

Cryo Electron Microscopy Short Course

IPrime Nanostructural Materials and Processes Program

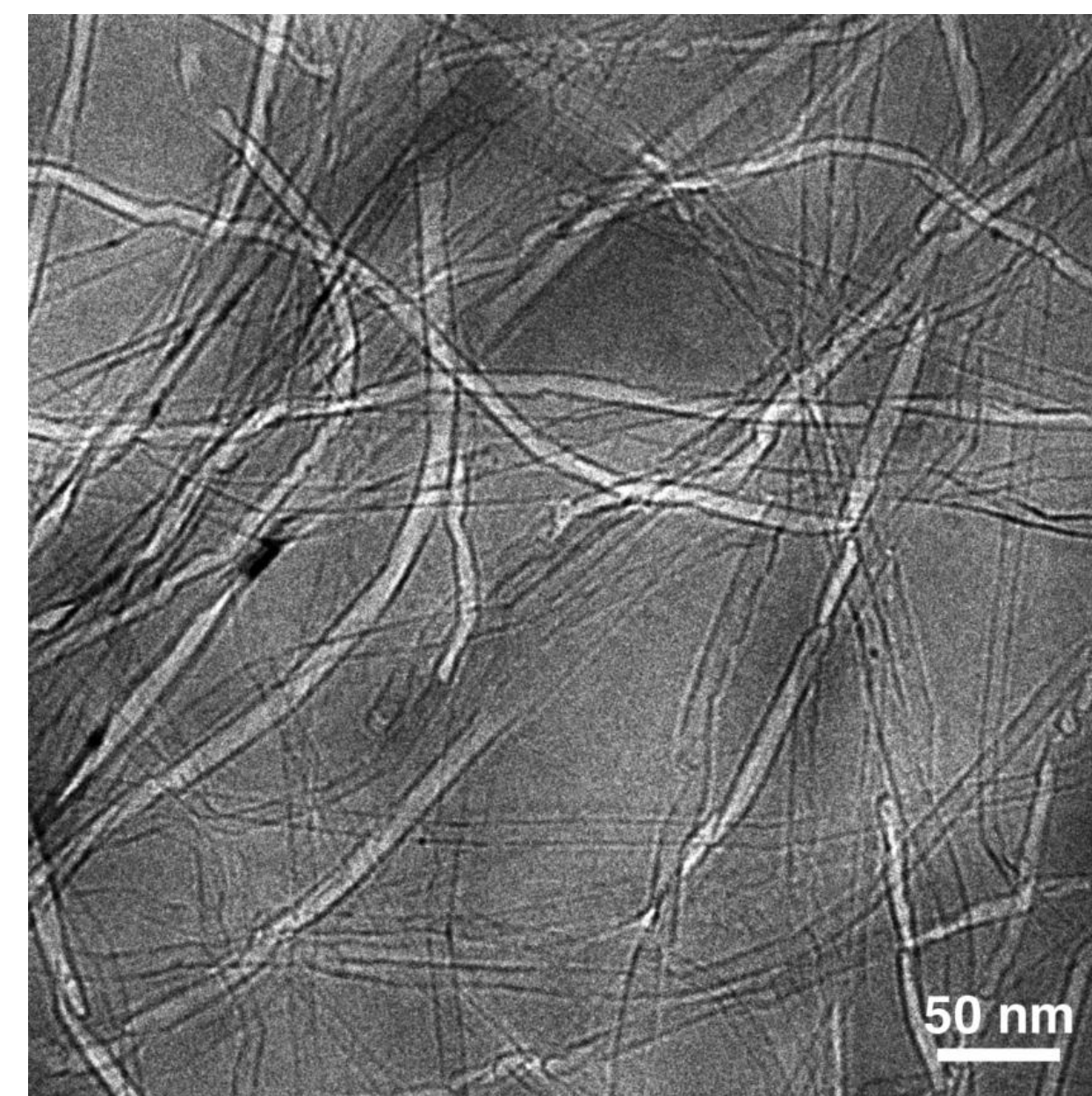
[Keller Hall](#) 3-180
University of Minnesota

**Wednesday - Friday,
July 13 - 15, 2011**

Description

This short course will enable industrial and academic scientists and engineers, with no prior knowledge of electron microscopy, to gain insight into cryo-techniques to image nanostructures in liquids, soft materials, and biological systems. After attending the course you will be better able to assess what experiments are feasible for samples of interest to you, and to estimate the benefits and costs of these approaches.

CryoTEM of multi-walled carbon nanotubes dispersed in chlorosulfonic acid and partially filled by the acid
Talmon, Pasquali and coworkers, ACS Nano 4, 3969-3978 (2010)



Instructors

The instructors are innovators and leaders in the field of cryo-electron microscopy, particularly in the study of soft materials, nanomaterials, and virus structure.

