



2025 Workshop on Methods for 3D Microstructure Studies

August 13-15, 2025

Location: Scott Hall 5201: Bosch Sparks

Agenda

Day 1, Wednesday, August 13, 2025

8:45 – 9:00	Greg Rohrer , Carnegie Mellon University Introductions and overview of the workshop
	Invited Speakers 1
9:00 – 9:45	Ashley Bucsek , University of Michigan, Imaging inelastic deformation mechanisms with dark-field x-ray microscopy and topotomography
9:45 – 10:30	Darren Pagan , Penn State, Extending 3D X-ray Techniques from Model Systems to Industrial Alloys and Beyond
10:30 – 10:45	Break
	Invited Speakers 2
10:45 – 11:30	Katharina Marquardt , University of Oxford, The Defect Pathway: An Endeavour to Connect Crystal Defects and Grain Boundary Planes in Olivine
11:30 – 12:30	Sean Donegan , Air Force Research Laboratory, Overview of Dream3D
12:30 – 1:30	Lunch Break (boxed lunches provided)
1:30 – 2:15	Sean Donegan , Air Force Research Laboratory Analysis of serial section data using DREAM3D
2:15 – 4:00	Sean Donegan , Air Force Research Laboratory Meshing & Smoothing microstructures using DREAM3D
4:00 – 4:15	Break / Workshop Picture
4:15 – 5:00	Marc DeGraef , Carnegie Mellon University, EMsoft Overview
5:15 – 7:00	All Refreshments provided on the MSE Deck

Note for day 1. For those planning to participate in the tutorial for plugin development on Day 3, it is recommended that you set up the development environment on your computer in advance. A representative of BlueQuartz Software will be available throughout Day 1 to assist with this. If you prefer to begin this prior to the workshop, contact Mike Jackson at mike.jackson@bluequartz.net.

Day 2, Thursday, August 14, 2025

9:00 – 10:00	Sean Donegan , Air Force Research Laboratory Generating 3D microstructures with DREAM3D, part 1
10:00 – 10:10	Break
10:10 – 11:15	Sean Donegan , Air Force Research Laboratory Generating 3D microstructures with DREAM3D, part 2 Invited speakers 3
11:15 – 12:00	Tony Rollett , Carnegie Mellon University, 3D studies in additive manufacturing
12:00 – 1:00	Lunch Break (boxed lunches provided)
1:00 – 1:45	Greg Rohrer , Carnegie Mellon University, 3D distributions of microstructural features in polycrystals
1:45 – 2:00	Break
Enter parallel sessions for the remainder of the day	
2:00 – 5:00	Scott Hall 5201: Sean Donegan et al. , Air Force Research Laboratory Hands on help session: time to practice running Dream3D, problem solving, time to work on your own 3D data sets, with experts available for assistance.
2:00– 5:00	Scott 5002: Mike Jackson , Bluequartz Software Translating Software Tools into Plug-ins for DREAM3D using Python bindings
6:00 – 8:00	All Optional no-host dinner at the Porch (https://www.dineattheporch.com/schenley)

Day 3, Friday, August 15, 2025

9:00 – 10:30	Mike Jackson , BlueQuartz Software Advanced DREAM3D-NX features
10:30 – 10:45	Break
10:45 – 12:15	Mike Jackson and others , BlueQuartz Software Hands on help session
12:15:	Adjourn

Guest Wireless information: