

Telluride Workshop 2022

“Electronic and Structural Dynamics in Hybrid Perovskites: Theory Meets Experiment”

Telluride Intermediate School located at 725 W. Colorado Ave, Telluride, CO 81435 July 12th to 16th

TSRC Host: Mark Kozak mark@telluridescience.org 970.708.4426
Grab and go breakfast will be available daily at the workshop location.
Lunches are NOT included in registration

This year the meeting is a hybrid in-person and virtual meeting (over zoom).

Virtual participants can connect to the Zoom meeting and share their screen.

Join Zoom Meeting

<https://us06web.zoom.us/j/81085965676?pwd=SE9TOER2ZkU4WTk2cFBTL0NENG9XUT09>

Meeting ID: 810 8596 5676

Passcode: 946834

One tap mobile

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In-person participants have three different options for displaying presentations. PDF's are preferred to ensure compatibility with the local computer.

1. You can email your presentation to ...@telluridescience.org and open it on the room's desktop computer
2. You can put your presentation on a flash drive and load it on the room's desktop
3. Log into the Zoom meeting with your laptop and share your screen
(CRITICAL STEP: you must be muted and have your volume off).

The scientific program starts at 9:00 AM on Tuesday, July 12th and ends at noon on Saturday, July 16th. Thursday morning, July 14th, will be reserved for a group hike. Saturday morning, July 16th, will be reserved for group discussions and the conference will end mid-day.

Each talk is scheduled for 35 minutes +10 minutes for discussion. Interruptions and questions during talks are encouraged. We have 22 presentations: 6 on Tuesday, 7 on Wednesday, 3 on Thursday, and 6 on Friday. **ALL TIMES ARE MOUNTAIN TIME, UTC-6:00**

Tuesday, July 12th		
	Breakfast (Grab and Go)	
9:00	Amanda Neukirch	Introduction
9:15	Alex Ramadan	Understanding the 2D/3D heterostructure interface in highly efficient green PeLEDs (virtual)
10:00	Thi Phuc Tan Nyguyen	Perovskite (nanocrystals quantum dots: theoretical exploration profoundly inspired by synthesis and spectroscopy (virtual)
10:45	Coffee Break	
11:00	David Cahen	Defects and halide perovskites tautology, oxymoron, or a happy marriage? (in person)
11:45	Lunch (on your own)	
1:30	Connor Bischak	Mapping and controlling structural phase transitions in 2D perovskites (in person)
2:15	Amanda Neukirch	Harnessing the Sun and Beyond: The power of theory combined with experiment in materials design for optoelectronic applications (in person)
3:00	Coffee Break	
3:15	Qing Tu	Mechanics of 2D Metal Halide Perovskites (in person)
Wednesday, July 13th		
	Breakfast (Grab and Go)	
9:00	Robert Hoyer	Self-trapping in bismuth-based semiconductors, and implications on photovoltaic and radiation detector devices (virtual)
9:45	Juan Martinez-Pastor	Enhancement of radiative efficiency and stability of FASnI ₃ perovskite for photon sources
10:30	Coffee Break	
10:45	Leeor Kronik	Defects, defect tolerance, and self-healing in lead halide perovskites: a first principles perspective (in person)
11:30	Lunch (on your own)	
1:30	Wanyi Nie	Halide Perovskite thin film X-ray detectors (in-person)
2:15	Xiaoming Zhou	Accelerate Aging of all-inorganic, interface-stabilized perovskite solar cells (in person)
3:00	Coffee Break	
3:15	Simon Boehme	Electronic and structural dynamics in single CsPbBr ₃ perovskite nanocrystals: towards ultra-narrow emission at room temperature (in person)
4:00	Tae-Woo Lee	TBD (virtual)
5:30	Telluride Science Group Picnic - at The Depot, 300 S Townsend St. (Family & Friends welcome)	
Thursday, July 14th		
	Breakfast (Grab and Go)	
9:00	Group Hike	
9:45		
10:30		
10:45		
11:30	Lunch (on your own)	
1:30	Hao Li	Spectral Signatures of Stochastic Exciton Scattering Theory in 2D Perovskites
2:15	David Limner	Exciton Polarons from quiparticle path integral molecular dynamics
3:00	Coffee Break	
3:15	Eric Bitner	Stochastic theory of non-stationary lineshapes: direct vs exchange interactions between bright and dark excitons in 2D layered perovskites (in person)
Friday, July 15th		
	Breakfast (Grab and Go)	
9:00	Dibyajyoti Ghosh	Charge carrier dynamics in hybrid perovskites: impact of organic/inorganic cations (virtual)
9:45	Gabriele Raino	Superfluorescence from binary perovskite superlattices (virtual)
10:30	Coffee Break	
10:45	Omar Yaffe	Inelastic light scattering from disordered crystals (in person)
11:30	Lunch (on your own)	
1:30	Sergei Tretiak	Electronic properties and dynamics in non-stoichiometric quantum dots: quantum emitters
2:15	Joshua Stein	TBD (in person)
3:00	Coffee Break	
3:15	Andrew Rappe	The wild west: corralling molecular ligands and lassoing defects to enhance hybrid perovskites (in person)
Saturday, July 16th		
	Breakfast (Grab and Go)	
9:00	Collaborative Discussions	
10:00		
11:00		
12:00		