- Jayesh Bellare, Indian Institute of Technology, Bombay
- Ishi Talmon, Technion - Israel Institute of Technology
- Joe Zasadzinski, U of MN Chem. Eng. and Materials Science



With laboratory experiences led by:

- Wei Zhang, U of MN Characterization Facility and Institute for Molecular Virology
- Chris Frethem, U of MN Characterization Facility
- plus more staff scientists showing correlative methods



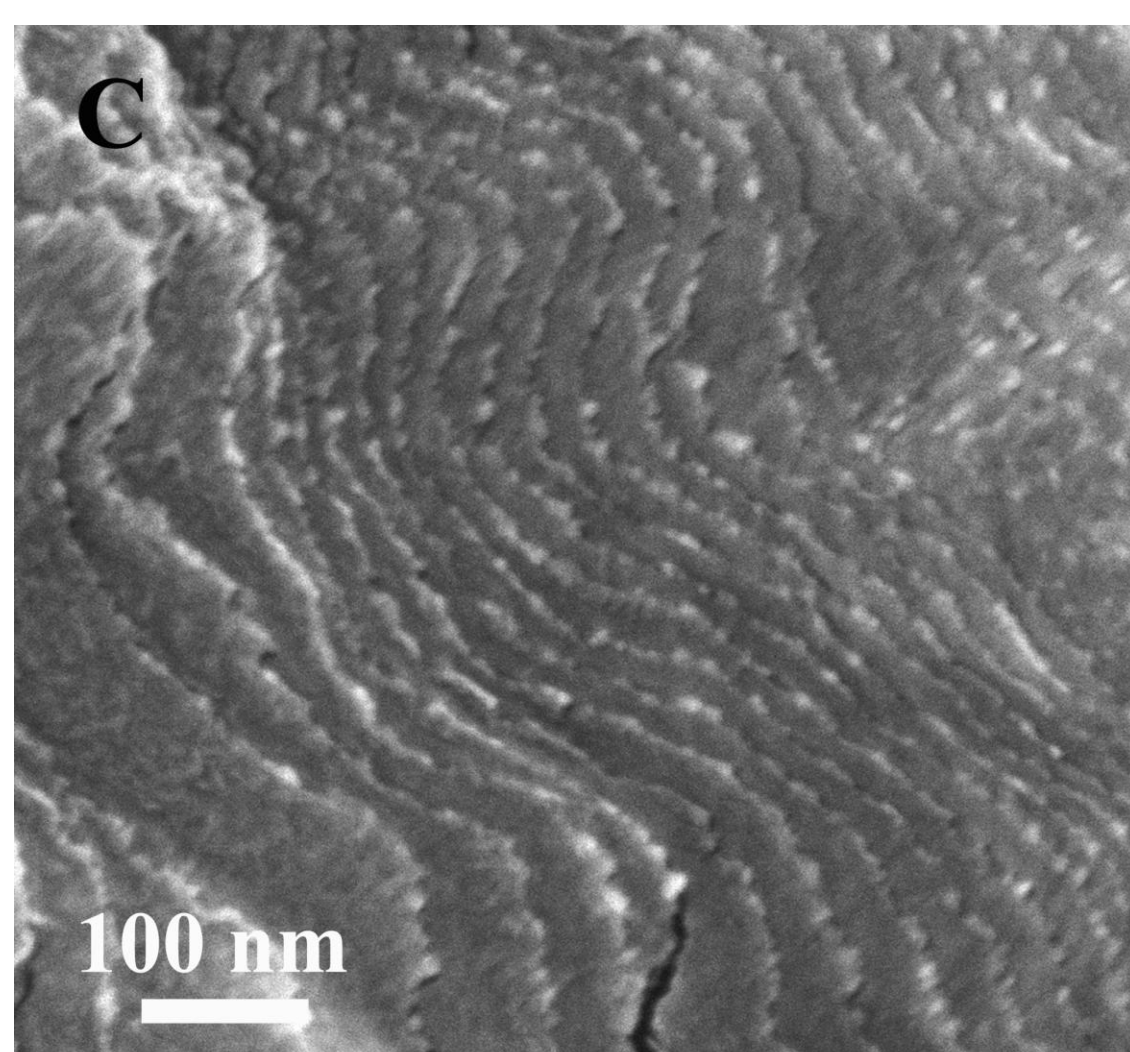
Registration and Fees

Register for the course - **Course fee** : \$2000 includes instruction, lab demonstrations, course materials, lunches, refreshment breaks, and reception. **Discounted rate**: \$1600 for [IPrime](#) members. **Academic discount rate** (limited seats available): \$400 professor/postdoc, \$300 student

If you are unable to attend, you may send a substitute or you may receive a refund, minus a \$300 cancellation fee, if a written request is made at least a week in advance of the course. The University reserves the right to cancel the course if necessary, with a full refund.

