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# LAUNCH: Undergraduate Research

*Sarah M. Misemer, Ph.D.*  
*Associate Director for Undergraduate Research*  
**LAUNCH**

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## Upcoming Events



- **Undergraduate Research Expo on October 2**
  - Networking Panel and Social
- **URS Symposium on February 26**
  - Active Listener Registration: February 17
- **REU/SURE Coordination Meeting on January 30**
- ***Explorations: The Texas A&M Undergraduate Journal***
  - Student Board Application: September 18
  - Student Synopsis Deadline: February 3
  - Faculty Reviewer Registration: January 20
- **LAUNCH: UGR's Research Opportunities Database**



## Questions?

[ugr@tamu.edu](mailto:ugr@tamu.edu)  
<http://ugr.tamu.edu>

<https://calendar.tamu.edu/ugr>  
<http://launch.tamu.edu>



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## **Collaborative Research Program with Los Alamos National Laboratory**

The Texas A&M University System

**L. Diane Hurtado**

Associate Vice Chancellor for National Laboratories Management

National Laboratories Office  
The Texas A&M University System  
<https://nationallabsoffice.tamus.edu/>

### **Texas A&M System National Laboratories Office Mission**

**Serve the nation by expanding engagement  
between Texas A&M System faculty, staff  
and students and the national laboratories**



## Texas A&M System National Laboratories Office Leadership



**M. Katherine Banks**  
Vice Chancellor of Engineering  
and National Laboratories

- Overall responsibility for execution of Texas A&M System national laboratory engagement
- Principal executive engaged with Triad National Security, LLC (Triad)
- Serves on the Triad Board of Directors



**L. Diane Hurtado**  
Associate Vice Chancellor  
for National Laboratories  
Management

- Primary point of contact and facilitator for Texas A&M System national laboratory engagement
- Liaison to the Los Alamos National Laboratory (LANL) leadership team and Triad Board and Committees



**Julia Pierko**  
Director of Program for  
International Nuclear Energy

- Leads initiatives to pursue safe and secure uses of nuclear sciences and technology
- Primary point of contact for international engagement in nuclear energy



**Marvin Adams**  
Director of Research and  
Education to Advance Laboratory  
Missions

- Facilitates engagement of Texas A&M System researchers and educators with national laboratories
- Chair of Triad Mission Committee



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## LANL Overview

- 40 square miles
- 47 technical areas
- 1,280 buildings / 9M sq. ft.
- 11 nuclear facilities
- 268 miles of roads
- 8,750 career employees / 12,000 workers on site
- 2,100 R&D scientists
- 1,100 veterans
- 390 postdocs
- \$2.6B budget

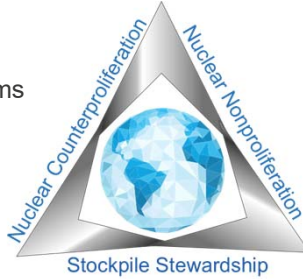


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# LANL's Missions: Strategic Deterrence

## Anticipating and addressing emerging, asymmetric threats

- Assessment of foreign nuclear weapons programs
- Mini-satellites supporting DoD mission
- Next generation of radio communications




- 50 years of International Safeguards
- Development of monitoring techniques for nuclear testing
- Next generation of satellite detectors for nuclear explosions

Nuclear Counterproliferation	Stockpile Stewardship	Nuclear Nonproliferation
Detecting and preventing the development or use of nuclear weapons and improvised devices	Assuring our nation's defense with a strategic nuclear deterrent through theory, modeling & simulation, and experimentation	Reducing and limiting nuclear arms and the spread of nuclear materials, technology, and expertise through cooperation and diplomacy



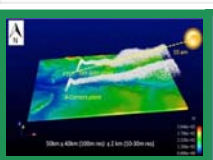
\* Slide used with permission of John Sarrao (LANL Dep. Director ST&E)

# LANL: Four Capability Pillars of ST&E



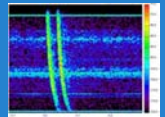
**MATERIALS FOR THE FUTURE**

- Defects and Interfaces
- Extreme Environments
- Emergent Phenomena



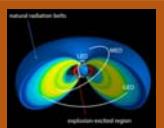
**SCIENCE OF SIGNATURES**

- Discover Signatures
- Revolutionize Measurements
- Forward Deployment



**INTEGRATING INFORMATION, SCIENCE, AND TECHNOLOGY FOR PREDICTION**

- Complex Networks
- Computational Co-Design
- Data Science at Scale



**NUCLEAR AND PARTICLE FUTURES**

- High Energy Density Physics & Fluid Dynamics
- Nuclear & Particle Physics, Astrophysics & Cosmology
- Applied Nuclear Science & Engineering
- Accelerator Science & Technology

\* Slide used with permission of John Sarrao (LANL Dep. Director ST&E)

## LANL Collaborative Research Program

### Goals:

- Develop collaborative ties with researchers at Los Alamos National Laboratory (LANL)
- Execute TAMUS-LANL collaborative research projects
- Formalize long-term relationships where appropriate

### Three program elements for collaboration:

- Exploration mini-grants
  - Primarily for researchers who currently do not have collaborations at LANL
- Development fellowships
  - Primarily for researchers who have relationships at LANL
- Research project
  - Primarily for researchers with well developed relationships at LANL



## Exploration Mini-Grants

### Goal

- Grant for TAMUS researchers to spend time at LANL
  - Learn about LANL problem sets
  - Begin to develop long-term partnerships

### Requirements

- Applications accepted anytime
- TAMUS PI-eligible research faculty and staff
- Must have a LANL collaborator (we can help!)
- Deliverable - short summary report after the visit

### Awards

- Travel costs for a TAMUS researcher to visit LANL (up to \$1500)
- ~ 25-30 grants will be awarded



## Development Fellowships

### Goal

- Grant for TAMUS researchers to develop collaborative research partnerships in areas of joint interest to LANL and TAMUS

### Requirements

- Applications due October 15<sup>th</sup>, 2019
- TAMUS PI-eligible research faculty and staff
- LANL collaborator identified in proposal
- Deliverable to be specified in proposal (i.e. joint publication or joint proposal)

### Awards

- Up to 1.5 months of salary for the TAMUS researcher
- Travel costs (up to \$5000) to visit LANL researcher(s) for several weeks
- Reviewers (TAMUS and LANL) will select ~ 8-10 proposals



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## Research Projects

### Goals

- Grant for multi-year research projects collaboratively executed by TAMUS and LANL

### Requirements

- Applications due December 2<sup>nd</sup>, 2019
- PI-eligible research faculty and staff in every TAMUS component are eligible to apply
- TAMUS-LANL researchers have a history of partnership
- LANL leadership sees value in long-term relationships
- Proposed project designed to:
  - improve a key LANL capability and/or address a LANL mission need
  - in an area for which LANL has stable long-term funding
- Project engages graduate students with potential for LANL employment (pipeline)

### Awards

- Funding levels sufficient to support:
  - One graduate student
  - One month TAMUS researcher time
- Reviewers (TAMUS and LANL) will select ~2-3 proposals



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## Panel



**Sunil Chirayath,**  
Associate Professor of  
Nuclear Engineering



**Cody Folden,**  
Associate Professor of  
Chemistry



**Melissa Grunlan,**  
Professor of Biomedical  
Engineering



**Justin Wilkerson,**  
Assistant Professor of  
Mechanical Engineering



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## Contact Information

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