

**Bindley Bioscience Center** 

**Location: Burton Morgan 121** 

Dates: June 16-20 Time: Daily Sessions at 12:00 pm-2:00 pm

- Lunch will be provided daily
- Limited registrations available
- Optional daily demos and lab tours 2:30-3:30 pm for hands-on experience.

RSVP by June 3rd to Anna Augustin (araugust@purdue.edu) or use QR code provided below.

# **INSTRUCTORS**

- Bruce R. Cooper, Metabolite Profiling Facility Director and Bindley Bioscience Center Scientific Director
- Christina R. Ferreira, Metabolite Profiling Facility Lipidomics Scientist and **Assistant Research Professor**
- Nate Lichti, Biostatistician, Bindley **Bioscience Center**
- Nicolas M. Morato, Assistant Research Professor, Purdue Institute for Cancer Research (PICR)
- Priyanka Ramesh, Bioinformatician
- **Bindley Bioscience Center**
- Thomas C. Sams, Graduate Student
- Yu Han-Hallett, Metabolomics Research Scientist, Metabolite Profiling Facility
- Yunfei (Veronica) Feng, Graduate Student, Metabolite Profiling Facility



MASS SPECTROMETRY SUMMER CLINIC

### Monday- June 16, 2025 (12:00-2:00 PM)

Introduction to Mass Spectrometry (MS)

- Basic concepts in MS
- Ionization sources
- Mass analyzers
- MS/MS scan modes

Tuesday- June 17, 2025 (12:00-2:00 PM)
Chromatographic Techniques coupled to MS

- Overview of Liquid Chromatography (LC)
- Introduction to Gas Chromatography (GC)

### Wednesday- June 18, 2025 (12:00-2:00 PM)

Quantitative Analysis by LC-MS/MS

- Absolute quantification principles
- Best practices for targeted quantification

#### Thursday- June 19, 2025 (12:00-2:00 PM)

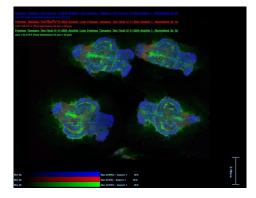
Metabolomics and Lipidomics- Targeted and Untargeted Approaches

- Lipid class identification
- Data acquisition and interpretation

#### Friday- June 20, 2025 (12:00-2:00 PM)

MS Imaging and High-Throughput Screening

- Desorption electrospray ionization (DESI) principles
- DESI-MS imaging and biological applications
- High-throughput screening and drug discovery



Overlaid DESI-MS ion images showing the distribution of three metabolites in zebrafish brain. (Credit: Wagner Tamagno and Jennifer Freeman)



# BINDLEY BIOSCIENCE CENTER MASS SPECTROMETRY SUMMER CLINIC







Purdue Institute of Inflammation, Immunology and Infectious Disease **Purdue Institute for Drug Discovery** 



**College of Agriculture** 









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