UNIVERSITY OF CALIFORNIA, RIVERSIDE

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News for Faculty and Staff of the
University of California, Riverside

New Faculty at the College of Natural and Agricultural Sciences

By Jeanette Marantos On OCTOBER 6, 2015

The College of Natural and Agricultural Sciences has 30 new faculty:

Omar S. Akbari

Omar S. Akbari, assistant professor of entomology and assistant entomologist in the Department of Entomology, earned his Ph.D. in cell and molecular biology from the University of Nevada, Reno. His research focuses on studying the basic genetics and physiology of mosquitoes with the overall goal of developing innovative, novel, creative, synthetic biology inspired genetic control technologies for reducing the burden of mosquito vector borne diseases on humans.

Omar Akbari

George D. Becker

George D. Becker, assistant professor of physics and astronomy in the Department of Physics and Astronomy, earned his Ph.D. in astrophysics from the California Institute of Technology. His research is focused on understanding the intergalactic medium (IGM), a network that provides the raw materials for galaxy formation. Understanding the connection between galaxies and the IGM is essential for determining how structures in the present-day universe took shape.

George D. Becker

Meng Chen

Meng Chen, assistant professor of cell biology in the Department of Botany and Plant Sciences, earned his Ph.D., Iowa State University. His research research focuses on understanding how photoreceptor signaling controls gene expression by regulating the nuclear architecture and genome organization. In particular, Chen is interested in understanding the function and biogenesis of the photobody in transcriptional regulation and elucidating the mechanism and significance of light-regulated gene repositioning in transcriptional regulation.

Meng Chen

Jun-Hyeong Cho

Jun-Hyeong Cho

Jun-Hyeong Cho, assistant professor of cell biology and neuroscience in the Department of Cell Biology and Neuroscience, earned his Ph.D. at Ohio State University. Cho's research goal is to address one of the most fundamental questions in neuroscience: how does the brain work for learning and memory? To this end, he uses the rodent model of fear conditioning to investigate neural circuit mechanisms of fear learning and extinction. The work seeks to develop a deeper mechanistic understanding of fear learning and memory, which may provide hints to improve treatment of anxiety disorders.

Matthew P. Conley

Matthew P. Conley, assistant professor of chemistry in the Department of Chemistry, earned his Ph.D. in chemistry at the University of Chicago and was a postdoctoral researcher at the Swiss Federal Institute of Technology in Zürich, Switzerland, and at the Institut Català d'Investigació Química in Spain. The goal of Conley's research is to develop a molecular understanding of the active sites of heterogeneous catalysts. In order to study these catalysts at this level of detail we apply an interdisciplinary strategy that combines material synthesis, surface science, and synthetic inorganic chemistry. His approach involves the preparation of high surface area materials containing characteristic surface sites that react with inorganic complexes to form metal sites with well-defined coordination spheres.

Matthew Conley

Adler R. Dillman

Adler Dillman

Adler R. Dillman, assistant professor of parasitology and assistant parasitologist in the Department of Nematology, earned his Ph.D. in genetics at the California Institute of Technology and did postdoctoral research at Stanford University. He studies host-parasite interactions from both perspectives, using parasitic nematodes and insect host models. His interest is in how hosts recognize and initiate an immune response to parasites and the nature and specificity of the immune response.

Boniface P.T. Fokwa

Boniface P.T. Fokwa, assistant professor of chemistry in the Department of Chemistry, earned his Ph.D. in chemistry from the Dresden University of Technology in Germany, was a postdoctoral fellow and habilitant at the RWTH Aachen University in Germany and served as a visiting professor at UCLA before coming to UCR. Fokwa's research focuses on designing new solid-state materials by combining experiments and computational methods, with a particular emphasis on finding appropriate materials for energy-related applications (magnetic, magnetocaloric, superconducting and spintronic materials) as well as refractory materials (hard and super hard materials).

Boniface P.T. Fokwa

Joseph Genereux

Joseph Genereux

Joseph Genereux, assistant professor of chemistry in the Department of Chemistry, earned his Ph.D. at the California Institute of Technology. His research explores how the biological pathways that regulate lipoprotein folding and assembly impact the biochemical properties of lipoprotein particles. He is particularly interested in developing in situ and high-throughput tools to characterize lipoprotein heterogeneity, quantify protein homeostasis across the proteome and measure the contribution of physiological stress to LDL atherogenicity.

