Telluride Workshop 2025

Halide Perovskites: From Fundamentals to Devices

June 2 - 6, 2025

Telluride, Colorado, USA

Telluride Science (formerly known as the Telluride Science Research Center or TRSC) was founded in 1984 as an interdisciplinary think tank for science and engineering challenges. Telluride Science is about expanding the frontiers of science, exploring new ideas, and building collaborations. Read more about Telluride Science's history here. The workshop schedule will allow for substantial unstructured time for participants to talk and think. All participants are expected to stay for the entire duration of the workshop. Scientists are encouraged to consider bringing family or friends. Telluride offers several options for children's camps (including Telluride Academy, Aha School for the Arts, and Pinhead Institute). There is more information on childcare, camps, and family activities on Telluride Science's website. Feel free to contact Telluride Science's staff to help with any planning and/or coordinating care.

Organizing Committee

Seokhyoung Kim, Michigan State University, sk@msu.edu,

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Rebecca Lindsey, University of Michigan, rklinds@umich.edu

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Lina Quan, VirginiaTech, linaquan@vt.edu

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Meeting Venue

Telluride Innovation Center, 300 S Townsend St, Telluride, CO, 81435

Local Telluride Science contacts

Mark Kozak, email: mark@telluridescience.org, cell: 970-708-4426

Sara Friedberg, email: sara@telluridescience.org, cell: 970-708-0622

Cindy Fusting, email: cindy@telluridescience.org, cell: 970-708-5069

Food / Activities

Grab-and-go breakfast will be available daily at the workshop location.
Dinners are NOT included in registration. Lunch included where noted.

Group hike

Group hike is on Wed (Details to be followed) – this is an excellent opportunity to unwind and get to know each other in a more relaxed setting. Bring comfortable shoes and plenty of water. Altitude at Telluride is ~ 8750 ft so make sure to stay hydrated.

Scientific Program

The scientific program starts on **Monday, June 2nd** and ends on **Friday, June 6th**. Each talk is scheduled for 40 minutes, 30 min for presentations and 10 min for Q&A. Interruptions and questions during talks are encouraged!

Schedule

Meet & Greet / badge pickup: **Sunday, June 01, 5:00-6:30 pm** at The Alibi (121 S. Fir Street).

Day 1 – Monday June 2nd		
7:30a	Breakfast (grab and go)	
8:45a	Welcome remarks	
9:00a	Yitong Dong	Towards Stable Perovskite Quantum Light Sources
9:40a	Xiaotong Li	Mix-and-match of Spacer Cations in 2D Halide Perovskites
10:20a	Coffee Break	
10:30a	Yixuan Dou	Control of Structural Polarization in 2D Hybrid Perovskites
11:10a	Panel Discussion	
11:30a	Group Lunch provided at the Center	
1:30p	Conner Bischak	Controlling Solid-Solid and Solid-Liquid Phase Transitions in Metal Halide Perovskites and Perovskitoids
2:10p	Coffee Break	
2:30p	Seokhyoung Kim	Chemical Vapor Growth of Doped Low-Dimensional Perovskites for Novel Quantum Emission
3:10p	James Cahoon	Metal Organic Chemical Vapor Deposition and Vapor-Phase Synthesis of Hybrid Perovskites
3:50p	Panel Discussion	

Day 2 – Tuesday, June 3rd		
7:30a	Breakfast (grab and go)	
9:00a	John Colton	Exciton Properties and Disorder in 2d and 1.5d Metal Halide Perovskites
9:40a	Masaru Kuno	Progress in condensed phase optical refrigeration
10:20a	Coffee Break	
10:30a	Peijun Guo	Tracking light-induced dynamics in 2D perovskites and double perovskites
11:10a	Panel Discussion	
11:30a	Lunch (on your own)	

2:00p	Group outing	

Day 3 – Wednesday, June 4th		
7:30a	Breakfast (grab and go)	
9:00a	Maitreyee Sharma Priyadarshini	Physics-inspired Machine Learning Methods for Design of Metal Halide Perovskites
9:40a	Paulette Clancy	The “swing dance” of speciation in metal halide perovskite solutions
10:20a	Coffee Break	
10:30a	Rebecca Lindsey	Machine-learning accelerated simulations of halide Perovskites
11:10a	Panel Discussion	
11:30a	Lunch (on your own)	
1:30p	Free time	
5:30p	Picnic	

Day 4 – Thursday, June 5th		
7:30a	Breakfast (grab and go)	
9:00a	Sabrina Wan	Resolving atomic-scale structural features of organo-lead halide perovskite using an integrated first-principles simulation and X-ray absorption spectroscopic approach
9:40a	Kyle McCall	Discovery and Local Structure of the Heteroanionic 2D Ruddlesden-Popper Perovskite Cs2CdI2Cl2
10:20a	Coffee Break	
10:30a	Mike Toney	Understanding static and dynamic local structure in Hybrid Metal Halide Perovskites
11:10a	Panel Discussion	
11:30a	Lunch (on your own)	
1:30p	Xiwen Gong	TBD

2:10p	Coffee Break	
2:30p	Hanjun Yang	Engineering the generation and transport of coherent phonon in two-dimensional lead organic chalcogenides
3:10p	Joe Berry	Materials Driven Manufacturing Challenges for Metal Halide Semiconductors and Technologies
3:50p	Panel Discussion	
4:10p	Closing remarks	
5:00p	**Group Dinner**	

List of participants

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Code of Conduct

- Treat your fellow participants and Telluride Science staff with consideration and professionalism, respecting diversity of views and opinions.
- Communicate openly with civility for others, critiquing ideas rather than individuals.
- Be mindful of your surroundings and fellow participants. Anyone requested to stop unacceptable behavior is expected to comply immediately. Telluride Science staff may take any action deemed necessary and appropriate, including immediate removal from the meeting without warning or refund.
- Be kind and considerate of people in the Telluride community. You represent Telluride Science when you are in town.

Unacceptable Behavior

Harassment, intimidation, exclusion, or discrimination. Physical or verbal abuse.

Reporting Unacceptable Behavior

If you are the target of unacceptable behavior or have witnessed any such behavior, please immediately notify a Telluride Science or the workshop organizer. Alert Telluride Science staff, and 911 if appropriate, if you notice a dangerous situation or someone in distress. Report concerns to report@telluridescience.org. All reports will be treated confidentially and with discretion.

Statement of Culture

Telluride Science is committed to creating a respectful, equitable, and welcoming environment free from discrimination, exclusion, and harassment for all participants. Telluride Science is known for its collegial workshops that spawn new ideas and collaborations. We encourage the open expression and exchange of ideas, and we are dedicated to strengthening our culture of diverse and inclusive workshops, conferences, and schools.

Most importantly: Have fun! Be inspired! Make new friends!