



# Synchrotron Based FTIR Imaging Workshop

## AGENDA

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### Basics of Fourier Transform Infrared Spectroscopy

Tuesday, October 5, 2010

*PSL Conference Room at Kegonsa Research Campus*

- 7:30am** Shuttle\* departs from UW Campus for SRC
- 8:00–8:30am Registration and Breakfast ..... KRC Meeting Room
- 8:30–10:00am Basics of FTIR Spectroscopy  
*Carol Hirschmugl, University of Wisconsin-Milwaukee*
- 10:00–10:20am Break ..... KRC Meeting Room
- 10:20–12:00pm Basics of IR Spectroscopy Interpretation  
*Bob Julian, Synchrotron Radiation Center*
- 12:00–1:00pm Lunch ..... KRC Meeting Room
- 1:00–3:00pm FTIR Microscopy and Imaging  
*Carol Hirschmugl, University of Wisconsin-Milwaukee*
- 3:00–3:20pm Break ..... KRC Meeting Room
- 3:20–5:00pm Overview of the Beamline and Tour  
*Carol Hirschmugl, University of Wisconsin-Milwaukee*
- 5:30pm** Shuttle\* departs from SRC for UW Campus

\*Please see the shuttle schedule for pickup and drop off locations.

**Advanced Imaging and Applications with Hands-on Access to IRENI**  
**Wednesday, October 6, 2010**  
*Kegonsa Research Campus*

**7:30am Shuttle\* departs from UW Campus for SRC**

**8:00–8:30am Registration and Breakfast ..... KRC Meeting Room**

**Three Parallel Sessions – Attendees will be split into three groups**

**Hands On\*\*:** *Measuring Samples at IRENI (Michael Nasse, Claudia Gohr, Eric Mattson and Margaret Rak)*

**Analysis:** *Introduction to OPUS for Data Collection (Bob Julian) and IGOR PRO for Analysis (Carol Hirschmugl)*

**Data Manipulation:** *Introduction to Data Manipulation for Scattering (Paul Bassan), and Chemometrics (Frank Vogt)*

**8:30–10:00am ... Group 1 – Hands On\*\* ..... IRENI Beamline**  
*Michael Nasse and Claudia Gohr, University of Wisconsin-Milwaukee*

**Group 2 and 3 – Analysis OPUS ..... SRC Conference Room**  
*Bob Julian, Synchrotron Radiation Center*

**10:00–10:15am Break ..... KRC Meeting Room**

**10:20–11:30am Group 1 – Hands On\*\* (Cont.) ..... IRENI Beamline**  
*Michael Nasse and Claudia Gohr, University of Wisconsin-Milwaukee*

**Group 2 and 3 – Analysis IGOR Pro ..... SRC Conference Room**  
*Carol Hirschmugl, University of Wisconsin-Milwaukee*

**11:30–12:30pm Lunch ..... KRC Meeting Room**

**12:30–2:00pm Group 2 – Hands On\*\* ..... IRENI Beamline**  
*Michael Nasse, Claudia Gohr, and Eric Mattson, University of Wisconsin-Milwaukee*

**Group 1 and 3 – Spectrochemical Sample Characterizations – a Primer in Chemometrics ..... SRC Conference Room**  
*Frank Vogt, University of Tennessee-Knoxville*

**2:00–2:15pm Break ..... KRC Meeting Room**

**2:15–3:30pm Group 2 – Hands On\*\* (Cont.) ..... IRENI Beamline**  
*Michael Nasse, Claudia Gohr, and Eric Mattson, University of Wisconsin-Milwaukee*