Juan Pablo Giraldo

Juan Pablo Giraldo, assistant professor of plant physiology and assistant plant physiologist in the Department of Botany and Plant Sciences, earned his Ph.D. in organismic and evolutionary biology at Harvard University. His research works at the interface between plant physiology and nanotechnology, where he aims to develop research tools with nanomaterials to study, manipulate, and monitor plant physiological mechanisms. His nanobionic approach also seeks to enable plants with novel or augmented functions through the assembly of nanomaterials in organelles, tissues and whole organisms.

Juan Pablo Giraldo

Andrew Gray

Andrew Gray

Andrew Gray, assistant professor of watershed hydrology and assistant watershed hydrologist in the Department of Environmental Sciences, earned his Ph.D. in hydrologic sciences at the University of California, Davis. His research focuses on applying forensic methods to determine the dominant controls on changes in watershed functions over time, integrating watershed scale and local factors to understand how and why river system forms and structures change, and assessing the water quality implications of these processes.

Rong Hai

Rong Hai, assistant professor of virology in the Department of Plant Pathology and Microbiology, earned his Ph.D. in comparative biochemistry at UC Berkeley. His research lab has broad interests in the molecular characterization of emerging negative strand RNA viruses with focuses on discovering novel viral virulence signatures and molecular viral-host interactions. Currently, he uses influenza viruses as the primary model system.

Rong Hai

Ansel Hsiao

Ansel Hsiao

Ansel Hsiao, assistant professor of microbiology and assistant microbiologist in the Department of Plant Pathology and Microbiology, earned his Ph.D. in cell and molecular biology at the University of Pennsylvania. His research focuses on a process of interspecies bacterial communication known as quorum sensing. His work focuses the role played by quorum sensing in modulating the structure and function of the gut microbiota and virulence gene regulation in V. cholera, mechanisms underlying gut microbiota-mediated colonization resistance against pathogens of the gut, and methods for manipulating the structure of the gut microbiota with a view to providing prophylaxis against bacterial pathogen invasion of the gut.

Amy Litt

Amy Litt, assistant professor of plant evolution and development and assistant plant evolutionary developmental biologist in the Department of Botany and Plant Sciences, earned her Ph.D. at City University of New York and The New York Botanical Garden joint program in plant biology. Her research focuses on the molecular changes that have occurred during the course of flowering plant evolution, and how those changes have produced the variety of flowers and fruits we see around us. A current focus of her work is the identification of the genetic changes in the nightshade family that allow some species to produce a fleshy edible fruit, whereas other species produce their seeds in a dry woody pod.

Amy Litt

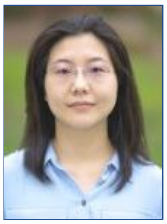
Joshua C.H. Lui

Joshua C.H. Lui

Joshua C. H. Lui, assistant professor of physics in the Department of Physics and Astronomy, earned his Ph.D. in physics at Columbia University. His research explores novel quantum phenomena associated with light-matter interactions in low-dimensional condensed matter systems. He is investigating the electron, phonon and (pseudo) spin dynamics in two-dimensional materials, such as graphene, boron nitride, transition-metal dichalcogenides and black phosphorus, whose features permit engineering of devices with unprecedented properties.

Wenxiu Ma

Wenxiu Ma, assistant professor of statistics and assistant statistician in the Department of Statistics, earned her Ph.D. in computer science at Stanford University. Her primary research interest is in developing computational algorithms and statistical methods to solve problems that stem from large-scale biological data generated by high-throughput sequencing technologies. Ma develops statistical and computational methods for various types of high-throughput genomic and epigenomic datasets and has a particular interest in understanding genome regulation.



