

ALS Earth and Environmental Sciences Visioning Workshop Agenda

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Day 1 – Wednesday, September 13: Science

8:30–10:00	Visioning Workshop Opening Plenary (Virtual option: Zoom link)	Building 50 Auditorium
	- Transforming the ALS: Creating a paradigm shift for science at the ALS – Dimitri Argyriou, ALS Director (link to first three talk slides) - Visioning process overview and workshop charge – Ashley White, ALS Interim Deputy for Strategy - ALS context and future directions – Andreas Scholl, ALS Science Deputy - Future vision lightning talks - A Chemical Observatory at Charter Hill – Ashley White - Prospects for artificial intelligence and machine learning – Alex Hexemer, ALS Computing Program Lead - The lab of the future – Eli Rotenberg, ALS ARPES Program Lead - Q&A	
10:00–10:30	<i>Break. Move to Building 15, Room 253 (15-253)</i>	
10:30–12:00	Keynote Talks on Visionary Science Directions (Virtual option: Zoom link)	15-253
10:30–10:50	Challenges in reliable quantification of carbon mineralization – Chinmayee Subban, PNNL	
10:50–11:10	Challenges in understanding multiphase atmospheric chemistry – Kevin Wilson, LBNL	
11:10–11:30	Spatial and Temporal Dynamics of Rhizosphere Cross-kingdom Interactions - Jennifer Pett-Ridge, LLNL	
11:30–11:50	How solar-system scale physics and chemistry can help save planet Earth - Abby Kavner, UCLA	
12:00–1:30	<i>Lunch</i>	91-310
1:30–3:00	Lightning Talks on Scientific Challenges that Benefit from Synchrotron Facilities (Virtual option: Zoom link)	15-253
1:30–1:40	Challenges for Environmental Synchrotron Science - Sharon Bone, SLAC	
1:40–1:50	STXM application to address current and future challenges in the aerosol sciences – Daniel Knopf, Stony Brook	

1:50–2:00	Advancing Fundamental Insights into Fluid-Surface Interactions and Chemo-Morphological Transformations for Energy Transitions and Climate Change Mitigation - Greeshma Gadikota, Cornell
2:00 - 2:10	The Importance of Correlative Analyses for Planetary Sample Return Missions - Kimberly Tait, Toronto
2:10 - 2:20	Trace metal stoichiometry of marine phytoplankton by SXRF - Laura Sofen, Bigelow Lab
2:20 - 2:30	In situ studies of rock deformation (ISRD) – Wen-lu Zhu, UMD
2:30 - 2:40	The role the volatiles in thermochemical heterogeneity in planetary interiors - Jennifer Jackson, Caltech
2:40 - 2:50	Shining light on new prospects for water reuse and resource recover – Matthew Landsman, LBNL
2:50 - 3:00	Exploring biomineral structure and composition with X-PEEM and XANES – Rebecca Metzler, Colgate
3:00–3:30	<i>Break</i>
3:30–3:45	Prepare for Breakout Sessions 15-253
3:45–5:00	Breakout Session 1: Key scientific challenges in environmental sciences (15-253) Chair: Hope Michelsen, CU Boulder Scribe: Tamas Varga, PNNL Breakout Session 2: Key scientific challenges in earth and planetary sciences (15-236) Chair: Harry Lisabeth, LBNL Scribe: Martin Kunz, ALS/LBNL
5:00–5:30	Summary / Think ahead to Day 2 15-253 (Virtual option: Zoom link)

Day 2 – Thursday, September 14: Enabling Capabilities / Collaborations

*8:30–9:00	Day 1 Report-Outs (broadcast to all rooms over Zoom) 15-253 Focus on themes that may be applicable across all workshops
9:00–10:00	Keynote Talks on Technical Aspects and Collaborations 15-253 (Zoom ID: 941 5815 7327 https://lbnl.zoom.us/j/94158157327)
9:00–9:20	SEES: A new NSF-funded organization to support Earth and environmental science at synchrotron facilities - Andrew Campbell, UChicago/SEES
9:20–9:40	Improving our understanding of biogeochemical cycles over space and time using chemical and multi-modal imaging – Jocelyn Richardson, Stanford
9:40–10:00	Synchrotron experiments across energy scales – Oliver Tschauner, UNLV
10:00–10:30	<i>Break</i>
10:30–10:45	Prepare for Breakout Sessions 15-253

10:45–12:00	Breakout Session 1: Delineate key enabling synchrotron capabilities needed (15-253) Chairs: Harold Barnard and David Shapiro, ALS/LBNL Scribe: Tamas Varga, PNNL	Breakout Session 2: Partnerships and funding models (15-236) Chair: Hoi-Ying Holman, LBNL Scribe: Martin Kunz, ALS/LBNL
<i>12:00–1:30</i>	<i>Lunch</i>	<i>91–310</i>
1:30–2:30	Poster Session	15-253
<i>2:30</i>	<i>Group photo 📷</i>	
<i>2:30–3:00</i>	<i>Break</i>	
3:00–4:00	Panel Discussion Zoom ID: 941 5815 7327 https://lbnl.zoom.us/j/94158157327 Moderator: Dula Parkinson, ALS/LBNL	15-253
4:00–5:00	Group Discussion and Synthesis Zoom ID: 941 5815 7327 https://lbnl.zoom.us/j/94158157327	15-253
5:00–5:30	Wrap Up and Close Out Zoom ID: 941 5815 7327 https://lbnl.zoom.us/j/94158157327	15-253

Day 3 – Friday, September 15: Synthesis and Report-Out (organizers only)

8:30–10:45	Synthesis and Report-Out Prep Prepare 10-minute report-out. Start workshop report.	15-253
<i>10:45–11:00</i>	<i>Transit to Building 50 Auditorium</i>	
11:00–12:00	Workshop Report-Outs (Virtual option: Zoom link)	Building 50 Auditorium
11:00–11:15	Condensed Matter & Quantum Materials	
11:15–11:30	Biosciences	
11:30–11:45	Earth & Environmental Sciences	
11:45–12:00	Energy Sciences	
<i>12:00–1:00</i>	<i>Lunch and Discussion</i>	<i>Building 50 Auditorium</i>
1:00	Workshops Conclude	