



THE TEXAS A&M  
UNIVERSITY SYSTEM

Agenda for  
**The Texas A&M University System (TAMUS) -  
Los Alamos National Laboratory (LANL)  
Research Collaboration Showcase  
October 13-14, 2022**

1:00 – 1:05 p.m.

**Welcome**

*Location: Mitchell Institute, Hawking Auditorium*

- Julia Pierko, Associate Vice Chancellor, National Laboratories Office (NLO)

1:05 – 1:40 p.m.

**Faculty Engagement Meeting/Release of 2023 Research Project RFP  
and Priority Areas**

*Location: Mitchell Institute, Hawking Auditorium*

- John Sarrao, Deputy Director, Science, Technology, and Engineering, LANL

1:45 – 2:00 p.m.

**Overview of Collaborative Research Program**

*Location: Mitchell Institute, Hawking Auditorium*

- Rupak Mahapatra, Professor, Physics and Astronomy and Director of Research Engagement, NLO

2:00 – 3:30 p.m.

**Presentations by LANL Researchers on 2023 Collaborative Research Project RFP  
and Q&A Panel**

*Location: Mitchell Institute, Hawking Auditorium*

- **Nuclear Detection, Measurements and Reactor Design**
  - Holly Trelue, Nuclear Engineering and Nonproliferation Division
  - Vedant Mehta, Nuclear Engineering and Nonproliferation Division
- **Data Management and High-Performance Computing (HPC)**
  - Gary Grider, High Performance Computing Division
  - Alex Long, Computational and Statistical Science
  - Dominic Manno, HPC Division
- **Energy and Materials for Clean Energy**
  - Mohamed Mehana, Computational Earth Science
  - Bailian Chen, Computational Earth Sciences

3:30 – 4:00 p.m.

**Break and Transition to Breakout Rooms**

4:00 – 5:00 p.m.

**Breakout Discussions (each RFP Category)**

*Location: Mitchell Institute*

- **Nuclear Detection, Measurements and Reactor Design**  
*Room MB02*
  - Heather Erpenbeck, Nuclear Engineering and Nonproliferation Division
- **Data Management and High-Performance Computing (HPC)**  
*Room M108*
  - Gary Grider, High Performance Computing Division
  - Jim Ahrens, Information Science and Technology Institute
- **Energy and Materials for Clean Energy**  
*Room M102*
  - John Sarrao, Deputy Director, Science, Technology, and Engineering

5:00 – 5:30 p.m. **Networking and Laboratory Demonstrations**

*Location: Mitchell Building, (1<sup>st</sup> floor)*

5:30 – 6:00 p.m. **Reception**

*Location: Mitchell Institute, Penrose Plaza (1st floor)*

6:00 – 7:30 p.m. **Dinner**

*Location: Mitchell Institute, Penrose Plaza (1<sup>st</sup> floor)*

## **Friday, October 14**

8:30 – 8:35 a.m. **Opening Remarks**

*Location: TIPS Auditorium*

- Jack Baldauf, Vice President for Research

8:35 – 9:00 a.m. **Keynote Address**

*Location: TIPS Auditorium*

- John Sarrao, Deputy Director, Science, Technology, and Engineering, LANL

9:00 a.m. – 12:00 p.m.

### **Research Project Presentations-Morning Session**

➤ 9:00 – 9:30 a.m.

#### ***Production of Radioisotopes (At-211 + Tb-149) for Cancer Therapy***

*Location: TIPS Auditorium*

- Sherry Yennello, Director, Cyclotron Institute and Professor, Chemistry
- Lauren McIntosh, Research Scientist, Cyclotron Institute
- Evgeny Tereshatov, Research Scientist, Cyclotron Institute
- Steven Schultz, Graduate Student, Chemistry
- Eva Birnbaum, LANL
- Michael Fassbender, LANL
- Etienne Vermeulen, LANL
- Stosh Kozimor, LANL

➤ 9:30 – 10:00 a.m.

#### ***Dark Matter, Neutrino Interactions and Axion-Like Particles at Coherent Captain-Mills (LANL)***

*Location: TIPS Auditorium*

- Bhaskar Dutta, Professor, Physics and Astronomy
- Adrian Thompson, Graduate Student, Physics and Astronomy
- Richard Van de Water, LANL

➤ 10:00 – 10:30 a.m.

