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## **UCSD KAVLI BRAIN/MIND INSTITUTE FUNDS INNOVATIVE RESEARCH**

The Kavli Institute for Brain and Mind at the University of California, San Diego announces the awarding of its first series of Innovative Research Grants to 12 investigative teams for projects designed to bridge the gap between understanding of the mind and knowledge of the working of the brain. These KIBM Fellows represent the inaugural group in what will be an annual funding program for the support of such imaginative research.

Research will be conducted on such topics as tracking memory tasks during neurosurgery, to connect changes in mental activity with alterations in brain chemistry. Other work will focus on exploring consciousness under hypnosis, to learn how some brain activities are associated with consciousness and others are not. How infants learn complex behaviors will be analyzed by studying the way they mirror adults, and by examining ways in which brain adaptation to the environment during childhood leads to development of abstract concepts. The 12 projects were selected from among 43 applications. Those funded were among the most creative programs for cutting edge research to bridge the mind/brain gap.

Traditionally, neuroscientists have studied the operation of the brain, while cognitive scientists and psychologists have focused on mental functions. Connecting the intellectual activities of these two impressive groups in San Diego is the ambitious goal of the KIBM.

"It was exciting to review these applications", said Jeffrey Elman, Co-Director of the Institute. "These are high-risk, high-payoff ventures - the kind of research that is not well supported by conventional sources of support for research." Proposals were received from investigators at The Salk Institute, The Scripps Research Institute and The Neurosciences Institute in addition to researchers at UCSD. Within UCSD the applicant pool was spread across the School of Medicine, the Division of Social Sciences and the Division of Biological Sciences.

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Projects selected for funding and their principal investigators are listed below, with the UCSD academic department or name of other institution indicated:

- Measurement of Neurotransmitters and Single Cell Recordings during Tasks from Awake Patients Undergoing Brain Surgery, Robert J. Buchanan, Surgery
- How a Neuron Becomes a Mirror in the Developing Brain: An Electrophysiological Study, Rita Ceroni, Center for Research in Language
- A Pilot Proposal For Investigating the Role of the Amygdala in Social Cognition Across Animals, Andrea Chiba, Cognitive Science
- Psychophysical Studies of the Magnocellular and Dorsal Stream as a Phenotypic Marker for Autism Spectrum Disorders, Karen Dobkins, Psychology
- Molecular Genetic Characterization of the Lesch Nyhan Disease—A Cognitive and Behavioral Disorder, Theodore Friedman, Pediatrics
- Neurogenesis in Dentate Gyrus: A Computational Exploration, Janet Wiles, Salk Institute
- Generation of a Novel Inducible Silencing System in Mice to Explore the Role of GABAergic Activity in Brain Development and Function, Anirvan Ghosh, Biological Sciences
- Relating Functional and Physical Long-Distance Connectivity in Development, John Lewis, Cognitive Science
- Brain Dynamics and Motor Control, Howard Poizer, Institute for Neural Computation
- Exploring Consciousness in Blindsight and Hypnosis, V. S. Ramachandran, Psychology
- Investigating Human Brain Responses to Movements and Actions of Humanoid Robots and Androids, Ayse Saygin, Cognitive Science
- Cortical Models of Fluid Intelligence, Terrence Sejnowski, Salk Institute and UCSD Biological Sciences

"It is wonderful to see the creativity of our colleagues in these innovative proposals," noted Nicholas Spitzer, Institute Co-director. "The potential for high impact work is impressive. These efforts will lead to changes in the way we understand the interactions between the brain and the mind. The financial support comes at a critical stage in the research projects - enabling people to start investigative programs that they would otherwise be unable to launch," added Spitzer.

The 12 grants averaged \$30,000 each. The Kavli Institute for Brain and Mind was inaugurated in November, 2004, following its establishment with a \$7.5 million gift from physicist Fred Kavli and the Kavli Foundation. It has become quickly integrated into the research environment of San Diego with a commitment to inter-disciplinary research.

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