Wenxiu Ma

Patricia Manosalva

Patricia Manosalva

Patricia Manosalva, assistant professor of plant pathology and assistant plant pathologist in the Department of Plant Pathology and Microbiology and director of the UCR Avocado Rootstock Breeding Program, earned her Ph.D. in plant pathology at Kansas State University. Her research is focused on studying plant-microbe interactions in order to elucidate the molecular and genetic basis of plant immunity against pathogen and pests with emphasis on oomycete pathogens from the Phytophthora genus. As the director of the UCR Avocado Rootstock Breeding Program, one of the main goals of her research is to apply and incorporate the basic knowledge and information gained in the lab regarding P. cinnamomi-plant interactions, pathogenesis, pathogen population studies, and plant resistance to this oomycete.

Carl Mautner

Carl Mautner, assistant professor of mathematics in the Department of Mathematics, earned his Ph.D. in mathematics at the University of Texas at Austin. His research is in representation theory, a branch of pure mathematics concerned with symmetry. Using ideas from algebraic geometry, he constructs and studies concrete models of abstract symmetry groups. This work has connections to other areas of mathematics and theoretical physics, including number theory, topology and quantum field theory.

Carl Mautner

Jessica Purcell

Jessica Purcell

Jessica Purcell, assistant professor of entomology and assistant entomologist in the Department of Entomology, earned her Ph.D. in zoology at the University of British Columbia. Her research involves the social behaviors that have evolved in a wide range of taxa, from bacteria to slime molds and from insects to mammals. This repeated and parallel evolutionary transition raises key questions about how sociality evolves. Natural variation in social traits within or among species provides an ideal opportunity to understand factors that contribute to the emergence of different social systems.

Andrew Ridgwell

Andrew Ridgwell, professor of earth system science in the Department of Earth Sciences, earned his Ph.D. at the University of Earth Anglia, U.K., and did postdoctoral research at the University of Earth Anglia and UC Riverside. His research involves writing computer models – numerical representations of the primary interactions of climate with atmospheric CO_2, including the cycling of carbon, oxygen, and nutrients between land, ocean, and marine sediments. His current interests revolve around simulating the co-evolution of marine plankton and their environment, and their ecological sensitivities to past climate perturbations and global environmental

Andrew Ridgwell

catastrophe.

Shemra Rizzo

Shemra Rizzo

Shemra Rizzo, assistant professor of statistics in the Department of Statistics, earned her Ph.D. at the University of California, Los Angeles. Her research involves meta-analysis in the health sciences, which combines evidence from multiple studies to derive stronger results about the efficacy of treatments. In the process of data extraction from published papers, it is extremely common for the required data to be ambiguous, incomplete or missing. Rizzo focuses on developing statistical models to improve the accuracy of meta-analysis by accounting for the uncertainty introduced during data extraction.

Laura Sales

Laura Sales, assistant professor of physics and astronomy in the Department of Physics and Astronomy, earned her Ph.D. at the Universidad Nacional de Cordoba, Argentina, served as an ITC fellow at Harvard University and did postdoctoral research at the Max Planck Institute for Astrophysics, Germany, and the Kapteyn Institute, The Netherlands. Her research focuses on understanding the assembly of galaxies within the cosmological framework. She is particularly interested in the context and broad range of physical processes that drive the formation of galaxies; such as cosmology, gravitational dynamics and hydrodynamics, gas cooling, heating and shocks, star formation, metal enrichment and radiative processes.

Laura Sales

Sandra Kirtland Turner

Sandra Kirtland Turner

Sandra Kirtland Turner, assistant professor of paleoclimate/paleoceanography in the Department of Earth Sciences, earned her Ph.D. at the Scripps Institution of Oceanography, UC San Diego. Her research focuses on applying a coupled data-model approach to quantitatively reconstruct carbon cycle and climate processes on a warm Earth, particularly in response to episodes of rapid climate change. She specializes in the generation of high-resolution geochemical records from deep-sea sediment cores and interprets these records through development and application of Earth system models that can simulate physical and biogeochemical processes in the atmosphere, oceans, and deep-sea sediments over a variety of timescales.

Jaimie M. Van Norman

Jaimie M. Van Norman, assistant professor of plant cell and developmental biology and assistant plant cell and developmental biologist in the Department of Botany and Plant Sciences, earned her Ph.D. in biology at the University of Utah and did postdoctoral research at Duke University. Her research is

focused on understanding the role of cell polarity in developmental patterning, which is not as well understood in plants as it is across biological systems. Using the Arabidopsis root as a model organ for study, her lab investigates how polar localization is established and maintained and how cellular polarity contributes to organ development.

