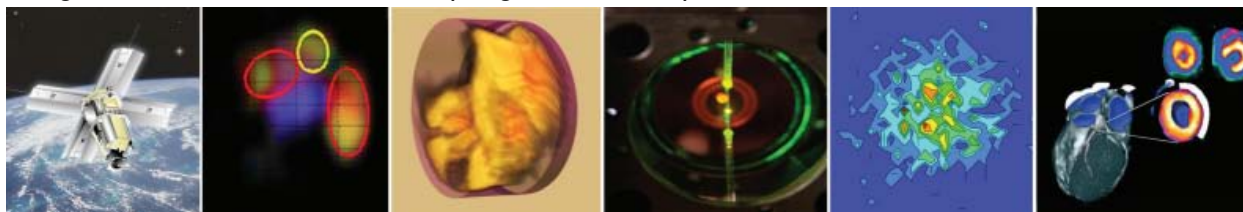


2013 Science of Signatures Advanced Studies Scholars Program

A Professional Development Opportunity for Advanced Ph.D. Students and Postdocs interested in learning skills needed for research program development at National Laboratories/Academia.



The Los Alamos National Laboratory Engineering Institute is planning to invite a multi-disciplinary (e.g. computer science, engineering, biology, physics, earth sciences, mathematics/statistics) group of advanced, highly accomplished Ph.D. students and post-doctoral researchers from around the country to come to Los Alamos National Laboratory for an opportunity to work on multi-disciplinary teams to generate novel, creative solutions to pressing national security problems and build the skills needed for successful research program development at national laboratories and in academia. This program will focus on introducing Advanced Studies Scholars to the process of writing winning proposals and securing research funding.

Los Alamos National Laboratory's (LANL's) evolving national security mission currently requires a new research focus on the forward deployment of advanced measurement technologies (Science of Signatures). LANL has identified a set of multi-disciplinary, highly-challenging Science of Signatures-Forward Deployment research gaps related to pertinent national security challenges. Advanced Studies Scholars will work in multidisciplinary proposal teams of 3 to generate novel research solutions to these important challenges. Under the guidance of LANL mentors, the scholars will complete preliminary feasibility studies of their concepts and summarize their results in a proposal format. Their professional development will be enhanced not only by technical presentations and interactions, but also by providing them with advice and guidance from experienced researchers on how to develop research programs, write proposals, and secure funding. The scholars will present their proposals to a group of program managers for critique and feedback. They will also have the opportunity to interact with multi-disciplinary researchers from around the country to facilitate future career opportunities and collaborations. Scholars will have the opportunity to shape new fields. This program will be three weeks in duration. Expenses will be paid for external candidates' travel, lodging, and subsistence for the duration of the program.

Charles Farrar of the LANL Engineering Institute has run the highly successful LANL Dynamic Summer School (DSS) undergraduate research experience for more than a decade. DSS alumni have gone on to win numerous NSF, NDSEG, and NASA graduate fellowships, LANL Director's funded postdoctoral fellowships, and currently hold faculty positions as well as technical staff positions at numerous National Laboratories. The lessons learned from the DSS have been used to tailor this professional development experience to help aspiring young researchers move to the next stage of their career in academia or research at national laboratories.

Advanced Studies Scholars must be U.S. citizens or permanent residents.

[For consideration to this program please submit a CV, 1 letter of recommendation, and a brief \(~1page\) synopsis of your professional goals, and interest in participating as an Advanced Studies Scholar to Jutta Kayser: \[jkayser@lanl.gov\]\(mailto:jkayser@lanl.gov\) by Feb 18, 2013](#)

[Program will run from April 8-26, 2013](#)

Please direct questions to David Mascareñas (dmascarenas@lanl.gov)

The 2013 Science of Signatures Advanced Studies Scholars Proposals
Will Address National Security Research Problems in:

[Nuclear Nonproliferation](#)

[Wireless Sensor Nodes](#)

[Bio-inspired Pattern Recognition](#)

[Persistent Surveillance](#)

[Bio-Sensing](#)

[Dynamics of the Power Grid](#)

[Human Machine-Interfaces](#)

[Resilience of High-Performance Computers](#)