

4th Midwest Imaging and Microanalysis Workshop at Notre Dame

New Trends in In-situ and High Resolution Electron Microscopy for Nanotechnology, Materials and Bio-Sciences

Tuesday, May 9th, 2017

Location: McKenna Hall – **Room 210-214** (lectures) and Stinson-Remick Hall, Room B03 (TEM demo sessions).

Contact for workshop info: Email: Theresa.Bollinger.1@nd.edu, Ph: 1 (574) 631-8251

1st day: May 9th, 2015

8:30 am Registration, NDIIF EM Facility Tour sign-up, Poster set-up (McKenna Hall, Upper Atrium).

Session 1. Chair: Sergei Rouvimov (McKenna Hall – Room 210-214)

9:00 - 9:05 am Welcome to Notre Dame, Bradley Smith, Director, NDIIF

9:05 - 9:10 am Opening: Sergei Rouvimov, TEM Program Director, NDIIF

9:10 – 9:40 am “From picometers to terabytes: Data-intensive quantitative electron microscopy”, Jim Ciston, LBNL

9:40 – 10:10 am “Atomic scale interface engineering to enhance ferroelectricity”, Jianguo Wen, Argonne National Laboratory

10:10 – 10:40 am "Structural materials at the atomic scale", Emmanuelle Marquis, University of Michigan

10:40 – 11:00 am COFFEE BREAK

Session 2. Chair: Alex Mukasyan (McKenna Hall – Room 210 - 214)

11:00 – 11:30 am “Revealing Deformation Mechanisms in Superalloys Using STEM-Based Imaging and Spectroscopy”, Michael J. Mills, Ohio State University

11:30 - 12:00 noon “New Detectors for faster/better data in S/TEM systems”, Jan Ringnalda, FEI, Inc.

12:00 – 12:30 pm “Addressing *In-situ* TEM Challenges Using Integrated Hardware and Software”, Stephen Mick, GATAN

12:30 – 1:00 pm "Imaging of Single La Vacancies by High Precision STEM", Jie Feng, University of Wisconsin-Madison

1:00 -2:30 pm LUNCH and POSTER SESSION (McKenna Hall –Posters – Upper Atrium Luncheon – CDA)

Session 3. Chair: Bradley Smith (McKenna Hall – room 210-214)

2:30 - 2:45 pm "Live Bacterial Physiology Visualized with 5nm Resolution using Scanning Transmission Electron Microscopy”, Eamonn Kennedy, University of Notre Dame

(Best Biological Imaging Publication Award 2016)

2:45 - 3:00 pm "NiAl Energetic Nanocomposites and the Solid Flame Phenomenon" Christopher Shuck, University of Notre Dame (Best Electron Beam Imaging Publication Award 2016)

3:00 - 3:30 pm “Atomic scale TEM characterizations on ceramic and metallic thin films”, Jie Jian, Purdue University

3:30 - 4:00 pm "Cryo-EM: A Revolution in Structural Biology", Wen Jiang, Purdue Cryo-EM Facility

4:00 - 4:20 pm “TEM as a powerful tool for biological sciences”, Christopher J. Gilpin, Purdue Life Science Microscopy Facility

4:20 - 4:40 pm "Organizing, Managing and Searching Large Collections of EM Images”, David Morgan, Indiana University at Bloomington

4:40 - 4:50 pm Poster Awards and Prizes announcement

4:50 - 5:10 pm **MIMW and NDIIF Business meeting**

6:00 pm DINNER for speakers -The Mark Dine & Tap, 1234 Eddy Street, Suite 111, South Bend, IN 46617, Phone: 574-204-2767

2nd Day: May 10th, 2017

9:00 am – 12:00 noon **Tour of NDIIF EM Facility**

12:00-1:00 pm **Lunch/Discussion Female Students in Microscopy: pursuing a career in TEM research**, Mina Asghariheidarlou, NDEMC President, Location: Legends.

Note: A detailed schedule will be provided at the registration.

For additional workshop information and campus map visit: <http://ndiif.nd.edu>

Sponsors: FEI, Gatan, Bruker, Protochip, DENS, NDIIF, ND Energy, ND Nano, EE Department, CBE Department, ND Research Office, ND College of Engineering, ND College of Science