altered ecosystem function on humans.

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Watershed Analysis in Coastal/Terrestrial Systems

Addressing water quality linkages in coastal and terrestrial water bodies, including identification and methods to control pollution.

The student poster session is open to high school juniors and seniors, undergraduate and graduate students. Monetary prizes will be awarded. Poster contributions may be on any subject dealing with environmental science. All abstracts must be received by May 14, 2004.

Conference registration is free but required. Please refer to <http://cea-crest.calstatela.edu> for registration, schedule and abstracts.

Featured partner: The SEM-Ed office at Cal State L.A.



Students who major in the sciences often have the misconception that medicine is the best and only route available for a rewarding scientific career. They tend to overlook other scientific careers because information about them is not often readily available.

As program assistant for the Office for the Advancement of Science Engineering and Mathematics (SEM-Ed), **Evelyn Winchester** dedicates her time and efforts to inform Cal State L.A. students about alternative scientific pursuits in engineering, mathematics and science. She takes pride in making herself accessible and available to help students. She provides them with information and opportunities to work within their fields of interest and present their work professionally.

"I remember how nervous I felt when approaching faculty fearing that my questions might sound 'too dumb'. I truly enjoy my job because I know I am helping people move forward with their lives, and if I can contribute, even just a little, I feel satisfied that I did my job for the day," says Winchester.

CEA-CREST keeps an excellent relationship with the SEM-Ed office because of the wealth of information and student data collection and retrieval Winchester keeps on hand for SEM-Ed departments. She monitors and records program trends and success rates, which becomes useful for grant proposals. She also maintains an inter-program communication for on-campus SEM-Ed programs to continue program relationships.

The SEM-Ed office is part of Graduate Studies and Research and administered by **Susan E. Kane**, Associate Dean of Research and Sponsored Programs, Program Administration.

Welcome new CEA-CREST staff and postdocs



Yufu Cheng joined CEA-CREST in fall 2004 as **John Gamon's** postdoctoral research associate. Cheng received a joint Ph.D. from the University of California, Davis

and San Diego State University in 2003. Currently, he is studying the relationship among carbon dioxide, water vapor fluxes and remote sensing indices.



Barbara and completed postdoctoral research with the United States Environmental Protection Agency (USEPA) National Health and Environmental Effects Research Lab in Florida developing survey techniques and analytical methods for the EPA's National Coastal Monitoring program.

Corey Garza joined CEA-CREST in winter 2004 as **Carlos Robles'** postdoctoral research associate. Garza received his Ph.D. from the University of California at Santa



David Fuentes returned to the CEA-CREST family in fall 2003 after working for the Department of Geography and Urban Analysis as a GIS technician. He has been involved in CEA-CREST related

research since he was an undergraduate student at CSULA in the department of Geography in the early 1990s. He obtained his MA in Geography in 1997.



came to CSULA in summer 2001 and worked under the mentorship of **Elizabeth Torres**. She completed her Master's degree in biology in September 2003.

Michelle Stabio joined CEA-CREST in December 2003 as Environmental Science Education Coordinator. She is a former high school science teacher and CEA-CREST graduate fellow who

Alumni update: Environmental careers in government and industry



Eric Chavez has been working as a contract GIS Technician for the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service in Long

Beach, CA for a year and a half. He hopes to obtain a permanent position with NOAA Fisheries, and eventually pursue a Ph.D.

Chavez works on Geographic Information Systems (GIS) related to habitat mapping, species distribution and other resource management projects; as well as working on water quality issues. "I really enjoy the diversity of projects I participate in," says Chavez. "On a day to day basis, I can work on anything from producing fish distribution maps for field biologists, to calculating stream miles opened after a dam has been removed."

Chavez continues, "CEA-CREST gave me the opportunity to broaden my educational background so as to adapt to the challenging professional world. I also would not have known about my position were it not for the contacts I established through the program."



Bryant Chesney has been with NOAA National Marine Fisheries Service in Long Beach, CA for 3 1/2 years as a Fishery Biologist. Currently, he is also the acting GIS Coordinator.

Chesney primarily consults with and makes conservation recommendations to other federal and state agencies on coastal development projects that may potentially impact marine habitat. He also plans and designs many coastal restoration projects and coordinates GIS activities in the southern California coastal region.

"I enjoy tackling resource management issues from both the science and policy perspective," says Chesney. "In addition, I enjoy seeing the direct effects of my involvement in coastal related projects; and the opportunity to interact with a diverse group of constituents (i.e. Federal, state, and local agencies, private industry, environmental organizations, policy makers, etc.)."

"In future," continues Chesney, "I see myself gaining additional responsibilities within NOAA Fisheries while remaining dedicated to the stewardship of living marine resources through science-based conservation and management, and the promotion of healthy ecosystems. CEA-CREST was able to establish a working relationship with NOAA Fisheries that facilitated internship opportunities at the NOAA Fisheries Long Beach office. Because of this connection, I was able to participate in an internship program, which ultimately led to a permanent position."



Cherylee Sevilla, has been working for a year and a half as a regulatory specialist with Glenn Lukos Associates, a Southern California environmental consulting firm

specializing in wetland delineation, permitting, habitat restoration and biological surveys.

"I really enjoy the variety of tasks, field work and the people that I work with at Glenn Lukos," says Sevilla. "CEA-CREST gave me the opportunity to strengthen my science background and to experience the diversity of environmental science so I could work in industry. I eventually want to get my MBA and start my own environmental consulting company."

