



2024 Agenda

Environmental System Science Principal Investigator Meeting

April 16–17, 2024 • Hybrid Meeting

TUESDAY, APRIL 16

- *Overview of Programs and Updates*
- *Plenary Session I: Broadening the Reach with New Interfaces*
- *Breakout Session I*
- *Lunchtime Breakouts*
- *Poster Sessions I and II*
- *Roundtable*

WEDNESDAY, APRIL 17

- *Poster Sessions III and IV*
- *Lunchtime Breakouts*
- *Plenary Session II*
- *Breakout Session II*
- *Closing Remarks*

NOTE: All Times Eastern Daylight Time



U.S. DEPARTMENT OF
ENERGY

Office of
Science

Biological and Environmental Research Program

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TUESDAY, APRIL 16

Overview of Program and Updates

Grand Ballroom

Chair: Beth Drewniak

- 8:30 a.m. Welcome and Introduction**
Speaker: Beth Drewniak (Lab Detailee, Earth and Environmental Systems Sciences Division)
- 8:40 a.m. State of BER**
Speaker: Dorothy Koch (Associate Director, U.S. Department of Energy Biological and Environmental Research Program)
- 8:50 a.m. ESS Program Update**
Speaker: Brian Bencoter (Program Manager, Earth and Environmental Systems Sciences Division)

Plenary Session I — Broadening the Reach with New Interfaces

Grand Ballroom

Chair: Brian Bencoter

- 9:00–9:30 a.m. Temporal and Spatial Variation in the Drivers of Ecosystem Processes in Mountains Around the World**
Speaker: Aimée Classen (University of Michigan)
- 9:30–10:00 a.m. Carbon Biogeochemistry Along the Terrestrial-Aquatic Continuum**
Speaker: Natalie Griffiths (Oak Ridge National Laboratory)
- 10:00–10:15 a.m. E3SM Phase 3 (and Beyond) Capabilities, Priorities, and Goals for Earth System Sciences**
Speaker: Ben Bond-Lamberty (Pacific Northwest National Laboratory)
- 10:15–10:30 a.m. Solving Impossible Problems: Working Across and Between Science Agencies**
Speaker: Chip Miller (NASA Jet Propulsion Laboratory)
- 10:30–10:45 a.m. VIRTUAL: AI/ML for Accelerating Data Integration Across Interfaces**
Speaker: Haruko Wainwright (Massachusetts Institute of Technology)
- 10:45–11:15 a.m. Break**

Breakout Session I

11:15 a.m.–12:45 p.m.

Session A: Measuring and Modeling Resilience of Coastal and Terrestrial Aquatic Interfaces

Room: Grand Ballroom

Organizers: Jorge Villa (University of Louisiana–Lafayette),
Jianqiu Zheng (Pacific Northwest National Laboratory)



DETAILED AGENDA

Session B: Participatory Science Without the Parachute: Enhancing Mutual Benefit Within and Beyond ESS via Shared Learning Across Participatory Networks

Room: Regency Ballroom A

Organizers: Avni Malhotra (Pacific Northwest National Laboratory),
Colleen Iversen (Oak Ridge National Laboratory)



DETAILED AGENDA

Session C: Recent Highlights in Hydrobiogeochemistry

Room: Regency Ballroom B

Organizers: Inke Forbrich and Kennedy Doro (University of Toledo)



DETAILED AGENDA

Session D: Integrated Chemical and Physical Imaging of Biogeochemical Processes and Interfaces: Molecular to Regional Scale

Room: Lake Anne

Organizers: Tamas Varga (Environmental Molecular Sciences Laboratory), Chris Anderton (Pacific Northwest National Laboratory), Ken Kemner (Argonne National Laboratory)



DETAILED AGENDA

Session E: Strategic Data Management to Advance Environmental Systems Science

Room: Lake Thoreau

Organizers: Joan Damerow and Christin Buechner (Lawrence Berkeley National Laboratory)



DETAILED AGENDA

12:45–2:15 p.m. Lunch

Lunchtime Breakouts

1:15–2:15 p.m. (Choose between two sessions)

Session 1: Community Updates I

Room: Regency Ballroom A

Chair: Amy Swain (Program Manager, Biological Systems Science Division)

- a. AI's Impact on Understanding the Methane Cycle: Workshop Highlights
Speaker: Pamela Weisenhorn (Argonne National Laboratory)
- b. Outcomes of the Critical Knowledge Gaps for Coastal Systems Workshop
Speaker: Elizabeth Herndon (Oak Ridge National Laboratory)
- c. New Advances in Environmental Research at EMSL
Speaker: Emily Graham (Pacific Northwest National Laboratory)
- d. USGCRP/National Nature Assessment
Speakers: Mike Kuperberg and Allison Crimmins (U.S Global Change Research Program)
- e. eBERLight
Speaker: Ken Kemner (Argonne National Laboratory)

Session 2: Early Career Advice

Room: Regency Ballroom B

Chair: Dan Stover (Program Manager, Earth and Environmental Systems Sciences Division)

Poster Sessions I and II

Grand Ballroom D–F

- 2:15–3:45 p.m. Poster Session I**
- 3:45–4:00 p.m. Break**
- 4:00–5:30 p.m. Poster Session II**

