17TH Multidimensional Chromatography Workshop

January 12 - 15, 2026

Guidebook

Thank you to our sponsors for making this event possible. It is your generous support that enriches the conference program and allows us to operate the conference with free registration for all attendees.

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Local Information

Venue
William & Mary
Integrated Science Center
540 Landrum Drive
Williamsburg, VA, 23185

Accommodation
All visitors to the William & Mary campus are eligible for discounted accommodation at several nearby hotels using the button below. If you will not have a rental car, we recommend staying at The Williamsburg Lodge, which is the closest hotel within walking distance, and includes a shuttle service to William & Mary. Since the campus is in the heart of the historical Colonial Williamsburg area, there are a number of options within and outside walking distance to campus, including many historic inns.

Transportation
Williamsburg, Virginia can be reached from several nearby airports:

- Richmond International Airport (RIC)
- Newport News/Williamsburg Airport (PHF)
- Norfolk International Airport (ORF)

Airport transportation can be arranged via a rideshare app or rental car. Visitor parking is available on campus in dedicated Passport Pay By Phone Parking spaces. The rear SWEM and rear Sadler lots are the closest to the Integrated Science Center. Williamsburg, Virginia, can also be reached by the Amtrak station (WBG) located at 468 N Boundary St, Williamsburg, VA 231855.

Lab Tours
Tours of Dr. Katelynn Perrault Uptmor's Laboratory, Nontargeted Separations Laboratory, will be available on Wednesday January 13th from 3:00 – 4:00 PM in small groups. If you wish to participate in the laboratory tours, please sign up for a time slot at the registration desk in advance.

Short Course
The Short Course will take place on Monday, January 12th at the Integrated Science Center at 540 Landrum Drive, Room 2018, from 9:00 AM – 4:00 PM. Students will be available to direct you to the short course conference room upon arrival.

Monday Gathering
For those arriving on Monday, we have organized to gather at a local brewery, Precarious Beer Project, nearby to the university and conference hotel at 110 S Henry St in Williamsburg at 6:00 PM. This is an informal event at your own cost. There are two food vendors within the Brewery where you can purchase food. No outside food is allowed.

Presentation guidelines

Oral Presenters

We ask that you be ready to upload a PowerPoint file to the room no later than the end of the break preceding your talk. The ideal format will be 16:9, but we can accommodate 4:3 as well. Please plan to leave a couple minutes at the end of your time slot for questions.

Poster Presenters

Please bring your poster in hard copy with you to the conference. All posters should be set up at the start of each day of the allocated session, but at least prior to the poster session start. Posters should be created in landscape format no larger than 46" x 36".

Poster presenters must be present on their poster during the designated poster session. There will be further times available for viewing posters during breaks, and authors can optionally stand up with their posters during coffee breaks if they wish.

POSTER AWARDS

The American Chemical Society's Subdivision on Chromatography and Separations Chemistry (ACS SCSC) sponsors the Multidimensional GC Award and the Multidimensional LC Award at the 16th Multidimensional Chromatography Workshop. Each award holds a value of $250 USD distributed directly by SCSC to the top posters in each category. Awards are distributed during the closing ceremony of the conference.

After the Conference

Certificate

Presentation certificates will be sent after the conference through the Oxford Abstract system. The submitting author will be contacted with the certificate.