Welcome aboard



Jian Liu (graduate student, interdisciplinary studies) was admitted as a graduate fellow in winter quarter 2004. His research interests focus on building mathematical models (agent-based models) to simulate the population dynamics of benthic marine communities; and genetic computing and biostatistics. Under the supervision of **Robert Desharnais**, Liu is working on simulations of the interaction between mussels and their predators, comparing and contrasting results from other simulation models and data collected from the field. In the future, he plans to pursue a Ph.D. in ecology/biology.



Mercedes Merino (graduate student, geology) was admitted to CEA-CREST winter 2004 and is working with **Barry Hibbs**. She is evaluating multiple sources of salinization and degradation of the binational aquifers shared by the cities of El Paso, TX and Juarez, Mexico; including irrigation return flows, treated and untreated wastewaters, and natural water/rock interactions. Merino uses inorganic hydrochemical parameters, stable isotopes, and radioisotopes in groundwater and surface water to make the analyses.

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Faculty spotlight: Hong-lie Qiu



Hong-lie Qiu joined the Department of Geography & Urban Analysis in fall, 1996. He is a biogeographer with a strong interest in remote sensing and Geographic

Information Systems (GIS). His current research interests include environmental mapping and modeling using remote sensing and GIS; sustainable development in arid environments in the southwestern U.S. and northwestern China; and information technologies for disseminating GIS data over the Internet.



Former postdoctoral associate, Dan Sims, and Hong-lie Qiu collecting geographic data in Santa Monica, CA.

Q: Why did you choose your field?

A: Although not my first choice when I began my college study, I soon fell in love with

geography. My childhood dream was to become an engineer. Training in geography gave me opportunities to travel, to meet people, to see the intricacy of the entire world. It is the interdisciplinary and global nature of geography that changed the direction of my career. I was so excited when I was first introduced to satellite remote sensing some 25 years ago, because I saw a new opportunity for geographers in the study of our Earth. Since then, I have been following this interest and so far I am happy about where it is taking me.

Q: What do you like best about your work?

A: I like my work because I see that it can potentially make a difference in our understanding of the planet we all live on. It has always puzzled me that animals have veterinarians to look after them, human beings have their doctors, but who can perform the same function for our living Earth? More research about our Earth system needs to be done. The general public needs to become more aware of our environment; and policy makers around the world need to more responsibly protect our common future. I feel good about my work because, bit by bit, what I am doing now may make some positive changes in the future.

Q: What is the future of your research?

A: I am excited about the new satellite image products acquired by NASA's EOS program. With previous NASA and NSF support, our research programs are well positioned in the study of the Earth systems using remotely sensed data acquired from ground, airplane, and satellite-based sensors. Our goal is to upscale the relationships found from our study sites to the landscape (eventually to the global) level using satellite imagery. This will greatly enhance our ability to monitor and model the state of our planet and provide sound and

timely recommendations to policy makers all over the world.

Q: What is your mentoring philosophy?

A: Cal State L.A. is a highly diversified community. We should address our students' needs individually. I am a strong believer that we will not find one single pair of shoes that will fit all.

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Production

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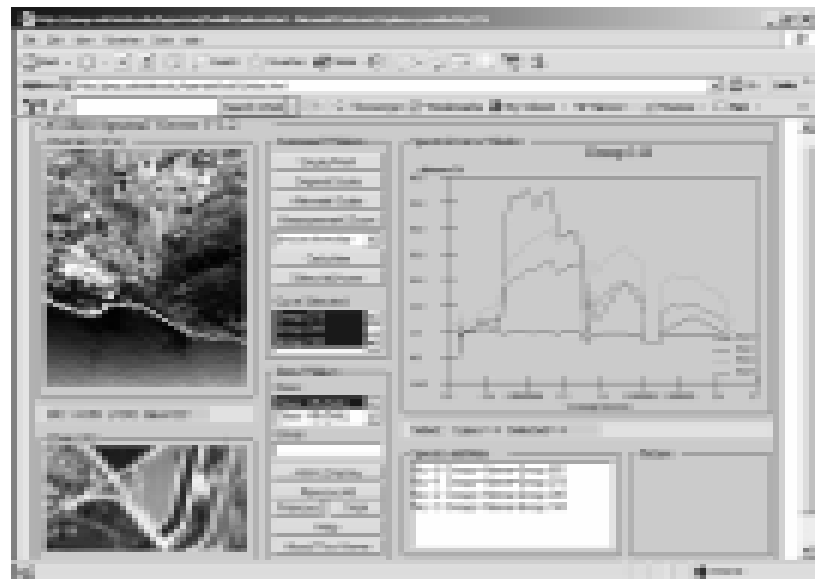
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The web-based JAVA applet that allows students to visualize an AVIRIS scene in different band combinations, explore spectral profiles of different surface features within the image, and compute spectral indexes including NDVI, PRI, and WBI for any feature class. Students can access this teaching module from home computers with an Internet connection. The tight integration between the hyperspectral image data and specialized functions and tools has made this module an attractive tool for learning unique capabilities of hyperspectral remote sensing without specialized image processing software package. The URL for this teaching module is <http://geog.calstatela.edu/hypertool/tool01/index.html>

Events

•CEA-CREST Spring Seminar Series

Thursdays beginning April 1 and ending June 3, 2004, 4:00-5:00 PM in the University Student Union, Alhambra Room A.