

# Science of Signatures

## Advanced Studies Institute Program

### April 14-May 2, 2014

Los Alamos Research Park (TA-03, Bldg. 4200)  
Suite 100, Room 101 (Access Grid) + Work Areas

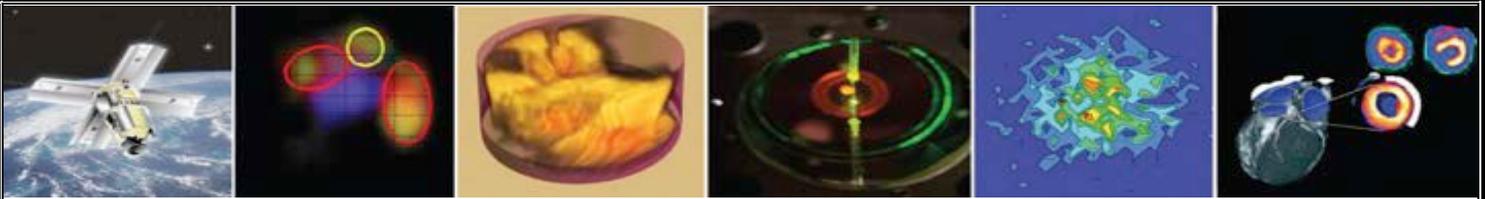
### Student Projects

Penta Chart-Due April 24, 2014

ER Proposal-Due April 29, 2014

Presentation-Due May 1, 2014

- |  |  |
|--|--|
| 4/14-The Science of Signatures Pillar at LANL-Nan Sauer  | 4/22- Experiences from a National Laboratory Career Charles Farrar   |
| 4/15- Hand-Portable Biosensors for Global Disease Surveillance-Basil Swanson                                     | 4/23-Human-Machine Interactions-Reid Priedhorsky   |
| 4/15-Technology Transfer Overview-Susan Sprake   | 4/23-Faculty Life at a Research University: What to Expect and How to Survive-Michael Todd                                       |
| 4/16-Gamma-Ray Flux Uncertainty Analysis for Emergency Response Applications-Peter Karpus                        | 4/24-Nuclear Weapons: Past, Present, and Future - Joseph Martz   |
| 4/16-Why Los Alamos and Why <i>Your</i> Proposal-Bill Priedhorsky  | 4/24-Experience in a Start-up company-Duncan McBranch  |
| 4/17-Listening to Things: Acoustical Diagnostics, From Seismic to Ultrasonic and Beyond-James Ten Cate           | 4/25-A Vibro-Haptic Human-Machine Interface for Structural Health Monitoring (The Story of My Learning Journey)-David Mascarenas |
| 4/17-Building Effective Collaborations in Science and Engineering-Karl Jonietz                                   | 4/25-Eric Straser  |
| 4/18- Leveraging Your Friendly Neighborhood Game Engine-Brian Dickens  | 4/28-Wavenumber Signatures for Non-destructive Inspection-Eric Flynn   |
| 4/18-Building a Research Program Within a National Laboratory Setting: A Completely One-sided View-Michelle Espy | 4/29-Judges, Juries, and Experts-Justice Edward Chavez   |
| 4/21-Cubesats-Steve Judd   | 4/29-If we can estimate it, we can control it-Doug Adams   |
| 4/21-Fundamentals of Proposal Writing-David Clark  | 4/30-Rashi Iyer  |
| 4/22-Continuity of Knowledge-George Baldwin  | 4/30- Traversing Along a Management Career Path – One Traveler’s Perspective-Steve Girrens                                       |
|  | 5/01-Magnus Egerstedt  |



## A G E N D A

### ***Monday, April 14, 2014***

- |               |  |
|---------------|--|
| 08:00 – 09:00 | Badging, LANL Badge Office   |
| 09:00 – 10:00 | Administrative Issues  |
| 10:00 – 12:00 | Introductions <ul style="list-style-type: none"> <li>- Engineering Institute (David Mascareñas)</li> <li>- Science of Signatures (SoS) Program (Nan Sauer)</li> <li>- Student Bio Presentations</li> </ul> |
| 12:00 – 01:00 | <i>Lunch</i> (will be provided)  |
| 01:00 – 02:00 | Goals for SoS Advanced Scholars Program (David Mascareñas)   |
| 02:00 – 02:30 | Security Export Control Issues (Andrew Wall)   |
| 02:30 – 03:00 | <i>Break</i>   |
| 03:00 – 05:00 | Meet with Mentors  |

