

Health Sciences INITIATIVE

UNIVERSITY OF CALIFORNIA **Riverside**



Bulletin No. 2, February 2006

UC Riverside's new initiative in the health sciences is aimed at serving Inland Southern California's vast and medically underserved population. The Health Sciences Initiative not only will educate physicians likely to stay in the area, but it also will attract top scholars to UCR, while creating new opportunities for students, industry, and collaborations between UCR and the private sector in science and technology.

UCR's Strengths and Assets

Through its prestigious program in the biomedical sciences, UCR has been preparing students for distinguished medical careers for more than 30 years. More than 100 faculty on campus already conduct research in health-related fields, including genomics, nanoscience, and public health. Research focuses on

a number of issues including cancer prevention, brain disorders, bacterial and tropical diseases, vector-borne diseases, nanomedicine, diet and aging, health care management, and health psychology. The campus also is home to world-class research facilities that bring together researchers from all sectors of health research, leading to ground-breaking discoveries.



Medical Education

- **The UCR/UCLA Thomas Haider Program in Biomedical Sciences**

In conjunction with the David Geffen School of Medicine at UCLA, UCR provides its students with exclusive access to 24 medical school seats each year. <http://www.biomed.ucr.edu/>

- **FastStart and Medical Scholars Program**

The UCR/UCLA Thomas Haider Program in Biomedical Sciences sponsors both programs designed to increase the success rate of disadvantaged students entering medical school and other health science-related careers.

FastStart, a five-week intensive summer residential program for incoming UCR freshmen, gets students off to a strong start in their core science classes and helps them acclimate to the college culture.

The goal of the Medical Scholars Program is to increase the graduation rate of pre-health students at UCR, particularly students who wish to serve in medically underserved communities, and help them achieve their goal of entering medical school or allied health disciplines.

<http://www.faststart.ucr.edu/>



"FastStart was a great snapshot of what my first year in college would be like. It familiarized me with the rigorous college academic expectations in a fun and supportive environment."

– Engy, FastStart '02

A Sampling of Our Research Faculty



Robin DiMatteo, Psychology
"I study physician-patient communication as well as patient adherence to recommended treatments for the prevention and management of chronic illness."



Robert Haddon, Chemistry, Chemical and Environmental Engineering
"I am investigating the ability of carbon nanotubes to help produce a bone mimic."



Michael Pirrung, Chemistry
"New molecules my lab has found could replace insulin as a treatment for diabetes and could be taken orally instead of being injected."



Frances Sladek, Cell Biology
"I work on a protein that controls the expression of genes in the liver and pancreas, and is directly linked to diabetes."



Ameae M. Walker, Biomedical Sciences
"I study the role of the hormone prolactin in the development and promotion of prostate and breast cancer."



Jian-Kang Zhu, Integrative Genome Biology
"I work on small interfering RNAs – a new class of genetic regulators – that silence the expression of numerous genes, many of which are related to diseases."

Research and Other Facilities

- **Core Instrumentation Facility – Institute for Integrative Genome Biology**

The UCR Institute for Integrative Genome Biology is one of the world's leading institutions of genomics research. Its Core Instrumentation Facility is used by researchers studying molecular biology, bioinformatics and proteomics. <http://www.genomics.ucr.edu/about/>

- **Central Facility for Advanced Microscopy and Microanalysis**

This facility serves as a research, service and consulting laboratory for microscopic characterization of materials. <http://micron.ucr.edu/>

- **Analytical Chemistry Instrumentation Facility**

This facility is comprised of four specialized units – mass spectrometry, X-ray crystallography, nuclear magnetic resonance (NMR) spectroscopy and optical spectroscopy – and used by a number of researchers. <http://ernst.ucr.edu/acif/>

- **Insectary and Quarantine Facility**

UCR's state-of-the-art Insectary & Quarantine Facility assists researchers working on controlling vector-borne diseases. <http://www.entomology.ucr.edu/about/newbuildings.html>