#### ***Los Alamos A&M Dark Matter and Neutrino Alliance (LAAMDNA)***

*Location: TIPS Auditorium*

- Rupak Mahapatra, Professor, Physics and Astronomy
- Shubham Verma, Graduate Student, Physics and Astronomy
- Richard Van de Water, LANL

➤ 10:30 – 11:00 a.m.

#### ***Key-Value Storage Systems for HPC***

*Location: TIPS Auditorium*

- Narasimha Annapareddy, Associate Dean and Professor, Electrical and Computer Engineering
- Chris Baldwin, Graduate Student, Electrical and Computer Engineering (on behalf of Mian Qin)

- *Dominic Manno, LANL*

- *11:00 – 11:30 a.m.*     ***Design of Novel Thermo-Mechanical Processing Approaches Using Inverse Optimization for Light-Weighting***  
*Location: TIPS Auditorium*
- *Ibrahim Karaman, Professor and Department Head, Materials Science and Engineering*
  - *Amine Benzerga, Professor, Aerospace Engineering and Materials Science and Engineering*
  - *Alan Needleman, Professor, Materials Science and Engineering and Mechanical Engineering*
  - *Imroj Syed, Graduate Student, Materials Science and Engineering*
  - *Ricardo Lebensohn, LANL*
- *11:30 a.m. – 12:00 p.m.*     ***Advanced Reactor Structural Materials Under Extreme Radiation Condition***  
*Location: TIPS Auditorium*
- *Lin Shao, Professor, Nuclear Engineering*
  - *Frank Garner, Sr Research Engineer, Nuclear Engineering*
  - *Miguel Pena, Graduate Student, Nuclear Engineering*
  - *Stuart Maloy, LANL*
  - *Benjamin Eftink, LANL*

12:00 – 1:30 p.m.     **Networking Lunch** (*Box lunches provided*)  
*Location: TIPS, Second Floor*

1:30 – 4:00 p.m.     **Research Project Presentations-Afternoon Session**

- *1:30 – 2:00 p.m.*     ***Kinetic (non-ideal) Effects on Rayleigh-Taylor Instability in ICF: High-fidelity Simulations using Unified Gas Kinetics Scheme***  
*Location: TIPS Auditorium*
- *Sharath Girimaji, Professor and Department Head, Ocean Engineering, Professor, Aerospace Engineering and Mechanical Engineering*
  - *Swapnil Majumder, Graduate Student, Aerospace Engineering*
  - *Daniel Livescu, LANL*
- *2:00 – 2:30 p.m.*     ***Modeling and Discrete Optimization Algorithms for Robust Complex Networks***  
*Location: TIPS Auditorium*
- *Swaroop Darbha, Professor, Mechanical Engineering*
  - *Neelkamal Somisetty, Graduate Student, Mechanical Engineering*
  - *Harsha Nagarajan, LANL*
- *2:30 – 3:00 p.m.*     ***Hydrogen Retention in Nanocomposites***  
*Location: TIPS Auditorium*
- *Michael Demkowicz, Professor, Materials Science and Engineering*
  - *Kelvin Xie, Professor, Materials Science and Engineering*
  - *Mina Tavakolzadeh, Graduate Student, Materials Science and Engineering*
  - *Yongqiang Wang, LANL*
- *3:00 – 3:30 p.m.*     ***An Integrated Approach for Managing Microgrids with Uncertain Renewable Sources, Demand Response and Energy Markets***  
*Location: TIPS Auditorium*
- *Amarnath Banerjee, Professor, Industrial and Systems Engineering*
  - *Rohit Dube, Graduate Student, Industrial and Systems Engineering*
  - *Narsha Nagarajan, LANL*
- *3:30 – 4:00 p.m.*     ***Blow Flies as Environmental Monitors for Medical, Biosecurity, and Forensic Purposes***

*Location: TIPS Auditorium*

- *Aaron Tarone, Professor, Entomology and Director, Forensic and Investigative Sciences Program*
- *Jeffery Tomberlin, Professor, Entomology*
- *Abigail Orr, Graduate Student, Entomology*
- *Andrew Bartlow, LANL*
- *Jeanne Fair, LANL*
- *Migun Shakya, LANL*

4:00 – 4:30 p.m.

**Closing Remarks**

*Location: TIPS Auditorium*

- *John Sarrao, Deputy Director, Science, Technology, and Engineering, LANL*