Jaimie Van Norman

David C. Volz

David Volz

David C. Volz, assistant professor of environmental toxicology and assistant environmental toxicologist n the Department of Environmental Sciences, earned his Ph.D. in environment (certificate in toxicology) at Duke University. Due to resource constraints and animal use concerns associated with conventional toxicity tests, baseline toxicity and chemical mode-of-action data are lacking for the majority of chemicals currently in commerce within the United States and around the world. Volz's research focuses on an alternative non-mammalian model for rapid chemical screening and prioritization for toxicity testing, discovering biologically active yet understudied chemicals, and investigating mechanisms of developmental toxicity across diverse chemical classes.

David Weisbart

David Weisbart, a lecturer with potential with security of employment (PSOE) in the Department of Mathematics, earned his Ph.D. in mathematics at UCLA. His research focuses the foundations of quantum theory, functional integration, finite approximation, measure theory and generalized functions, and non-Archimedean physical models. He also studies the history of mathematics and mathematical pedagogy.

David Weisbart

Chao Wang

Chao Wang

Chao Wang, assistant professor of chemistry, in the Department of Chemistry, earned his Ph.D. in chemistry at Tsinghua University, China. His research focuses in combining molecular chemistry and supramolecular chemistry to achieve precise control of electronic/mechanical properties of organic polymer materials at the molecular level. This provides a platform to develop mechanically adaptive electronic materials for diversified applications in energy storage, wearable electronics and health.

Andreas Westphal

Andreas Westphal, assistant specialist in cooperative extension and assistant nematologist in the Department of Nematology, earned his Ph.D. in plant pathology/nematology at UC Riverside. His research focuses on the development of nematode resistant and tolerant rootstocks, implementation

of chemical control methods for these particular requirements, and biorational approaches of cover cropping and soil amendments.

Andreas Westphal

Sarah Hollis Woodard

Sarah Hollis Woodard

Sarah Hollis Woodard, assistant professor of entomology and assistant entomologist in the Department of Entomology, earned her Ph.D. in ecology, evolution, and conservation at the University of Illinois at Urbana-Champaign. Her research focuses on using molecular approaches to advance our fundamental understanding of bumble bees, with an emphasis on how the nutritional environment has shaped this group of bees across both evolutionary and ecological timescales, and how this ultimately impacts human food security.

Yulong Xing

Yulong Xing, assistant professor of mathematics in the Department of Mathematics, earned his Ph.D. in mathematics at Brown University. His research interests are in the areas of numerical analysis, scientific computing, mathematical modeling, computational geoscience and parallel computing with various applications ranging from coastal engineering, climate, physics, and astrophysics. He works on the design, analysis, and implementation of accurate and efficient numerical algorithms for differential equations arising from science and engineering problems.

Yulong Xing

Samantha C. Ying

Samantha Ying

Samantha C. Ying, assistant professor of soil biogeochemistry and assistant soil biogeochemistrist in the Department of Environmental Sciences, earned her Ph.D. in environmental earth system science at Stanford University. Ying's research focuses on the complex heterogeneity of soils, specifically on determining the pathways of chemical and microbial reactions in soils that lead to groundwater contamination, quantifying the impacts of atmospheric metal deposition on metals concentrations in agricultural soil and the corresponding uptake of toxic metals into crops, and discovering novel pathways for abiotic carbon oxidation at manganese oxide surfaces.

MEDIA CONTACT

Jeanette Marantos
Tel: (951) 827-2645
E-mail:
jeanette.marantos@ucr.edu

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The University of California, Riverside (www.ucr.edu) is a doctoral research university, a living laboratory for groundbreaking exploration of issues critical to Inland Southern California, the state and communities around the world. Reflecting California's diverse culture, UCR's enrollment has exceeded 21,000 students. The campus opened a medical school in 2013 and has reached the heart of the Coachella Valley by way of the UCR Palm Desert Center. The campus has an annual statewide economic impact of more than $1 billion. A broadcast studio with fiber cable to the AT&T Hollywood hub is available for live or taped interviews. UCR also has ISDN for radio interviews. To learn more, call (951) UCR-NEWS.