2017 Workshop on Methods for 3D Microstructure Studies

July 17-18, 2017

Agenda

Day 1, Monday, July 17, 2017

08:45 – 09:00	Greg Rohrer	Carnegie Mellon University
	Introductions and overview of the workshop	
09:00 – 10:00	Nikhilesh Chawla	Arizona State University
	Keynote Lecture: Imaging Materials in 3D	
10:00 – 10:30	Sean Donegan	Air Force Research Laboratory
	Overview of Dream.3D	
10:30 – 10:45	Break	
10:45 – 11:30	Bob Suter	Carnegie Mellon University
	Non-destructive 3D microstructure studies with HEDM	
11:30 – 12:15	Marc De Graef	Carnegie Mellon University
	Dictionary Approach to EBSD imaging	
12:15 – 1:30	Lunch Break (boxed lunches provided)	
1:00 – 1:30	Tom Nuhfer	Carnegie Mellon University
	Tour of Microscopy Lab (optional)	
1:30 – 2:30	Sean Donegan	Carnegie Mellon University
	Analysis of serial section data using DREAM.3D	
2:30 – 3:30	Sean Donegan	Air Force Research Laboratory
	Generating 3D microstructures with DREAM.3D	
3:30 – 3:45	Break	
3:45 – 4:15	Greg Rohrer	Carnegie Mellon University
	Measuring grain boundary populations, energies, and curvatures	
4:15 – 5:15	Sean Donegan	Air Force Research Laboratory
	Meshing & Smoothing microstructures using DREAM.3D	
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 2, 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.

Note for Day 2: Day 2 will begin with a joint session, then split to two parallel sessions, A and B, and close with a joint session. Session A will focus and the analysis of 3D data. You may use your own data, or we will provide a 3D data set for you to study. Session B will focus on the development of plugins for DREAM.3D. During the closing session, participants are invited to present their completed analysis, the plugin they have developed, or planned 3D studies.

Day 2, Section A. Tuesday, July 18, 2017
Joint Session

8:30 – 9:10	Tony Rollett	Carnegie Mellon University
	Textures in 3D	

Session A – 3D Data analysis

9:10 – 9:50	William Epting	National Energy Technology Laboratory
	Using Dream.3D to create virtual microstructures	
9:50 – 10:30	David Rowenhorst	Naval Research Laboratory
	Aligning parallel orientation maps and removing spatial distortions	
10:30 – 10:45	Break	
10:45 – 12:15	Sean Donegan	Air Force Research Laboratory
	Data Analysis	
12:15 – 1:30	Lunch Break (boxed lunches provided)	
1:00 – 3:00	Sean Donegan	Air Force Research Laboratory
3:00 – 3:15	Break	
3:15 – 5:00	Sean Donegan	Air Force Research Laboratory

Session B – Plugin Development

9:10 – 10:30	Mike Jackson	BlueQuartz Software
	Plugin development	
10:30 – 10:45	Break	
10:45 – 12:15	Mike Jackson	BlueQuartz Software
	Plugin development	
12:15 – 1:30	Lunch Break (boxed lunches provided)	
1:00 – 3:00	Mike Jackson	BlueQuartz Software
	Plugin development	
3:00 – 3:15	Break	
3:15 – 5:00	Mike Jackson	BlueQuartz Software
	Plugin development	

Joint sessions

5:00 – 6:00	All	Closing session
6:00 – 8:00	All	Optional no-host dinner at the Porch