- **Nanofabrication Facility – Center for Nanoscale Science and Engineering**

UCR's Center for Nanoscale Science and Engineering, one of the world leaders in nanotechnology research that focuses also on nanomedicine, houses a \$3 million nanofabrication facility. <http://www.cnse.ucr.edu/>

- **University Research Park**

The 39-acre University Research Park is a community partnership between the City and County of Riverside and UC Riverside to support technology-based businesses, including those emerging from UCR discoveries. <http://www.researchpark.ucr.edu/>

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Research Areas at a Glance

Faculty	Department	Area of Expertise
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Adams, Michael	Entomology/Neuroscience	Nervous system signaling
Aguilar, Guillermo	Mechanical Engineering	Bioheat transfer
Angle, Steve	Chemistry	Anti tumor agents
Arey, Janet	Air Pollution Research Ctr	Air pollution
Atkinson, Peter	Entomology	Vector-borne diseases
Bachant, Jeffrey	Neuroscience	Chromosome function
Bailey-Serres, Julia	Botany & Plant Sciences	Signal transduction
Baldwin, James	Nematology	Evolution
Bardeen, Christopher	Chemistry	DNA properties
Beckage, Nancy	Entomology	Host-parasite relationships
Bertrand, Guy	Chemistry	Anti tumor agents
Bhanu, Bir	Electrical Engineering	Image processing
Bocian, David	Chemistry	Molecular structure
Borkovich, Katherine	Plant Pathology	Signal transduction
Bricker, Neal	Biomedical Sciences	Disease pathophysiology
Byus, Craig	Biomedical Sciences	Cancer research
Carde, Ring	Entomology	Vector-borne diseases
Cardullo, Richard	Biology	Infertility prevention
Carson, Monica	Biomedical Sciences	Microglia and CNS
Chen, Wilfred	Chemistry	Pollutant degradation
Chen, Xuemei	Botany	Gene silencing
Cheng, Quan	Chemistry	Medical diagnostics
Coltrane, Scott	Sociology	Stress and mental health
Cranor, Carl	Philosophy	Environmental science
Cui, Xiping	Statistics	Gene mapping
Curras-Collazo, Margarita	Cell Biology	Learning and neural development
Currie, Scott	Neuroscience	Movement and paralysis
DeFea, Kathryn	Biomedical Sciences	G-protein-coupled receptors
DiMatteo, Robin	Psychology	Health psychology
Ding, Shou-Wei	Plant Pathology	Gene silencing
Duffy, Sharon	Education	Mentally handicapped children
Dunn, Michael	Biochemistry	Signal transduction
Eastmond, David	Cell Biology	Environmental carcinogens
Esterling, Kevin	Political Science	Health politics
Ethell, Doug	Biomedical Sciences	Neurodegenerative disorders

Ethell, Iryna	Biomedical Sciences	
Federici, Brian	Entomology	
Friedman, Howard	Psychology	
Gill, Sarjeet	Cell Biology	
Grosovsky, Andrew	Cell Biology	
Haddon, Robert	Chemistry	
Haimo, Leah	Biology	
Hatton, Glenn	Cell Biology	
Henry, Helen	Biochemistry	
Hickmott, Peter	Psychology	
Hyman, Brad	Biology	
Jiang, Tao	Computer Science	
Johnson, David	Biomedical Sciences	
Julian, Ryan	Chemistry	
Krieger, Robert	Entomology	
Larive, Cynthia	Chemistry	
Lee, Sang-Hee	Anthropology	
Liao, Jiayu	Chemical & Env. Engineering	
Liu, Xuan	Biochemistry	
Lonardi, Stefano	Computer Science	
Loo, Lawrence	Biomedical Sciences	
Louis, Charles	Cell Biology	
Luben, Richard	Biomedical Sciences	
Lytle, Christian	Biomedical Sciences	
Maduro, Morris	Biology	
Mahalingam, Shankar	Mechanical Engineering	
Mao, Changxuan	Statistics	
Marsella, Michael	Chemistry	
Martinez, Ernest	Biochemistry	
Martins-Green, Manuela	Cell Biology	
Maslov, Dmitri	Biology	
McMullin, Juliet	Anthropology	
Montgomery, Kathleen	Grad School of Management	
Mulchandani, Ashok K.	Chemical & Env. Engineering	
Mulla, Mir S.	Entomology	
Narbeck, Joseph M.	Chemical & Env. Engineering	
Norman, Anthony	Biochemistry	