DAY 1 – TUESDAY January 13, 2026

8:30 - 8:45 AM	***Registration***
8:45 - 9:00 AM	**Opening Remarks**
9:00 - 9:30 AM	**KL-1 Haleigh Boswell** *(Chevron)* - The GC×GC effect: transforming industries one molecule at a time
9:30 - 10:00 AM	**KL-2 Zachary Breitbach** *(AbbVie)* - 2D-LC as a powerful technique in the pharmaceutical scientist's toolbox for small molecules and biologics
10:00 - 10:20 AM	**O-1 Chris Freye** *(Los Alamos National Laboratory)* - Discovery-based analysis for two-dimensional gas chromatography trends using alteration analysis and two-dimensional correlation analysis
10:30 - 11:00 AM	***Coffee Break***
11:00 - 11:20 AM	**O-2 Sarah Foster** *(William & Mary)* - Application of GC×GC for the investigation of fermented beverages
11:20 - 11:40 AM	**O-3 David Alonso** *(LECO Corporation)* - Exploring PFAS in consumer goods using two-dimensional gas chromatography and high-resolution mass spectrometry
11:40 - 12:00 PM	**O-4 Kevin Hayes** *(Mount Royal University)* - An analysis of fresh and used aircraft oil: An indication of exposure pathway possibility to inorganic and organic pollutants
12:00 - 12:20 PM	**O-5 Lina Mikaliunaite** (Markes International) - Sniff smarter: empowering GC–O with trap-based enrichment and GC×GC for advanced aroma profiling
12:20 - 1:20 PM	***Lunch***
1:30 - 1:50 PM	**O-6 James Harynuk** *(University of Alberta)* - Leveraging local libraries for positively parsimonious peak tables
1:50 - 2:10 PM	**O-7 Masaaki Ubukata** *(JEOL Ltd.)* - Structural elucidation using comprehensive two-dimensional gas chromatography/time-of-flight mass spectrometry and machine learning for unknown metabolites in HeLa cells
2:10 - 2:30 PM	**O-8 Wenjing Ma** *(University of Washington)* - Tile-based Fisher-ratio analysis of GC×GC-TOFMS data of SPME sampled VOCs produced from *Pseudomonas aeruginosa and Aspergillus fumigatus*
2:30 - 2:50 PM	**O-9 Rachel Halvorsen** *(University of Washington)* - Implementing tile-based Fisher ratio analysis of GC×GC-TOFMS data to obtain a master peak table of all detected analyte compounds in many petroleum-based samples
3:00 - 4:00 PM	***Coffee Break and Poster Session***
4:00 - 5:00 PM	**Guided Discussion Session:** Century Mix – an inter-laboratory standardization initiative for 2DGC

6:30 – 8:30 PM LECO Conference Dinner (Free to attend!)

Tasting & Dinner Event
Williamsburg Community Building
401 N Boundary St
Williamsburg, VA 23185

Sponsor: LECO Corporation
Partners: Silver Hand Meadery

Enjoy a guided mead tasting paired with insights into the aroma profiles of each selection, revealed through advanced chromatographic analysis. Experience how great data and great drinks come together in this unique scientific dining experience. The dinner venue is 0.7 mi from the conference venue and walking directions will be provided for attendees at the end of the day.

TUESDAY POSTER LIST

P-1 **Oluwaseun Ajayi** *(University of Georgia) – Temperature-optimized porous graphitic carbon chromatography for improved resolution of high-mannose glycans*

P-3 **John Hayes** *(LECO Corporation)* – A new software tool for standardization of GC×GC group-type templates

P-4 **Wenjing Ma** *(University of Washington) – Developing 2D mzCompare for single comprehensive two-dimensional chromatography time-of-flight mass spectrometry chromatograms: substantial resolution enhancement in the context of statistical overlap theory*

P-5 **Lina Mikaliunaite** *(Markes International)* – GC×GC for the modern laboratory: enhancing aroma profiling and product comparison

P-7 **Dwight Stoll** *(Gustavus Adolphus College)* – Advances in method development strategies and tools for two-dimensional liquid chromatography

P-9 **Azusa Kubota** *(JEOL Ltd.)* – Analysis of aroma compounds in spices by comprehensive two-dimensional gas chromatography/time-of-flight mass spectrometry with machine learning-based structure elucidation and molecular formula estimation

P-14 **Madison O'Brien** (*William & Mary*) – Optimizing solvent selection and data reduction workflows for GC×GC fire debris analysis

