

UC awards national security lab grants

UC Office of the President

Monday, November 21, 2016

The University of California announced today (Nov. 21) the award of more than \$14 million in research grants and fellowships to expand UC's scientific collaboration with its two affiliated national security laboratories.

The UC National Laboratory Fees Research Program [<http://ucop.edu/research-initiatives/programs/lab-fees/>] supports research projects involving UC faculty and students from every campus and the Lawrence Berkeley National Laboratory, working with scientists at Los Alamos National Laboratory and Lawrence Livermore National Laboratory. The 2017 Collaborative Research and Training Awards [<http://ucop.edu/research-initiatives/programs/lab-fees/2017%20LFRP%20Awards.html>] targeted three key areas:

- Biological applications of advanced computing;
- High energy density science; and
- Mesoscale materials science.

"UC's partnerships with the national labs are strengthened by this funding program," said Art Ellis, UC vice president for research and graduate studies. "It offers UC faculty and students a unique opportunity to collaborate with national laboratory scientists, and to conduct research using the labs' distinctive capabilities."

Innovative research in the three targeted areas will also advance the national laboratory missions, and serve a vital pipeline function by helping to train the next generation of lab scientists. "The students who participate in these projects are developing specialized expertise in disciplines that are critical to the work of the national labs," said Kim Budil, the UC vice president for national laboratories.

Funding for the program comes from a portion of the management fee that UC receives from the Department of Energy for its role in helping to manage Los Alamos and Lawrence Livermore National Laboratories. The university has consistently used its management fees to further support the national labs' scientific goals and to provide training opportunities for graduate students and postdoctoral researchers. Since 2009, the UC National Laboratory Fees Research Program has fostered scientific collaboration between UC faculty and students with lab scientists through \$125 million in competitive peer-reviewed grants.

The 2017 UC National Laboratory Fees Research Program competition awarded four collaborative research and training proposals, from among 33 submissions, totaling more than \$13.5 million over three years. In addition, it allocated another \$735,000 for its inaugural group of UC-National Laboratory In-Residence Graduate Fellows.

Four UC students were selected from among a highly competitive pool of applicants for the fellowships, which will allow them to pursue dissertation research at Los Alamos and Lawrence Livermore National Laboratories.

The grantees and fellows are:

CENTER FOR FRONTIERS IN HIGH ENERGY DENSITY SCIENCE (\$4.1 million)

Lead Principal Investigator: Farhat Beg, Ph.D., UC San Diego

Livermore Laboratory Lead Investigator: Frank Graziani, Ph.D.

Los Alamos Laboratory Lead Investigator: David Meyerhofer, Ph.D.

Collaborating Sites: UC Berkeley, UC Davis, UCLA, UC San Diego, UC Santa Cruz, Lawrence Livermore, Los Alamos

DESIGNER MESOSCALE QUANTUM DOT SOLIDS (\$3.6 million)

Lead Principal Investigator: Matthew Law, Ph.D., UC Irvine
Los Alamos Laboratory Lead Investigator: Victor Klimov, Ph.D.
Collaborating Sites: UC Berkeley, UC Davis, UC Irvine, UC San Diego, Los Alamos

MACROMOLECULAR MOVEMENTS BY SIMULATION AND DIFFUSE SCATTER (\$2 million)

Lead Principal Investigator: James Fraser, Ph.D., UCSF
Los Alamos Laboratory Lead Investigator: Michael Wall, Ph.D.
Collaborating Sites: UC Irvine, UC Riverside, UC San Diego, UCSF, Los Alamos

MESOSCOPIC 2-D MATERIALS: MANY-BODY INTERACTIONS & APPLICATIONS (\$3.7 million)

Lead Principal Investigator: Chee Wei Wong, Sc.D., UCLA
Livermore Laboratory Lead Investigator: Yinmin Wang, Ph.D.
Los Alamos National Laboratory Lead Investigator: Han Htoon, Ph.D.
Collaborating Sites: UC Berkeley, UCLA, UC Merced, UC Riverside, UC Santa Barbara, Lawrence Berkeley, Lawrence Livermore, Los Alamos

UC-NATIONAL LABORATORY IN-RESIDENCE GRADUATE FELLOWS**Shane Kelly, UC Riverside (Los Alamos)**

UC Advisor: Shan-Wen Tsai
National Laboratory Mentor: Eddy Timmermans
Project Title: Strongly Coupled Atomtronics

Ren Liu, UC San Diego (Los Alamos)

UC Advisor: Shadi Dayeh
National Laboratory Mentor: Jennifer Martinez
Project Title: Multimodal Nanoscale Cellular Probes

Julie Soderlind, UC Davis (Lawrence Livermore)

UC Advisor: Subhash Risbud
National Laboratory Mentor: T. Yong-Jin Han
Project Title: Magnesium Scaffolds for Biomedical Implant Applications

James Stinecipher, UC Merced (Lawrence Livermore)

UC Advisor: John Campbell
National Laboratory Mentor: Philip Cameron-Smith
Project Title: Modeling Tropical Carbon Fluxes via Carbonyl Sulfide Uptake