Roundtable

Grand Ballroom

- 5:30–6:30 p.m. Inclusive and Equitable Research: Best Practices and Lessons Learned**
Chair: Julie Carruthers (Director, U.S. Department of Energy Office of Science — Office of Workforce Diversity, Equity, and Inclusion)
Participants: Vanessa Bailey (Pacific Northwest National Laboratory), Bob Bolton (Oak Ridge National Laboratory), Cristina Negri (Argonne National Laboratory), Charu Varadharajan (Lawrence Berkeley National Laboratory), Amrita Bhattacharyya (University of San Francisco)
- 6:30 p.m. Adjourn**

WEDNESDAY, APRIL 17

Poster Sessions III and IV

Grand Ballroom D-F

8:30–10:00 a.m. Poster Session III

10:00–10:30 a.m. Break

10:30–12:00 p.m. Poster Session IV

12:00–1:30 p.m. Lunch

Lunchtime Breakouts

12:30–1:30 p.m. (Choose between two sessions)

Session 1: Community Updates II

Room: Regency Ballroom A

Chair: Paul Bayer (Program Manager, Earth and Environmental Systems Sciences Division)

- a. An Overview of the NVCL Portal's Enhanced Capabilities
Speaker: Cristina Negri (Argonne National Laboratory)
- b. Cyberinfrastructure Working Groups Annual Meeting: Updates and Future Plans
Speaker: David Moulton (Los Alamos National Laboratory)
- c. Atmospheric Radiation Measurement (ARM) User Facility Operations Update and Field Campaign Process
Speaker: Nicki Hickmon (Argonne National Laboratory)
- d. Southeast Land Atmosphere Research Opportunities to Enhance the AMF3 Deployment
Speaker: Chris Oishi (U.S. Forest Service)
- e. New AmeriFlux Resources for the ESS Community
Speaker: Margaret Torn (Lawrence Berkeley National Laboratory)

Session 2: ESS-DIVE Tutorial for PIs and Data Managers

Room: Regency Ballroom B

Organizers: Madison Burrus and Joan Damerow (Lawrence Berkeley National Laboratory)

Speaker: Madison Burrus (Lawrence Berkeley National Laboratory)

Session Information: The ESS-DIVE data repository has expanded features and resources to support Environmental System Science, such as project data management and sharing, reporting publication progress, large data support, and enhanced search. This session is designed for ESS PIs and data managers to learn about the growing suite of features and resources that the ESS-DIVE data repository provides for data management, publication, and use.

Plenary Session II

Grand Ballroom

- 1:30–2:15 p.m. Synthesis Science Panel**
Chair: Dan Stover (Program Manager, Earth and Environmental Systems Sciences Division)
Panel: Avni Malhotra (Pacific Northwest National Laboratory), Kirsten Coe (Middlebury College), Debjani Sihi (Emory University), Eric Slessarev (Yale University)
- 2:15–3:00 p.m. Mentor Up Panel**
Chair: Dan Stover (Program Manager, Earth and Environmental Systems Sciences Division)
- 2:15–2:35 p.m. Speakers:** Erika Marin-Spiotta (University of Wisconsin–Madison), Katie Schroeder-Spain (Program Manager, Honorary Career Awards)
- 2:35–3:00 p.m. Panel:** Karis McFarlane (Lawrence Livermore National Laboratory), Genevieve Noyce (Smithsonian Environmental Research Center), Matthew Cohen (University of Florida)
- 3:00–3:30 p.m. Break**

Breakout Session II

3:30 p.m.–5:00 p.m.

Session A: Ecosystem Consequences of Changing Winters in the Anthropocene

Room: Grand Ballroom

Organizers: Stephanie Kivlin (University of Tennessee–Knoxville), Aimée Classen (University of Michigan)



DETAILED AGENDA

Session B: MONet: Molecular Data at Scale for Improved Conceptual and Process-Based Representations

Room: Regency Ballroom A

Organizers: John Bargar and Emily Graham (Pacific Northwest National Laboratory), Satish Karra (Environmental Molecular Sciences Laboratory)



DETAILED AGENDA

Session C: Enhancing the Synergy Between Remote Sensing and Flux Communities for Societal Benefits

Room: Regency Ballroom B

Organizers: Nicola Falco, Housen Chu, and Koong Yi (Lawrence Berkeley National Laboratory), Inke Forbrich (University of Toledo)



Session D: Advanced AI for ESS Science

Room: Lake Anne

Organizers: Pamela Weisenhorn and Nicki Hickmon (Argonne National Laboratory)

Session E: Disturbance Impacts in the Southeast

Room: Lake Thoreau

Organizers: Tom O'Halloran (Clemson University), Corianne Tatariw (Rowan University)



Closing Remarks

Grand Ballroom

Chair: Gil Bohrer (IPA Program Manager, Earth and Environmental Systems Sciences Division)

- 5:00 p.m. Potential Intersections with BSSD**
Speaker: Todd Anderson (Director, Biological Systems Science Division)

- 5:10 p.m. Modeling Community—Models and Scaling**
Speaker: Ben Sulman (Oak Ridge National Laboratory)

- 5:20 p.m. Open Discussion**

- 5:30 p.m. Adjourn**