Developmental neurobiology	
Viral and bacterial pathogens	
Health psychology	
Bacterial insect toxins	
Mutation carcinogenesis	
Carbon nanomedicine	
Microtubules	
Nervous system functioning	
Hormone regulation	
Neuroscience	
Mitochondrial function	
Bioinformatics	
Mechanisms of actions of drugs	
Protein structure	
Human chemical encounters	
Diagnostic methods	
Human variation	
Bioinformatics	
Cancer prevention	
Computational molecular biology	
Disease pathophysiology	
Eye diseases	
Hormone regulation	
Diarrheal diseases	
Cell fate specification	
Cardiovascular fluid dynamics	
Bioinformatics	
Anti tumor agents	
Gene transcription	
Chemokine function	
Tropical diseases	
Cancer disparities	
Health care management	
Biosensors	
Vector-borne diseases	
Health effects from air pollution	
Hormone regulation	

Nugent, Constance I.	Cell Biology	Cancer prevention
Ozkan, Cengiz	Mechanical Engineering	Biomedical engineering
Ozkan, Mihri	Electrical Engineering	Bio-MEMS
Parker, Robert	Sociology	Alcoholism
Parpura, Vladimir	Cell Biology	Neuronal signaling
Pirrung, Michael	Chemistry	Diagnostic technology
Quinton, Paul M.	Biomedical Sciences	Cystic fibrosis
Robenstein, Dallas L.	Chemistry	Heavy metal toxicology
Raikel, Alexander	Entomology	Vector-borne diseases
Raikel, Natasha	Botany and Plant Sciences	Protein trafficking
Rao, A.L.N.	Plant Pathology	Viral diseases
Reed, Christopher A.	Chemistry	Bioinorganic chemistry
Reynolds, Chandra	Psychology	Cognitive aging
Rodgers, Victor	Chemical & Env. Engineering	Biomedical engineering
Sauer, Frank	Biochemistry	Developmental gene expression
Schiller, Neal L.	Biochemistry	Pathogenesis of bacteria
Schultz, Jerry	Chemical & Env. Engineering	Bioengineering
Shankel, Stewart	Biomedical Sciences	Disease pathophysiology
Shyy, John Y.-J.	Biomedical Sciences	Cardiovascular disease
Sladek, Frances M.	Cell Biology	Hepatocyte biochemistry
Spindler, Stephen R.	Biochemistry	Aging and diet
Stanley, B. Glenn	Cell Biology	Eating behavior
Stemerman, Michael B.	Biomedical Sciences	Cardiovascular disease
Straus, Daniel S.	Biomedical Sciences	Inflammatory diseases
Switzer, Christopher Y.	Chemistry	Molecular diagnostics
Talbot, Prudence	Cell Biology	Smoking - infertility
Traugh, Jolinda A.	Biochemistry	Stress protein regulation
Walker, Ameae M.	Biomedical Sciences	Prostate cancer treatment
Wang, Yinsheng	Chemistry	DNA damage
Yang, Zhenbiao	Botany & Plant Sciences	Signal transduction
Yates, Marylynn	Environmental Sciences	Bacterial contamination
Zaera, Francisco	Chemistry	Molecular memories
Zandi, Raya	Physics	Virus assembly
Zanello, Laura	Biochemistry	Hormone regulation
Zhu, Jian-Kang	Botany & Plant Sciences	Genetic stress adaptation
Zidovetzki, Raphael	Neuroscience	Signal transduction
Zordan, Victor	Computer Science	Medical graphics