

2023 Annual Program Review Agenda

Sunday, July 16 – Thursday, July 20
Hilton Washington DC National Mall The Wharf

Updated July 16, 2023

Sunday, July 16

- 5:00 – 9:00pm **Registration** — *L'Enfant Ballroom Foyer*
- 6:30 – 7:30pm **Fellows' Welcome Session** — *L'Enfant Ballroom*
A pre-meeting gathering of incoming and first- through fourth-year fellows hosted by Krell program staff.
- 7:30 – 9:00pm **Making Connections Reception** — *L'Enfant Ballroom Foyer/Solarium*
Opportunity for all attendees to gather and socialize in an informal setting; light refreshments provided. Guests are welcome to bring a favorite card or board game, or choose from a supplied selection.

Monday, July 17

- 8:00am – 5:00pm **Registration** — *L'Enfant Ballroom Foyer*
- 8:00 – 8:45am **Photo Session: 2023 Fellows' Individual Portraits** — *McPherson*
- 9:00 – 9:15am **Welcome & Introduction of the DOE CSGF's 2023 Cohort** — *L'Enfant Ballroom*
Jeffrey Hittinger— Director, Center for Applied Scientific Computing, Lawrence Livermore National Laboratory; DOE CSGF Alumnus
- 9:15 – 9:30am **DOE Office of Science Welcome**
Dr. Asmeret Asefaw Berhe— Director, Office of Science, U.S. Department of Energy
- 9:30 – 9:45am **DOE NNSA Welcome**
Dr. Marvin Adams— Deputy Administrator, Office of Defense Programs, National Nuclear Security Administration, U.S. Department of Energy
- 9:45 – 10:30am **Keynote**
Tammy Ma— Lead, Inertial Fusion Energy Initiative, National Ignition Facility, Lawrence Livermore National Laboratory
"Creating a Star on Earth, Ignition, and a Fusion Energy Future"
- 10:30 – 10:45am **Break** — *L'Enfant Ballroom Foyer*

Session I — *L'Enfant Ballroom* **Moderator: Christine Chalk** — *Advanced Scientific Computing Research, Office of Science, U.S. Department of Energy*

- 10:45 – 11:05am **Anda Trifan** — Investigator, GSK; DOE CSGF Alumna (*Outgoing Fellow Talk*)
"AI-Enabled Multi Resolution Simulations to Uncover Mechanisms of SARS-CoV-2 Virus"
- 11:05 – 11:25am **Amalee Wilson** — Stanford University
"Partitioning Strategies for Distributed SMT Solving"
- 11:25 – 11:45am **Jack Lindsey** — Columbia University
"Factorized Visual Representations in the Primate Visual System and Deep Neural Networks"
- 11:45am – 1:00pm **Lunch** — *Gallery Ballroom, Second Floor*
- 1:15 – 1:25pm **Announcement of 2023 Frederick Howes Scholar** — *L'Enfant Ballroom*
Jeffrey Hittinger — Lawrence Livermore National Laboratory; DOE CSGF Alumnus
- 1:25 – 1:55pm **Howes Scholar Presentation**
Dipti Jasrasaria— Postdoctoral Research Scientist, Columbia University
"Anharmonic Lattice Dynamics of Clathrates Explained by Vibrational Dynamical Mean-Field Theory"
- 1:55 – 2:10pm **Break** — *L'Enfant Ballroom Foyer*

Session II — L'Enfant Ballroom
**Moderator: Hal Finkel — Advanced Scientific Computing Research,
Office of Science, U.S. Department of Energy**

2:10 – 2:30pm	Jamin Rader — Colorado State University <i>"Optimizing Seasonal-to-Decadal Analog Forecasts With an Interpretable Neural Network"</i>
2:30 – 2:50pm	Arianna Krinos — Massachusetts Institute of Technology <i>"Leveraging Large Datasets to Discover Protistan Diversity Across Scales"</i>
2:50 – 3:10pm	Michael Toriyama — Northwestern University <i>"Topological Insulators as Thermoelectrics"</i>
3:10 – 3:30pm	Jason Torchinsky — University of Wisconsin-Madison <i>"Angular Hp-Adaptivity for Radiative Transfer"</i>
3:00 – 4:00pm	DOE Laboratories' Showcase Set Up — L'Enfant Ballroom Foyer/Solarium
3:30 – 4:00pm	Photo Session: 2023 Fellows' Group Portrait — McPherson
4:00 – 6:00pm	DOE Laboratories' Showcase — L'Enfant Ballroom Foyer/Solarium <i>Laboratory representatives will be on site to talk practicum, postdoc and long-term employment opportunities.</i>

