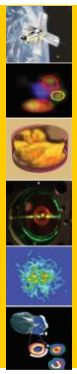
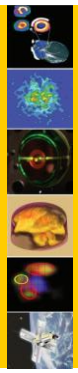
Engineering Institute
LANL • UCSD



The 2015 Science of Signatures Advanced Studies Institute

April 13-May 1, 2015
Los Alamos National Laboratory



Purpose: To introduce a select group of leadership-oriented Ph.D. students and Postdocs to *Science of Signatures* research topics and provide professional development that will better position them for career advancement in Academia and at National Laboratories. We define *Science of Signatures* (SoS) as the development and deployment of advanced measurement systems and the interpretation of the data obtained from these systems.

Focus areas: Through technical and professional development lectures by nationally recognized experts and a team research project, participants will hone their innovative thinking skills, develop proposal writing skills, experience challenges inherent in program development, and better position themselves for future collaborations and career advancement.

1. **Guest Lectures:** Daily technical lectures given by world class experts on various SoS research challenges. Daily professional development lectures on topics such as proposal writing, securing research funding, and building effective research teams.
2. **Projects:** Participants will be assigned to a multidisciplinary team that will be presented a SoS research challenge. They will develop a novel approach for solving this challenge, conduct feasibility studies to support their approach and produce a proposal to develop their solution that will be presented to, and critiqued by, Los Alamos Program Managers.
3. **Students will be reimbursed for travel-related expenses and receive a daily per diem.**
4. **This program is limited to US citizens.**

How to Apply:

Students should send an email with the following documents to asi-sos@lanl.gov:

- CV
- 1 letter of recommendation
- A brief synopsis of your professional goals and interest in participating as an Advanced Studies Institute

Applications must be received by Jan. 16, 2015.
Acceptance notifications will be sent by Jan. 30, 2015.

Additional information can be found at http://asi.lanl.gov
Questions? Please contact asi@lanl.gov or David Mascarenas dmascarenas@lanl.gov

Los Alamos NATIONAL LABORATORY EST. 1943

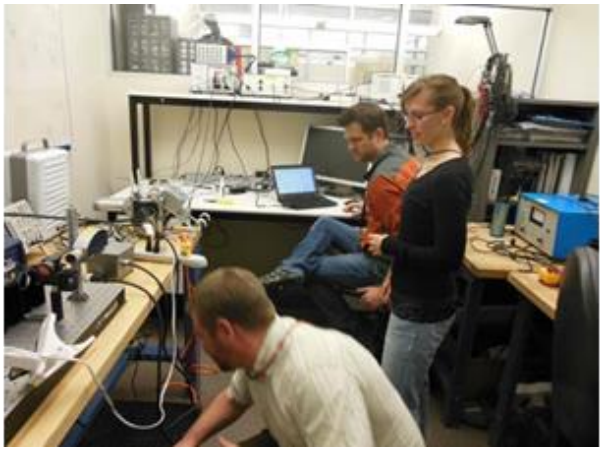
The 2015 Science of Signatures Advanced Studies Institute Proposals will address National Security Research Challenges including:

- 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

2013 Projects

Remote Physical Sample Collection Using Unmanned Aviation Systems (UAS)

Characterizing the power grid



Novel methods for detecting small Unmanned Aviation Systems (UAS)

Novel signatures for characterizing chem/bio manufacturing facilities