X-15 Cryo-STEM and EELS for Materials Sciences

- **All short courses start at 8:30 AM and end by 5:30 PM.**
- **Separate registration fee required — see registration form.**
- **A certificate of attendance will be emailed to each participant.**
- **Mid-morning and midafternoon breaks are provided**
- **Breakfast and lunch are on your own**

Short course schedule

- 8:30-9:10 Miaofang Chi, *Oak Ridge Nat'l Lab*: **Overview of several LN_2 cooled holders and the progress of cryo-STEM for materials science**
- 9:10-10:25 Michael Zachman, *Oak Ridge Nat'l Lab*: **Methods for cryo-(S)TEM characterization of reactive/sensitive materials and samples containing liquids**
- 10:25-10:45 morning Break 20mins
- 10:45-12:00 Ismail El Baggari, *Harvard Univ.:* **How high-precision cryo-STEM enables insights into quantum materials: approaches and applications**
- 12:00-13:00 Lunch break
- 13:00-14:15 MG Han, *Brookhaven Nat'l Lab*: **Liquid helium stage and applications**
- 14:15-14:40 afternoon Break 25mins
- 14:40-15:20 Noah Schnitzer, Cornell Univ.: **Continuously variable temperature cryo-STEM instrumentation and applications for quantum materials**
- 15:20-16:10 Jacob Smith, ORNL: **data correction for 4D-STEM data acquired at cryogenic conditions**
- 16:10-17:30 panel discussions and questions