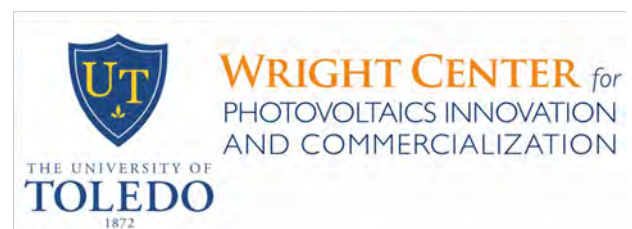




CdTe Workshop Agenda
National Renewable Energy Laboratory
15013 Denver West Parkway, Golden, CO 80401

Sponsorship From:



Wednesday October 25

2:00 PM Opening: NREL Welcome, Kirstin Alberi (RSF San Juan X344)

2:05-4:34 PM **Industry Updates** (Session Chair: Michael Heben)

2:05 PM Michael Heben, US-MAC & CTAC

2:10 PM Bill Huber, First Solar

2:22 PM Shannon Jurca, NSG

2:34 PM Jean-Nicolas Beaudry, 5N Plus

2:46 PM Jim McCamy, Vitro

2:58 PM Alexander Dmitriev, Toledo Solar

3:10 PM Anna Kindvall, CTF

3:22 PM Benjamin Montag, RDT

3:34 PM Jim Crimmins, CFV

3:46 PM Cory Perkins, nexTC

3:58 PM Amit Munshi, JPHB

4:10 PM Greg Horner, Tau Science

4:22 PM Kurt Barth, Direct Solar

4:34 PM Scott Cooper, Celsian

4:46 PM **End of session**

4:46- 6:30 PM **Poster Session / Mixer** (refreshments/snacks)

Poster Presenters

Jing Shang, The Effect of Dopant Concentration and Annealing Treatments on N-type Iodine Doped CdTe

Anthony Nicholson, First-Principles Study of Pristine CdTe/TeO₂ Heterointerfaces

Daniel Clark, Advanced Manufacturing with repeatable scaleable glass, ceramic, and composites enables Next Generation Micro 3D Solar Cells and 3D Glass Interposers.

Prashun Gorai, A Search for New Back Contacts for CdTe Solar Cells

Ed Sartor, Hierarchical Back Contacts for Bifacial CdTe PV.

Bin Du, Pyrolyzer assisted Sb doped CdTe deposition

Sushmakanth Myneni and Daniel Shaw, Potential Role of Selenium Vacancies in CdSeTe-based Solar cells

Scott Lambright, Organic Hole Transport Materials Screening in CdSexTe1-x Photovoltaic Devices: PVK and P3HT

Nadeesha Shavinda Prabhashwara Katakumbura, Temperature dependency of CST device performances

Chris Ferekides, n-type CdTe films and Junctions

Zulkifl Hussain, Arsenic doping of CdTe using Novel technique

Prabodika Nalini Kaluarachchi, Back contacts for CdTe devices.

Camden Kasik and Priya Suryavanshi, Structural and Optical Properties of Tellurium Oxide as a Back Contact for CdTe Solar Cells

Ishwor Khatri and Katherine Zaunbrecher, Diode Characteristics in State-of-the-Art CdTe-based Solar Cells: What has changed?

Andrea Mathew, Arsenic Activation in Single Crystal and Polycrystalline CdTe

Jared Friedl, Deep Level Transient Spectroscopy of Cu-Doped CdSe(x)Te(1-x) Films

Aesha Patel, Back contacts for Bifacial CdTe PV

Gregory Manoukian, Carrier Dynamics in Antimony doped Cd(Se,Te)

Nathan Rosenblatt, Performance impact of compensating dopants and optoelectronic tails

Taylor Hill, Identification and Implication of Defects in CdSe absorbers

Faiz Ahmad, A coupled optoelectronic scheme along with differential evolution algorithm to optimize the performance of CdTe thin-film solar cells.