**Group 1 and 3 – Data Manipulation Mie Scattering ..... SRC Conference Room**  
*Paul Bassan, University of Manchester*

3:30–4:00pm	Break .....	KRC Meeting Room
4:00–5:30pm	Group 3 – Hands On** .....	IRENI Beamline <i>Michael Nasse, Eric Mattson, and Margaret Rak, University of Wisconsin-Milwaukee</i>
	Group 1 – Analysis OPUS .....	PSL Conference Room <i>Bob Julian, Synchrotron Radiation Center</i>
	Group 2 – Spectrochemical Sample Characterizations – a Primer in Chemometrics .....	SRC Conference Room <i>Frank Vogt, University of Tennessee-Knoxville</i>
5:30–5:45pm	Break .....	KRC Meeting Room
5:45–7:00pm	Group 3 – Hands On** .....	IRENI Beamline <i>Michael Nasse and Claudia Gohr, University of Wisconsin-Milwaukee</i>
	Group 1 – Analysis IGOR.....	PSL Conference Room <i>Carol Hirschmugl, University of Wisconsin-Milwaukee</i>
	Group 2 – Data Manipulation Mie Scattering .....	SRC Conference Room <i>Paul Bassan, University of Manchester</i>
7:00–8:30pm	Reception and Poster Session*** .....	KRC Meeting Room
<b>8:30pm</b>	<b>Shuttle* departs from SRC for UW Campus</b>	

\*\*Samples Measured at the IRENI must be explained in a [Rapid Request Form](#) at least two weeks prior to October 6. First-come, first-served. If you have questions about sample preparation, please contact the organizers.

\*\*\*Poster Session and Reception are for both Wednesday and Thursday Attendees.

# Status and Future of Synchrotron Based FTIR-FPA Imaging

## Thursday, October 7, 2010

*John D. Wiley Conference Center at Waisman Center on UW Campus*

- 7:30am Shuttle\* departs from SRC for Waisman Center on UW Campus**
- 8:00–8:45am Registration and Breakfast ..... Conference Center Lounge
- 8:45–9:00am Overview of Synchrotron Based FTIR-FPA Imaging  
*Carol Hirschmugl, University of Wisconsin-Milwaukee*
- 9:00–9:15am Biospectroscopy to Characterise the Stem Cell Lineage within Complex Tissue Architectures \*  
*Dr Francis L Martin, Centre for Biophotonics, Lancaster Environment Centre, UK*
- 9:15–10:00am New Opportunities in Infrared Microspectroscopy  
*Rohit Bhargava, Beckman Institute, University of Illinois at Urbana-Champaign*
- 10:00–10:30am Break and Vendors ..... Conference Center Lounge
- 10:30–11:00am Does Synchrotron Infrared Microspectroscopy Significantly Contribute to New Knowledge in Biology and Biomedicine?  
*Paul Dumas, SOLEIL Synchrotron*
- 11:00–11:30am High Definition Imaging with IRENI – Discoveries Enabled by the New Technology  
*Kathy Gough, University of Manitoba*
- 11:30–12:00pm Discussions
- 12:00–1:30pm Lunch and Vendors ..... Conference Center Lounge
- 1:30–2:00pm Evaluating High-fidelity Spectroscopic Image Cubes – Planned Chemometrics at SRC  
*Frank Vogt, University of Tennessee-Knoxville*
- 2:00–2:30pm Real-time Monitoring of Chemistry in Living Cells during Stress-adaptive Response  
*Hoi-Ying Holman, Lawrence Berkeley National Laboratory*
- 2:30–3:00pm Break and Vendors ..... Conference Center Lounge
- 3:00–3:30pm Use of FTIR Spectroscopy and FTIR Imaging in Cultural Heritage Research  
*Catherine Patterson, Getty Conservation Institute*
- 3:30–4:00pm FPA-Based Infrared Microspectroscopic Imaging at the NSLS  
*Larry Carr, Brookhaven National Laboratory*
- 4:00–5:30pm Roundtable Discussion
- 5:30–7:00pm Vendor Sponsored Wine and Cheese Reception (Conference Center Lounge)
- 9:00pm Shuttle\* departs from Waisman Center on UW Campus for SRC**

\* Contribution given by C.J.H due to a family emergency of the speaker.