P-15 **Breanna E. Christensen** (*William & Mary*) – Volatile characterization of American foulbrood disease using comprehensive two-dimensional gas chromatography

P-16 **Nicole Lock** (*PAC*) – Advanced fuel and petrochemical analysis with comprehensive two-dimensional gas chromatography (flow-modulated GC×GC-FID)

P-18 **Nathan Venegas** (*Cal State LA*) – Microplastics as vectors of organic contaminants on Southern California beaches: A TD/Py-GC×GC-TOFMS study

P-19 **Madison L. Williams** (*The State University at Buffalo New York*) – Comparison of solid phase microextraction coatings for headspace extraction of volatile perfluoroalkyl substances using one- and two-dimensional gas chromatography

P-22 **Zhanpin Wu** (*GC Image*) – Development of a fully software-controlled, alignment-free loop-delay thermal modulator for GC×GC

DAY 2 – WEDNESDAY January 14, 2026

8:30 - 8:45 AM	***Registration***
8:45 - 9:00 AM	**Opening Remarks**
9:00 - 9:30 AM	**KL-3 Peilin Yang** *(Dow Chemical)* - Multidimensional chromatography for chemical analysis – from small molecules to synthetic polymers
9:30 - 10:00 AM	**KL-4 Hilal Ezgi Toraman** *(Penn State University)* - Multidimensional gas chromatography for plastic waste pyrolysis
10:00 - 10:20 AM	**O-10 Maria Llambrich** *(Institut d'Investigació Sanitària Pere Virgili)* - GcDUO: automating GC×GC-MS data analysis via PARAFAC and PARAFAC2
10:30 - 11:00 AM	***Coffee Break***
11:00 - 11:20 AM	**O-11 Chad Pickens** *(AbbVie)* **-** Multidimensional chromatographic separations applied to therapeutic biomolecules
11:20 - 11:40 AM	**O-12 Jane Kawakami** *(Pfizer)* - Leveraging mechanistic and machine learning models to simplify two-dimensional liquid chromatography (2D-LC) method development for peak purity analysis
11:40 - 12:00 PM	**O-13 Chris Topper** *(Clemson University)* - Two-dimensional liquid chromatography isolation and quantification of immunoglobulin G and exosomes from cell culture media using capillary-channeled polymer fiber columns
12:00 - 12:20 PM	**O-14 Matt Sorensen** (*Eli Lilly and Company*) - Two-dimensional liquid chromatography-mass spectrometry applications in pharmaceutical development
12:20 - 1:20 PM	***Lunch***
1:30 - 1:50 PM	**O-15 Deklin Parker** *(Rowan University)* - Development of hardware and software approaches to comprehensive capillary 2D-LC
1:50 - 2:10 PM	**O-19 Emanuela Gionfriddo** *(University at Buffalo, SUNY)* - Effective (and multidimensional) strategies for the capture and separation of volatile PFAS in aqueous and gas phase
2:10 - 2:30 PM	**O-20 Jenna Diefenderfer** *(Arizona State University)* - Optimization of direct thermal extraction parameters for analysis of high-water-content samples using comprehensive two-dimensional gas chromatography
2:30 - 2:50 PM	**O-21 Caleb Marx** *(University of Lethbridge)* - Selection, optimization, and validation of thermal desorption for analysis of VOCs and PAHs in combustion smoke
3:00 - 4:00 PM	***Coffee Break, Poster Session, Lab Tours***
4:00 - 5:00 PM	**Speed Mentoring Session**

WEDNESDAY POSTER LIST

P-2 **Liz Humston-Fulmer** *(LECO Corporation)* – Non-target analysis of waste plastic pyrolysis oils (WPPO) by GC×GC-HRTOFMS

P-6 **Kenneth Hellstern** *(Markes International)* – Enhancing TD–GC×GC–TOF MS workflows for the reliable identification of malodours in recycled plastics

