



American Physical Society Global Physics Summit 2025
Topical Group on Energy Research and Applications (GERA) Energy Workshop
Sunday, March 16, 2025
Anaheim Convention Center, Room 262A (Level 2)
All Times Pacific Standard

8:30 - 8:40 a.m. Welcome Remarks from GERA Leadership, *David Fenning, GERA Chair*

Session 1: Chair: Ramakrishna Podila, GERA Vice-Chair Elect

8:40 - 9:20 a.m. *Advanced fission and fusion reactor nuclear technologies*
George Tynan, University of California San Diego (UCSD)

9:20 - 10:00 a.m. *Sunlight to X: Converting solar energy into chemicals, fuels and products*
Bill Tumas, National Renewable Energy Laboratory (NREL)

10:00 - 10:45 a.m. Coffee break and Poster Group 1

Session 2: Chair: Sonam Berwal, GERA Secretary/Treasurer

10:45 - 11:25 a.m. *Grand Challenges in the Physics of Wind Energy*
Julie Lundquist, Johns Hopkins University

11:25 a.m. - 12:40 p.m. Lunch and Poster Group 2

Session 3: Chair: David Fenning, GERA Chair

12:40 - 1:20 p.m. *Probing Mechanisms in Energy Storage and Conversion Materials via Synchrotron X-ray Imaging and Multimodal Characterizations*
Karen Chen-Wiegart, Stony Brook University

1:20 - 2 p.m. *Accelerating Scientific Discovery in Catalysis with Interpretable Deep Learning*
Hongliang Xin, Virginia Polytechnic Institute and State University

2 - 2:15 p.m. Break

2:15 - 2:55 p.m. *Batteries for Long Duration Electrical Storage: Options and Obstacles*
Carlo U. Segre, Illinois Institute of Technology (IIT)

2:55 - 4:15 p.m. Reception and Poster Group 3

4:15 - 4:30 p.m. Poster Award Ceremony: Billy Stanbery, GERA Vice-Chair

The 2025 GERA Energy Workshop is sponsored by the Topical Group for Energy Research and Applications (GERA) of the American Physical Society, the US Department of Energy, PRX Energy, and the AIP Journal of Applied Physics.