### ***Tuesday, April 15, 2014***

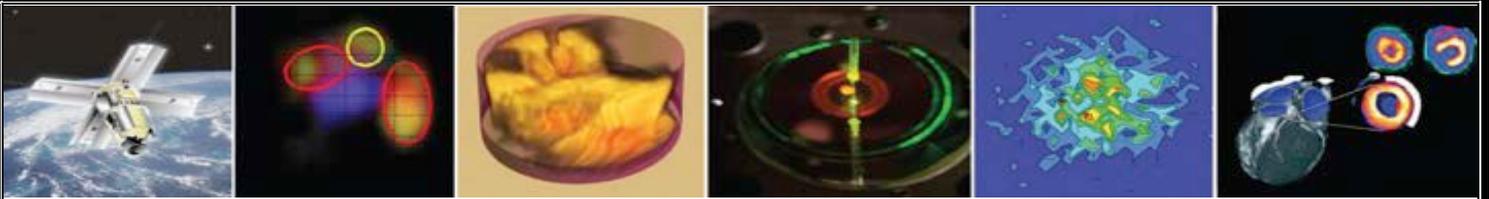
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|---------------|--|
| 08:00 – 09:30 | Hand-Portable Biosensors for Global Disease Surveillance (Basil Swanson) |
| 09:30 – 12:00 | Group Collaboration (work areas)   |
| 12:00 – 01:00 | <i>Lunch</i> (on your own)   |
| 01:00 – 02:30 | Technology Transfer Overview (Susan Sprake)                              |
| 02:30 – 05:00 | Group Collaboration (work areas)   |

### ***Wednesday, April 16, 2014***

- |               |  |
|---------------|--|
| 08:00 – 09:30 | Gamma-Ray Flux Uncertainty Analysis for Emergency Response Applications (Peter Karpus) |
| 09:30 – 12:00 | Group Collaboration (work areas)   |
| 12:00 – 01:00 | Why Los Alamos and Why Your Proposal? (Bill Priedhorsky)                               |
| 01:00 – 02:00 | <i>Lunch</i> (on your own)   |
| 02:30 – 05:00 | Group Collaboration  |

### ***Thursday, April 17, 2014***

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|---------------|---|
| 08:00 – 09:30 | Listening to Things: Acoustical Diagnostics, from Seismic to Ultrasonic and Beyond (James Ten Cate) |
| 09:30 – 12:00 | Group Collaboration (work areas)  |
| 12:00 – 01:00 | <i>Lunch</i> (on your own)  |
| 01:00 – 02:30 | Building Effective Collaborations in Science and Engineering (Karl Jonietz)                         |
| 02:30 – 05:00 | Group Collaboration (work areas)  |



### ***Friday, April 18, 2014***

- 08:00 – 09:30      Leveraging Your Friendly Neighborhood Game Engine (Brian Dickens)  
09:30 – 12:00      Group Collaboration (work areas)  
12:00 – 01:00      *Lunch* (on your own)  
01:00 – 02:30      Building a Research Program Within a National Laboratory Setting: A  
                                 Completely One-sided View (Michelle Espy)  
02:30 – 05:00      Group Collaboration (work areas)

### ***Monday, April 21, 2014***

- 08:00 – 09:30      Cubesats (Steve Judd)  
09:30 – 12:00      Group Collaboration (work areas)  
12:00 – 01:00      *Lunch* (on your own)  
01:00 – 02:30      Fundamentals of Proposal Writing (Dave Clark)  
02:30 – 05:00      Group Collaboration (work areas)

