2025 DuraMat Workshop Agenda

Tuesday, October 7, 2025	
Breakfast	
8:30 am – 9:00 am	
Opening Remarks	
9:00 am – 9:10 am	Welcome
9:10 am – 9:30 am	Program Overview – Teresa Barnes

Modeling Tools and Data Chair: 9:30 am – 10:35 am	
Chair:	
15min	DuraMAT Datahub Updates - White
15min	Mapping PV degradation mechanisms and field performance by leveraging large language models - Jain
15min	Industry Facing PV Degradation Prediction Tool and Degradation Database to Enable a 50 Year Life Module - Kempe
20min	Discussion

Networking Break
10:35 am – 11:00 am

Encapsulant Challenges Chair: 11:00 am – 12:05 pm	
Chair:	
15min	Accelerated Stress Testing to Deconvolute Simultaneous-But-Distinct Degradation Pathways under UV Illumination – Hacke/Kern
15min	Let's Not R-EPE-at Our Mistakes - Palmiotti
15min	Encapsulants for screen printed copper contacts – Druffel
20min	Discussion

Lunch
12:05 pm – 1:05 pm

Cell Issues Chair: 1:05 pm – 2:20 pm	
Chair:	
15min	Effect of Cell Cracks on Module Power Loss and Degradation: Modern Module Architectures – Viral Parikh
15min	Rapid reliability prediction of emerging module interconnect technologies with combined-accelerated stress testing – Peter Hacke

15min	Probabilistic Predictive Models for Si PV Cell Crack Stress and Power Loss – Braid
15min	Cell Gridline Wear-out Mechanisms - Rabade
20min	Discussion

Networking Break
2:20 pm – 2:50 pm

Glass Fracture Chair: Elizabeth Palmiotti 2:50 pm – 3:55 pm	
Chair:	
15min	Root Cause Investigation of Glass Cracking in Field-Mounted Solar Modules – Karas
15min	A computationally derived framework for predicting probability of PV module glass breakage by hail impact - Hartley
15min	EPIC-PV: Efficient Production of Ion-ExChanged glasses for PV reliability - Rimsza
20min	Discussion

Networking Break
3:55 pm – 4:25 pm

Fielded Modules & UV Degradation Chair: 4:25 pm – 5:45 pm	
Chair:	
15min	Multi-Year Study of Crack-Induced Degradation in Fielded Photovoltaic Modules – Karin
15min	Dynamic mechanical compatibility of trackers and PV modules – O'Brien
15min	Modeling the exposure of PV components on the module back side - Kempe
15min	New Cells, New Issues: Stress Tests for N-Type PV Module Designs - Karin
20min	Discussion

Wednesday, October 8, 2025	
Breakfast	
8:30 am – 9:00 am	

Cross-cutting papers 9:00 am – 10:00 am	
Chair:	
40min	Break out 1: 50-year Modules
	Break out 2: Glass-glass High-yield modules

20min	Discussion

Networking Break
10:00 am – 10:30 am

Networking Activity 10:30 am – 11:10 am

Networking Break
11:10 am – 11:40 am

Session 7: New projects from FY25 Lab Call Chair: Dennice Roberts 11:40 am – 12:05 pm	
Chair:	
5min	“STOKED: Spectral Tuning and Optimized Kinetics via Energy Down-Conversion in PV Packaging” - Miller
5min	“A fast, accurate prediction for system-wide damage due to dynamic wind loading” - Young
5min	“Fracture Risk of PV Modules via Reflective Measurement of Surface Stresses” - Rimsza
5min	SPARK: "Multiple hail impact testing" - Jordan
5min	SPARK: "An Autonomous Assistant for End-to-End Degradation Analysis" - Jain

Closing Remarks
12:05 pm – 12:20 pm

Lunch
12:20 pm – 12:30 pm

IAB Discussion
12:30 pm – 2:00 pm IAB Discussion

Post-workshop Recreational Activity
2:00 pm