Net proceeds from the course to support educational efforts at the [Characterization Facility](#).

This course is sponsored by Nanostructural Materials and Processes Program, Chemical Engineering and Materials Science Department and IPRIME – Industrial Partnership for Research in Interfacial and Materials Engineering.

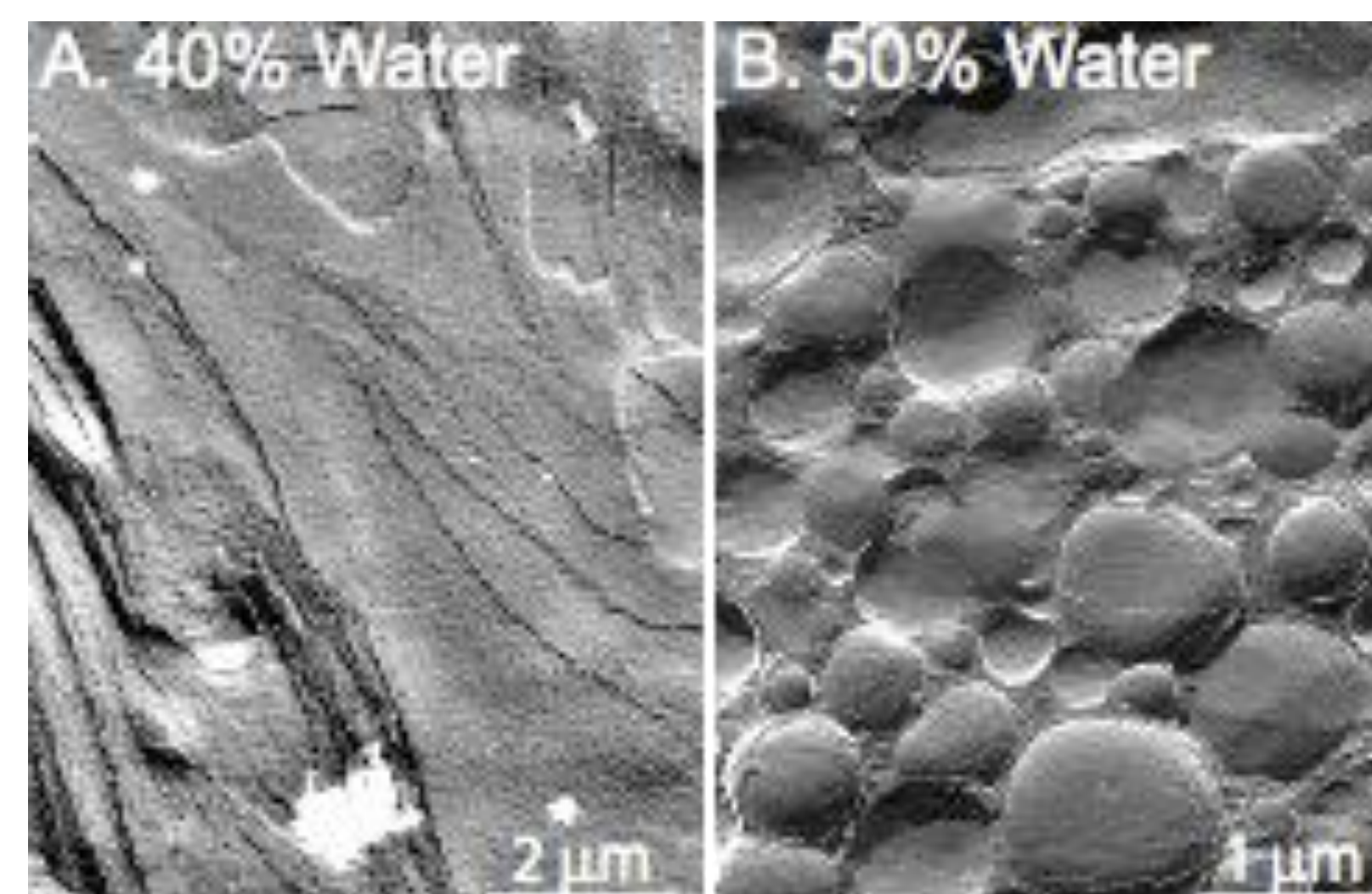


CryoSEM of intermediate lamellar phase in the synthesis of KIT 6 mesoporous silica

Talmon and coworkers, J. Am. Chem. Soc. 131, 12466-12473 (2009)

Freeze- fracture transmission electron micrograph (FF-TEM) showing CTAT/SDBS structure change with dilution in water

Bret Coldren, PhD Thesis UC Santa Barbara 2002 (adviso Zasadzinski)



For further information, please contact course coordinator Alon McCormick mccormic@umn.edu