

UC San Diego

UC San Diego News Center

By Paul Mueller

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Photo by Erik Jepsen/UC San Diego Publications

‘Frontiers of Innovation’ Program Seeds Seven Multidisciplinary Projects on Campus

Large-scale efforts address global challenges of the future

As a key part of the Strategic Plan developed by faculty, administrators, postdoctoral scholars, graduate and undergraduate students, staff, alumni and other members of the UC San Diego community,

Chancellor Pradeep K. Khosla and Vice Chancellor for Research Sandra A. Brown are committed to significant investments in scholarship and science that will keep the university at the forefront of socially beneficial research.

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Some of these investments are taking place already; other programs will be announced in the months ahead. What they all have in common is a thoughtful cultivation of promising people and innovative projects that will strengthen the university's record of problem-solving research.

One such initiative, led by the UC San Diego Office of Research Affairs, will help launch seven major projects on campus, all focused on advancing the university's strategic research goals.

The "Frontiers of Innovation" program is a campus-wide effort to support the primary research initiatives of the UC San Diego Strategic Plan.

One component provides fellowships for undergraduate and graduate students as well as postdoctoral scholars. The other component provides funding to support teams of UC San Diego scholars from across campus in their efforts to launch large-scale, multidisciplinary research-center applications.

"Our support for these new centers reflects our strong commitment to the research goals articulated in the campus strategic plan," said Chancellor Khosla. "The forward-looking Frontiers of Innovation program will help ensure our continued leadership in research well into the future. Vice Chancellor for Research Sandra Brown and the Academic Senate are to be commended for driving these investments in our faculty, our students, and their vital work."

UC San Diego's research enterprise, said Brown, is focused on four strategic avenues of inquiry: understanding and protecting the planet; enriching human life and society; exploring the basis of human knowledge, learning, and creativity; and understanding cultures and addressing disparities in society.

"We want to engage all campus members in research to answer basic questions and address the needs of our global society," Brown said. "We were challenged by the large number of applications for this seed funding. However, the faculty review committee identified seven exciting efforts we can foster now."

This year, the Frontiers of Innovation Center Development funds will go to the following centers:

"These creative and ambitious faculty efforts," Brown said, "will help us take a bold step toward meeting the grand challenges facing the world today."

Center for Biological Timing in the 21st Century

Led by Michael Gorman

Research Area: Understanding and Protecting the Planet

Sustainable Power and Energy Center

Led by Shirley Meng, Oleg Shpyrko

Research Area: Understanding and Protecting the Planet

Ying Shirley Meng, associate professor of nanoengineering: “The Sustainable Power and Energy Center is a multidisciplinary initiative dedicated to advancing the frontiers of energy technologies, focusing primarily on forward-looking renewable-energy conversion, storage, and power integration. Our specific goals are to make UC San Diego a global leader in renewable energy research and integration; promote interdisciplinary energy research, education and training programs; and expedite lab-to-market transitions and support local and California clean-tech industries.”

UC San Diego Center for Translational Computer-Aided Drug Discovery & Project Management

Led by Rommie Amaro, James McKerrow

Research Area: Enriching Human Life and Society

UC San Diego Center for Compound Resources

Led by William Gerwick, Dionicio Siegel

Research Area: Enriching Human Life and Society

William Gerwick, distinguished professor of oceanography and pharmaceutical sciences: “The newly formed UC San Diego Center for Compound Resources (UCCR) will provide the campus with a unified, well-curated and easily accessible resource of diverse natural products and other small molecules for testing in biological assays. Synergistic connection between these areas of campus expertise is a clear opportunity to discover and develop new molecules of significance to human health and the planet.”

Institute for Integrative Science of the Developing Mind and Brain

Led by Jeff Elman, Susan Taper

Research Area: Exploring the Basis of Human Knowledge, Learning, and Creativity

Jeff Elman, distinguished professor of cognitive science: “The Institute for Integrative Science of the Developing Mind and Brain will bring together researchers from across different disciplines, departments and divisions of the campus for large-scale longitudinal studies of children and

adolescents, with the goal of identifying the social, cultural and educational factors that contribute to their growth and well-being. The institute will also facilitate collaborative research that aims to better explain the observations made in children by studying basic cellular and molecular mechanisms that may play a role.”

Center for Research on Gender in STEMM

Led by Mary Blair-Loy, Wendy Campana, Pamela Cosman

Research Area: Understanding Cultures and Addressing Disparities in Society

Mary Blair-Loy, associate professor sociology and associate vice chancellor for faculty diversity and equity: “The new Center for Research on Gender in Science, Technology, Engineering, Mathematics and Medicine (STEMM) brings together faculty and graduate students who use basic social science to study cultural and interactional factors that create gender inequality in STEMM fields. Subtle yet persistent barriers to women’s full participation in STEMM fields persist, despite official commitments to meritocracy, objectivity and excellence in diversity. Our center begins with two empirical studies on the obstacles to recruiting women at a top research university. We also convene a Faculty Learning Community, an interdisciplinary group of faculty and graduate-student instructors who engage in teaching about gender.”

The UC San Diego Community Stations

Led by Angela Booker, Fonna Forman, Teddy Cruz

Research Area: Understanding Cultures and Addressing Disparities in Society

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