### ***Tuesday, April 22, 2014***

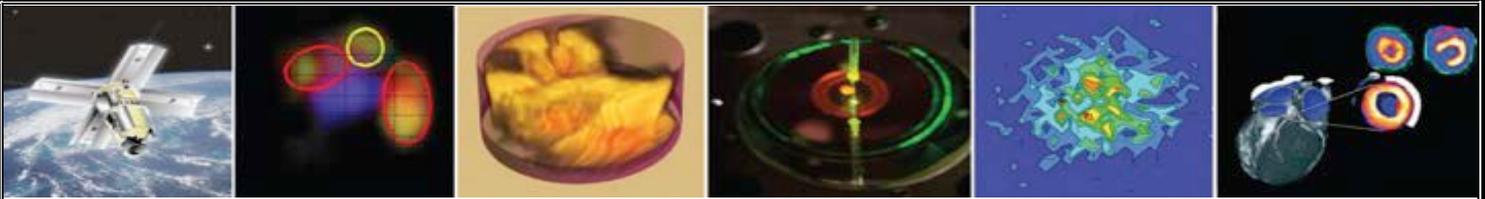
- 08:00 – 09:30      Continuity of Knowledge (George Baldwin)  
09:30 – 12:00      Group Collaboration (work areas)  
12:00 – 01:00      *Lunch* (on your own)  
01:00 – 02:30      Experiences from a National Laboratory Career  
                                 (Chuck Farrar)  
02:30 – 05:00      Group Collaboration/Internal (work areas)  
                                 GET Testing at White Rock Training Center/External folks

### ***Wednesday, April 23, 2014***

- 08:00 – 09:30      Human-Machine Interactions (Reid Priedhorsky)  
09:30 – 12:00      Group Collaboration (work areas)  
12:00 – 01:00      *Lunch* (on your own)  
01:00 – 02:30      Faculty Life at a Research University: What to Expect and How to Survive  
                                 (Mike Todd)  
02:30 – 05:00      Group Collaboration (work areas)

### ***Thursday, April 24, 2014- Penta Chart Due at 5:00PM***

- 08:00 – 09:30      Nuclear Weapons: Past, Present, and Future (Joe Martz)  
09:30 – 12:00      Group Collaboration (work areas)  
12:00 – 01:00      *Lunch* (on your own)  
01:00 – 02:30      Building a Start-up Company (Duncan McBranch)  
02:30 – 05:00      Group Collaboration (work areas)



***Friday, April 25, 2014***

08:00 – 09:30            Haptics Based Structural Health Monitoring (David Mascarenas)  
 09:30 – 12:00            Group Collaboration (work areas)  
 12:00 – 01:00            *Lunch* (on your own)  
 01:00 – 02:30            (Eric Straser)  
 02:30 – 05:00            Group Collaboration (work areas)

***Monday, April 28, 2014***

08:00 – 09:30            Wave Number Signatures for Non-destructive Inspection (Eric Flynn)  
 09:30 – 12:00            Group Collaboration (work areas)  
 12:00 – 01:00            *Lunch* (on your own)  
 01:00 – 02:30            Presentation Prep  
 02:30 – 05:00            Group Collaboration (work areas)

***Tuesday, April 29, 2014-ER Proposal Due***

08:00 – 09:30            Juries, Judges, and Experts (Justice Edward Chavez)  
 09:30 – 12:00            Group Collaboration (work areas)  
 12:00 – 01:00            *Lunch* (on your own)  
 01:00 – 02:30            If We Can Estimate it, We Can Control it (Doug Adams)  
 02:30 – 05:00            Group Collaboration (work areas)

***Wednesday, April 30, 2014***

08:00 – 12:00            (Rashi Iyer)  
 12:00 – 01:00            *Lunch* (on your own)  
 01:00 – 02:30            Traversing Along a Management Career Path – One Traveler’s  
    Perspective (Steve Girrens)  
 02:30 – 05:00            Group Collaboration (work areas)

***Thursday, May 1, 2014-Presentations Due***

08:00 – 10:00            Prepare for Proposal Presentations  
 10:30 – 12:00            Proposal Presentations, Study Center  
 12:00 – 01:00            Lunch at Study Center (will be provided)  
 01:00 – 02:30            Proposal Presentations, Study Center  
 03:00 – 04:30            (Magnus Egerstedt) remote presentation

***Friday, May 2, 2014***

08:00 – 10:00            Feedback and Improvement Discussion  
    - What worked and what didn’t?  
    - Where can we improve?  
 10:30 – 12:00            Wrap-up  
 12:00                        Departure