Tuesday, July 18

8:00am – 5:00pm	Registration — L'Enfant Ballroom Foyer
8:00 – 8:45am	Photo Session: Fellows & Alumni Portrait Retakes I — McPherson
9:00 – 9:15am	Announcements — L'Enfant Ballroom David L. Brown — Lawrence Berkeley National Laboratory, retired
9:15 – 10:00am	Keynote Tapio Schneider — Professor of Environmental Science and Engineering, California Institute of Technology; Senior Research Scientist, NASA Jet Propulsion Laboratory <i>"Earth System Modeling 2.0: Toward Accurate and Actionable Climate Predictions with Quantified Uncertainties"</i>
10:00 – 10:20am	Break — L'Enfant Ballroom Foyer

Session III — L'Enfant Ballroom
**Moderator: David Etim — Advanced Simulation and Computing,
National Nuclear Security Administration, U.S. Department of Energy**

10:20 – 10:40am	Lauren Zundel — University of New Mexico <i>"Analysis of the Optical Response of Periodic Arrays of Nanostructures"</i>
10:40 – 11:00am	William Moses — Massachusetts Institute of Technology; DOE CSGF Alumnus (<i>Outgoing Fellow Talk</i>) <i>"Enzyme: High-Performance, Cross-Language, and Parallel Automatic Differentiation"</i>
11:00 – 11:20am	Gabriel Casabona — Northwestern University <i>"Numerical Frontier in Binary Compact Object Mergers"</i>
11:20 – 11:40am	Guy Moore — University of California, Berkeley <i>"The Foundation for a Ground-Up & Robust Approach to Computational Magnetic Materials Discovery"</i>
11:45am – 1:00pm	Lunch & Civics Talk — Gallery Ballroom, Second Floor Joel Parriott — Assistant Director for Federal Research & Development, White House Office of Science and Technology Policy; DOE CSGF Alumnus <i>"PDEs to GDPs: Situating the Fellowship Within the Larger R&D Policy Landscape"</i>

Session IV — L'Enfant Ballroom
Moderator: Dr. Si Hammond — Advanced Simulation and Computing,
National Nuclear Security Administration, U.S. Department of Energy

- 1:20 – 1:40pm **Claire Zarakas** — University of Washington
"Land Parameter Uncertainty Impacts the Mean Climate State"
- 1:40 – 2:00pm **Kyle Lennon** — Massachusetts Institute of Technology
"Scientific Machine Learning for Modeling and Simulating Complex Fluids"
- 2:00 – 2:20pm **Boyan Xu** — University of California, Berkeley
"Structure-Aware Annotation of Leucine-Rich Repeat Domains"
- 2:20 – 2:40pm **Break** — L'Enfant Ballroom Foyer

Session V — L'Enfant Ballroom
Moderator: Kevin Elzie — Advanced Simulation and Computing,
National Nuclear Security Administration, U.S. Department of Energy

- 2:40 – 3:00pm **Peter Lalor** — Massachusetts Institute of Technology
"Reconstructing the Atomic Number of Cargo X-Ray Images Using Dual Energy Radiography"
- 3:00 – 3:20pm **Madelyn Cain** — Harvard University
"Quantum Speedup in Combinatorial Optimization With Flat Energy Landscapes"
- 3:20 – 3:40pm **Koby Hayashi** — Georgia Institute of Technology
"Constrained Low-Rank Approximation"
- 3:40 – 4:00pm **Kyle Bushick** — University of Michigan
"Studying Direct and Phonon-Assisted Quantum Processes in Semiconductors"
- 4:00 – 5:00pm **Fellows' Poster Session Set Up** — L'Enfant Ballroom Foyer/Solarium
- 4:15 – 4:45pm **Outgoing Fellows Session (with Portrait Retakes to Follow)** — Mt Vernon
- 5:00 – 6:00pm **Fellows' Poster Session (2020 Cohort)** — L'Enfant Ballroom Foyer/Solarium