6:30 PM **Adjourn**

Thursday October 26

8:30 AM Coffee, Tea, and light refreshments (RSF San Juan X344)

Technical Sessions

Tech Session 1 (Session Chair: Gang Xiong)

	Speaker	Organization	Title
8:45 AM	Yong-Hang Zhang	Arizona State University	Ultra thin CdTe solar cells
8:57 AM	Eric Colegrove	NREL	New insights into As incorporation and activation using MBE-based model systems
9:09 AM	Alex Goldstone	Sivananthan Labs	Methods for achieving high carrier densities in As doped MBE-grown CdTe
9:21 AM	W. S. Sampath	Colorado State University	Arsenic Doping of CdTe and CdSeTe
9:33 AM	John Michael Walls	Loughborough University	21.44% efficient CdSeTe/CdTe solar cells using highly resistive intrinsic ZnO buffer layers
9:45 AM	Dingyuan Lu	First Solar	Progress and future directions of CdTe devices
9:57 AM	Bill Shafarman	University of Delaware	Antimony-doping approaches for Vapor Transport CdSeTe
10:09 AM	Yanfa Yan	University of Toledo	Group V doping of CdTe
10:21 AM	Alessandro Romeo	University of Verona	Cd_{1-x}Se_xTe_{1-x}/CdTe junction formation by CdSe/CdTe bilayer and the Se role

10:33 AM – 10:48 AM Break

Tech Session 2 (Session Chair: Jim Sites)

10:48 AM	Darius Kuciauskas	NREL	Voltage losses due to band tails: quantification, models, and mechanisms
11:00 AM	Aaron Arehart	The Ohio State University	Defects and doping in Sb-doped CdTe
11:12 AM	Dmitry Krasikov	First Solar	Detailed physical modeling for prompt actionable feedback to process development
11:24 AM	Marco Nardone	Bowling Green State University	Voc loss analysis: combining simulation with characterization
11:36 AM	Chuck Hages	University of Florida	The role of carrier trapping in CdTe and CdSeTe from TRPL/ThZ spectroscopy
11:48 AM	Anderson Janotti	University of Delaware	Theory of formability and diffusivity of point defects and impurities in Cd(Se,Te)

12:00 PM – 1:15PM Lunch

Tech Session 3 (Session Chair: Bill Shafarman)

1:15 PM	Mariana Bertoni	Arizona State University	Dopant Activation: Learnings from X-ray Absorption of Cu- and As- doped CdSeTe
1:27 PM	Amit Munshi	Colorado State University	Investigating the Role of Grain Boundaries and Interfaces in px-CdTe Photovoltaics.
1:39 PM	Robert Klie	University of Illinois, Chicago	Characterizing hetero-interfaces at high spatial resolution using scanning transmission electron microscopy
1:51 PM	Mike Scarpulla	University of Utah	Surface photo voltage for assessing hole contacts

2:03 PM	Heayoung Yoon	University of Utah	Cathodoluminescence Characterization of CdTe PERC Devices
2:15 PM	Abasi Abudulimu	University of Toledo	Operando Characterization of Charge Carrier Recombination in Photovoltaics

2:27 PM - 2:45 PM Break

2:45 PM - 4:15 PM Panel

"Future of CdTe PV" panel, Moderated by Lorelle Mansfield

Jim Sites, CSU

Brion Bob, DOE

Bill Huber, First Solar

Mike Walls, UK/Characterization

4:15 PM - 4:25 PM Break

4:40 PM – 5:30 PM IAB (RSF X317-VIBE Room)

5:30 PM Adjourn

6:30 PM Group Dinner

Friday October 27

8:30 AM – 12:00 PM Roadmapping (by invitation)

8:30 AM – 12:00 PM Tours (Please sign up to participate in tours)

Meet in front of San Juan room in RSF.

Tours will include deposition, surface science, microscopy, spectroscopy, certification labs and the outdoor test facility.