P-8 **Darakshan Zabin** *(Arizona State University)* – Identifying non-biological variance in untargeted analysis in breath VOCs

P-10 **Pierre-Hugues Stefanuto** *(Université de Liège)* – Archeological clue characterization using GC×GC–MS and multivariate analysis

P-11 **Robert Cody** *(JEOL USA, Inc.)* - What do we do with all that data? Complementary data processing methods for two-dimensional gas chromatography and mass spectrometry

P-12 **Nicolas Zimmermann** *(William & Mary)* – Characterizing PQSE's enzymatic activity in *Pseudomonas aeruginosa* by volatile organic compound analysis with GC×GC-TOFMS

P-13 **Kira Fisher** (*William & Mary*) – A sustainable approach to nontargeted analysis using hydrogen as a carrier gas for GC×GC

P-20 **Madison L. Williams** (*The State University at Buffalo New York*) – Painting a clearer picture: Untargeted perfluoroalkyl substance detection in household paints using solid phase microextraction and two-dimensional gas chromatography

P-21 **Zhanpin Wu** (*GC Image*) – Alignment and filtering tools for enhanced differencing of two-dimensional chromatograms

P-23 **Jackson Webb** (*William & Mary*) – The effect of using low-bleed columns in the first dimension for comprehensive two-dimensional gas chromatographic analyses

P-24 **Bryan Katzenmeyer** *(JEOL*) – The characterization of poly(1-butene) via pyrolytic conversion using comprehensive two-dimensional gas chromatography high-resolution time-of-flight mass spectrometry

P-25 **Virginia Weina** (William & Mary) – Decomposition analysis using differing data processing methods to identify volatile organic compounds

P-26 **Laney Hillman** (Gustavus Adolphus College) – Effect of column length on the resolving power of separations of non-ionic surfactants by two-dimensional liquid chromatography

DAY 3 – THURSDAY January 15, 2026

8:30 - 8:45 AM	***Registration***
8:45 - 9:00 AM	**Opening Remarks**
9:00 - 9:20 AM	**O-16 Kirk Jensen** *(JEOL USA, Inc.)* No more split ends? Flow-modulated GC×GC-QMS analysis without splitting off the GC flow
9:20 - 9:40 AM	**O-17 Paul-Albert Schneide** *(University of Copenhagen)* - One-shot tensor decomposition of full-scale two-dimensional gas chromatography datasets for resolving petrochemical groups
9:40 - 10:00 AM	**O-26 Petr Vozka** *(California State University LA)* - Counting Double Bonds: GC×GC–FID for Plastic Pyrolysis Oils
10:00 – 10:20 AM	**O-18 Hilkka Kenttämaa** *(Purdue University)* - Two-dimensional gas chromatography/electron and chemical ionization high-resolution mass spectrometry for chemical characterization of complex mixtures
10:20 - 10:50 AM	***Coffee Break***
10:50 - 11:10 AM	**O-22 Razieh Zamani** *(Purdue University)* - On-chip electromembrane surrounded solid-phase extraction coupled with GC-MS for determination of drugs in biological fluids: a green and sensitive technique
11:10 - 11:30 AM	**O-25 Ella Sontowski** (Gustavus Adolphus College) - Unexpected solvent selectivity effects encountered in two-dimensional liquid chromatography separations of non-ionic copolymer surfactants
11:30 - 11:50 PM	**O-24 Grace Saunders** *(William & Mary)* - Using scanning electron microscopy with energy dispersive X-ray spectroscopy and comprehensive two-dimensional gas chromatography to develop a combined approach to green gunshot residue analysis in the forensic laboratory
11:50 - 12:10 PM	**O-23 Darshil Patel** *(University of North Dakota)* - Identifying the transition from ante-mortem to post-mortem odor in cadavers in an outdoor environment
12:10 – 12:30	***Poster Awards (Sponsored by SCSC), Closing Remarks***