



FIRST IMAGING INITIATIVE WORKSHOP: TOMOGRAPHY AND PTYCHOGRAPHY
SEPTEMBER 29 – 30, 2014
ENERGY SCIENCES BUILDING 241
ARGONNE NATIONAL LABORATORY

September 29, Monday 8:00-8:45 - Coffee and Registration

8:45 - Amanda Petford-Long: Integrated Imaging Initiative Overview (context within Materials for Energy)

Session 1: Tomography 1

9:00 - Begum Gulsoy (Northwestern) Tomography Across Length Scales: From Electron Tomography to Mechanical Serial Sectioning

9:30 - Xianghui Xiao (APS) microCT

10:00 – 10:20 Break

10:20 – Rowan Leary (University of Cambridge) Contemporary Electron Tomography for Materials Science

10:50 – Charudatta Phatak (ANL-MSD) Visualization of Three Dimensional Magnetization using Vector Field Electron Tomography

11:20 – 1:00 Lunch (Boxed Lunches for those who ordered will be in break area)

11:30 - Tour of Mira (30 participants maximum – sign up sheet at registration desk)

Session 2: Ptychography 1

1:00 – David Vine (ANL-APS) Ptychography combined with X-ray fluorescence

1:30 – Stefan Hruszkewycz (ANL-MSD) Nanoscale Materials Imaging with Bragg Ptychography

2:00 – David Shapiro (LBNL) Soft X-ray Microscopy with Wavelength Limited Spatial Resolution

2:30 – Youssef Nashed (ANL-MCS) PtychoLib: Parallel Ptychographic Reconstruction

3:00 - 3:30 Break

Software/Methods: Tomography 2

3:30 - Doga Gursoy (ANL-APS) TomoPy: A Framework for the Analysis of Tomographic Data Abstract

4:00 - Charles Bouman (Purdue) Integrated Imaging: Creating Images from the Tight Integration of Algorithms, Computation, and Sensors

4:30 - Wendy Di (ANL-MCS) Optimization Approach for Tomographic Inversion from Multiple Data Modalities

5:00-6:30 Poster Session (Energy Sciences Building Foyer)

September 30, Tuesday

Session 1: Tomography 2

8:30 - Stefan Vogt (ANL-APS) Hyperspectral Imaging in 3D

9:00 - Tom Kelly (CAMECA Instruments, Inc.) Ptychography and Atom Probe Tomography

9:30-10:00 Break

10:00 - Laurence Marks (Northwestern) Towards Atomic Resolution 3D Electron Tomography

10:30 - Ross Harder (ANL-APS) Bragg Coherent Diffractive Imaging

11:00-12:15 Lunch

Session 2: Visualization

12:15 - Daniela Ushizima (LBNL) Visualization and Analysis of High Throughput Experiments.

12:45 - John Stone (UIUC) GPU-Accelerated Visualization and Analysis of Petascale Molecular Dynamics Simulations

1:15 - Joe Insley(ANL-LCF) Scalable, Large-Scale Data Analysis and Visualization

1:45 - Francesco De Carlo (ANL-APS) Scientific Data Exchange

2:15-2:45 Break

Session 3: Data Analysis

2:45 - Gordon Kindlmann (University of Chicago) Discovering Stable Features in Scientific Images

3:15 - Tom Peterka (ANL-MCS) Imaging Meets HPC through Scalable Data Analysis

3:45 - Stefan Wild (ANL-MCS) Nonnegative Matrix Analysis for Structured Feature Extraction

4:15 - Nicola Ferrier (ANL-MCS) Image Analysis

5:00 - Tour of APS (30 participants maximum – sign up sheet at registration desk)