Wednesday, July 19

- 8:00am – 5:00pm **Registration** — L'Enfant Ballroom Foyer
- 8:00 – 8:45am **Photo Session: Fellows & Alumni Portrait Retakes II** — McPherson
- 9:00 – 9:15am **Communicate Your Science & Engineering (CYSE) Essay Award Announcement** — L'Enfant Ballroom
Shelly Olsan — President, Krell Institute
- 9:15 – 10:00am **Keynote** — L'Enfant Ballroom
Devin Matthews — Assistant Professor of Chemistry, Southern Methodist University; DOE CSGF Alumnus
"What do Ionic Liquids Have to do With Linear Algebra?"
- 10:00 – 10:20am **Break** — L'Enfant Ballroom Foyer

Session VI — L'Enfant Ballroom
Moderator: Stefan Wild — Applied Mathematics and Computational Research Division,
Lawrence Berkeley National Laboratory

- 10:20 – 10:40am **Jacob Bringewatt** — University of Maryland, College Park; DOE CSGF Alumnus (*Outgoing Fellow Talk*)
"Weighting God's Dice: Exploiting Symmetry in Randomized Measurement Protocols"
- 10:40 – 11:00am **Thomas Blommel** — University of Michigan
"Acceleration of Non-Equilibrium Quantum Dynamics Calculations Using Data Compression"
- 11:00 – 11:20am **Lindsey Byrne** — Northwestern University
"The Co-Evolution of Supermassive Black Holes and Their Host Galaxies"
- 11:20 – 11:40am **Christopher Balzer** — California Institute of Technology
"Unraveling Electrostatic Interactions in Dipolar Solvents"
- 11:45am – 1:00pm **Lunch** — Gallery Ballroom, Second Floor

Session VII — L'Enfant Ballroom
**Moderator: Jaydeep Bardhan — Environmental Molecular Sciences Laboratory,
Pacific Northwest National Laboratory**

1:20 – 1:40pm	Louis Jenkins — University of Rochester <i>"Dynamic Resource Scheduling of Jupyter Notebooks at Cell-Granularity"</i>
1:40 – 2:00pm	Scott Emmons — University of California, Berkeley <i>"RvS: What is Essential for Offline RL Via Supervised Learning?"</i>
2:00 – 2:20pm	Nicholas Ezzell — University of Southern California <i>"A Variational Approach to Quantum Tomography"</i>
2:20 – 2:40pm	Christopher Kane — University of Arizona <i>"Lattice QCD Approach to Radiative Leptonic Decays"</i>
2:40 – 4:00pm	Fellows' Poster Session Set Up — L'Enfant Ballroom Foyer/Solarium
4:00 – 5:00pm	Fellows' Poster Session (2021 Cohort) — L'Enfant Ballroom Foyer/Solarium
5:00 – 6:00pm	Fellows' Poster Session (2022 Cohort) — L'Enfant Ballroom Foyer/Solarium

Thursday, July 20

8:00am – 12:00pm	Registration — L'Enfant Ballroom Foyer
8:30 – 10:00am	Professional Development Workshop — L'Enfant Ballroom Dr. Shanita Brown — Licensed Trauma Therapist and Speaker, Transformative Counseling & Consulting, PLLC; Teaching Professor, East Carolina State University <i>"Mental Health & Wellness for STEM Graduate Students"</i>
10:00 - 10:30am	Break & Hotel Check Out — L'Enfant Ballroom Foyer
10:30am - 12:00pm	Early Career Alumni Mental Health & Wellness Panel — L'Enfant Ballroom <i>Moderated by Dr. Shanita Brown, alumni panelists will explore workshop topics in the context of their own unique challenges and experiences as graduate students and beyond.</i> <ul style="list-style-type: none">• Jennifer Coulter — Harvard University (2017 Cohort)• Ryder Fox — Thrive Lifeline (2018 Cohort)• Claire Koppenhafer — Michigan State University (2017 Cohort)• Sukin (Dylan) Sim — PsiQuantum (2016 Cohort)
12:00 – 1:00pm	Lunch — L'Enfant Ballroom Foyer <i>Boxed meals for sit-down dining in the adjacent Solarium, or to grab and go for those with departing flights.</i>
1:00 – 4:00pm	CSGF+1 — L'Enfant Ballroom <i>Optional programming curated/facilitated by and for DOE CSGF fellows and alumni.</i>

