

CHES-CALS Workshop:
**Synchrotron X-ray Science for Life Sciences, Agriculture,
Sustainability Sciences, and Technology Innovation at CALS**

May 8th, 12:20 – 5:30 pm
Physical Science Building Room 401

ZOOM: [HTTPS://CORNELL.ZOOM.US/J/95154368513?PWD=EQ5S50QVMDSFJJFKH2GBAWL8BARML0.1](https://cornell.zoom.us/j/95154368513?pwd=EQ5S50QVMDSFJJFKH2GBAWL8BARML0.1)

Agenda:

12:20 – 12:25: Refreshments and welcome

Olena Vatamaniuk, Professor, Plant Biology, School of Integrative Plant Science (SIPS), Deputy Director, CHESS

Xingen Lei, Associate Dean of Research and Innovation, CALS

Magdalen Lindeberg, Assistant Director, School of Integrative Plant Science (SIPS)

Session I: Metals in life sciences: from soils and microbes to plants and humans.

Session chair: Chris Smart (Professor, Plant Pathology and Plant-Microbe Biology, SIPS)

12:30 – 1:00: CHESS X-ray Facility Techniques Available to CALS Researchers

Jeney Wierman, Director, MacCHESS

1:00 – 1:30: Synchrotron X-ray Techniques in Advancing Studies in Plant Sciences

Louisa Smieska, Staff Scientist, co-PI (XLEAP), CHESS

1:30 – 2:00: Novel *In Vivo* Application of Synchrotron X-Ray Fluorescence Imaging to Assess Zinc Distribution in Duodenal Tissue

Elad Tako, Associate Professor, Food Science

2:00 – 2:30: Current Review of Contaminant Risks in Baby Food Raw Materials

Amber Morey-Lanza, Principal Scientist, Beech-Nut

Coffee Break: 2:30 – 2:45

Session II: Living systems under external stimuli: environmental conditions, pathogens

Session Chair: Melanie J. Filiatrault (Research Leader, USDA-ARS and Courtesy Associate Professor, Plant Pathology and Plant-Microbe Biology, SIPS)

2:45 – 3:15: Synchrotron applications to study organic carbon and nutrients in soil

Johannes Lehmann, Professor, Soil and Crop Science Section, SIPS

3:15 – 3:45: Water Quality Applications of Synchrotron Techniques

Matthew Reid, Assistant Professor, School of Civil and Environmental Engineering

3:45 – 4:15: Sharing public goods and regulating gene expression within syncytial cells

Lori Huberman, Assistant Professor, Plant Pathology and Plant-Microbe Biology, SIPS

4:15 – 4:45: Managing Manganese in *Bacillus subtilis*

John Helmann, Professor, Department of Microbiology

4:45 – 4:50: Concluding remarks

Olena Vatamaniuk, Professor, Plant Biology, School of Integrative Plant Science (SIPS), Deputy Director, CHESS

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4:50 - 5:30: Discussion and Reception