

# Sandia Day 2024

September 20, 2024

CU Sustainability, Energy, and Environment Community (SEEC) Building, Room C120

[Registration Link](#)

[Poster Session Registration Link](#)

*All Day:* Recruiting table in Engineering Center [Break for lunch info session]

## **Session 1: Welcome, and Introduction to Sandia National Laboratories [SEEC C120]**

09:00-09:20: **Opening Remarks and Sandia Day Logistics** [Gijs de Boer, *Director of National Laboratory Partnerships, University of Colorado Boulder*; Mike Descour, *University of Colorado Sandia Campus Executive and Senior Manager, Advanced Microsystems Group, Sandia National Laboratories*; Michael Gooseff, *Associate Dean for Research, College of Engineering and Applied Science*]

09:20-10:20: **Overview of [Sandia National Laboratories](#)** [Daniel Sinars, *Director and Deputy Chief Research Officer, Sandia National Laboratories*]

**Overview of the [Sandia University Partnership Network \(SUPN\)](#)** [Natalie Pitcher, *Partnership Development Specialist for Academic Programs, Sandia National Laboratories*]

**Overview of the [Sandia Laboratory Directed Research and Development \(LDRD\) Program](#)** [Wahid Hermina, *Research and LDRD Program Senior Manager, Sandia National Laboratories*]

10:20-10:30: *Break / Informal Discussions*

## **Session 2: Updates on Current Joint Projects, Initiatives, and Centers [SEEC C120]**

10:30-11:45: Lightning Talks

10:30-10:40: **Elizabeth Hjelvik** – Designing Catalytic Distillation Membranes with Atomic Layer Deposition

10:40-10:50: **Melia Kendall** – Planetary materials at extremes

10:50-11:00: **Paige Danielson** – A 4x4 X-band Butler matrix beamformer in low-loss glass

11:00-11:10: **Calvin Chan** – Finite Element Modeling of Electromagnetic Pulse Effects in Microelectronics

11:10-11:20: **Tom Lowry** – Climate science at Sandia National Laboratories

11:20-11:30: **Scott Sternberg** – CUBit Overview

11:30-11:40: **Dan Stick** – SNL/CU quantum computing and engineering collaborations (Exact Title TBD)

11:40-11:45: **Gijs de Boer** – Lunch and afternoon logistics, intro to Breakout sessions

11:45-12:30: *Tour of SEEL COSINC Facilities / Future Location of National Quantum Nanofab* [meet outside of SEEC C120]

## **Working Lunch Session: Sandia Careers Session, Leadership Discussions**

12:30-13:30: **Parallel Lunch Session 1:** Lunchtime Information Session on Internship, Postdoc, and other Job Opportunities [Pizza for students, SEEC C120]

**Parallel Lunch Session 2:** Boxed-lunch topical discussions:

- *Intern Institutes* [By invitation, SEEC C120AB]
- *Quantum Strategy* [By invitation, SEEC C120CD]
- *Leadership Introduction Lunch* [By invitation, SEEC N224]

## **Session 3: Topical Breakout Sessions and Targeted Discussions**

13:30-14:30: Primary Breakouts:

**Quantum** [SEEC C120AB] – Facilitators: Scott Sternberg (CU), Dan Stick (SNL)

**Climate** [SEEC C120] – Facilitators: Gijs de Boer (CU), Tom Lowry (SNL)

**Battery Technologies and Energy Storage** [SEEC C120CD] – Facilitators: Mike Toney (CU), Reed Wittman (SNL)

14:30-14:45: *Break / Informal Discussions*

14:45-15:30: *Tour of Ali Hypersonics Lab* [meet in Aerospace Engineering Lobby]

#### **Session 4: Early Career Poster Session and Post-Event Networking**

**15:30-16:30:** **Early Career Poster Session:** Open for posters to be presented by students and postdocs on any relevant research, including both joint projects and other work of relevance to Sandia [SEEC C120]

**Elizabeth Allan-Cole** *Effects of stack pressure on extreme fast charging Li-ion batteries*

**Luca Basso** *Quantum Sensing*

**Israel Carrillo** *Investigating Silicate Melts As a Window Into Planetary Formation and Destruction Processes*

**Hongxuan Chen** *Dynamic Covalent Chemistry Enabled Organic Electrodes and Electrolytes*

**Casey Davis** *Analysis of Structural Changes in PBTTT During Doping Using Operando GIWAXS*

**Rafael Ferreira de Menezes** *The Role of Electric Double Layers in Cathode-Electrolyte Interphase Evolution*

**Evan Flitz** *Halogen-Free Electrolyte and Interphase Engineering for Low-Cost Sodium Batteries*

**Lindsay Harrison** *A systematic study of the effects of volatile species on the structure and physical properties of amorphous SiO<sub>2</sub>*

**Caleb Hatch** *Memristor Devices for Event-Camera Integration and Neuromorphic Vision Sensing*

**Daniel Herman** *Quantum-enhanced spectroscopy with dual frequency combs*

**Elizabeth Hjelvik** *Design of air-gap membranes for distillation water purification*

**Maria Kelly** *Operando atomic force microscopy studies of CO<sub>2</sub> reactive capture interfaces*

**Melia Kendall** *Dynamic Compression of Earth Materials*

**Luis Kitsu Iglesias** *Revealing the Sodium Storage Mechanisms in Hard Carbon Pores*

**Bryce Knutson** *Multi-scale characterization of Li and Mn-rich Cathodes*

**Julie Nguyen** *Team Weimer*

**Wenhan Ou** *Unveiling the Mechanism of Mn Dissolution through a Dynamic Cathode-Electrolyte Interphase on LiMn<sub>2</sub>O<sub>4</sub>*

**Lacey Roberts** *Characterizing zinc metal anodes in aqueous electrolyte*

**Dakota Rodriguez** *Effects of Electrolyte Composition on Sodium Plating Morphology*

**Samantha Rosenfeld** *Measuring the Viscosities of Silicate Melts*

#### **Evening Social Event**

**17:30-19:30:** No-host social gathering: Relax with colleagues for continued discussions, food, and drinks [Wild Provisions, 2209 Central Ave., Boulder, CO 80301]