FINAL PROGRAM

SYMPOSIUM CHAIR
Professor Norman Dovichi

•

CONTACT
Ms. Janet Cunningham
Symposium/Exhibit Manager
Barr Enterprises
www.LinkedIn.com/in/BarrEnterprises
janet@barrconferences.com

HPLC 2018

47th International Symposium on High Performance Liquid Phase Separations and Related Techniques

July 29 - August 2, 2018 • Marriott Wardman Park • Washington, DC, USA

www.HPLC2018.org

thermo scientific

Separate your *productivity* from the status quo.

FLEXIBLE WORKFLOWS
Dual LC
Inverse Gradient
Tandem LC or LC-MS

Three workflows. Two flow paths. One integrated UHPLC solution.

Introducing the new Thermo Scientific™ Vanquish™ Duo UHPLC system for Dual LC.

Double your throughput or deepen your sample knowledge by running the same or different methods simultaneously on one instrument, improving your lab's productivity, sample knowledge, bench space usage and overall return on investment.

Find out more at **thermofisher.com/VanquishDuo**

ThermoFisher SCIENTIFIC

SHIMADZU
Excellence in Science

Don't let the need for higher sensitivity hold you back. It's Time for Micro LC-MS/MS

Shimadzu's New Nexera Mikros

Obtain microflow sensitivities with the confidence of analytical flow.
The microflow UHPLC-MS system accommodates a wide range of flow rates, from micro (0.1 µL/min) to semi-micro (500 µL/min).

Increased Sensitivity
Newly designed micro ESI source provides greater than ten times the sensitivity of standard UHPLC-MS systems.

Ease of Use
Column connection is now easy due to the unique UF-Link zero dead volume mechanism which decreases diffusion and increases signal.

Visit us at Booth 118

Learn more about Shimadzu's Nexera Mikros.
Call (800) 477-1227 or visit us online at www.ssi.shimadzu.com/mikros

Order consumables and accessories on-line at http://store.shimadzu.com Shimadzu Scientific Instruments Inc., 7102 Riverwood Dr., Columbia, MD 21046, USA

Agilent

Trusted Answers

Prime LC Performance Every Day

Agilent InfinityLab is an optimized portfolio of LC instruments, columns, and supplies designed to maximize the efficiency of your LC workflows.

The Agilent 1260 Infinity II Prime LC is the latest addition to the portfolio. Featuring high-performance instrumentation and automated solutions for mobile phase blending and method transfer, it's the most capable LC for your everyday analyses. Plus, it's the ideal choice for LC/MS—delivering convenience that gives you an advantage in your daily work.

See for yourself! Join Agilent in the exhibition hall at HPLC 2018!

SCIENTISTS' CHOICE AWARDS 18
WINNER

Winner of the SelectScience award for the Best New Separations Product of 2017.

ISET

BLEND ASSIST

800 BAR

Scientific Program

Advances and Emerging Trends in Separations Technologies

Are you interested in mass spectrometry, chromatography, or electrophoresis? Are you solving complex analytical problems? Are you looking for a conference with strong scientific content, a robust program, presentations by world renowned experts, lectures by young scientists, courses offering great training opportunities, tutorials, vendor technical workshops, best poster competition, and a major exposition showcasing new product launches and innovative products? Mark your calendar to attend HPLC 2018 Washington, DC, the largest, most recognized international conference in the world devoted to advances in separations technologies!

The program comprises 60 oral sessions of 200+ invited and contributed talks, presentations by exciting young scientists, vendor-sponsored technical workshops, practical educational short courses, tutorials that will provide outstanding opportunities for newcomers to obtain a solid foundation in the field and for veterans to update their knowledge, and an abundance of networking opportunities. Meanwhile, the major exposition will showcase the latest and greatest in instrumentation, software, tools, accessories, and consumables. Throughout the exhibition hall you will find hundreds of high quality scientific posters competing for awards in the best poster competition, new and innovative products, major launches of new products, ground-breaking technologies, and experts in the booths who will be available to discuss challenges and offer solutions that you will be able to take back to your lab.

Symposium Chair

Professor Norman Dovichi

DIAMOND CORPORATE SPONSORS

Agilent | SHIMADZU Excellence in Science | ThermoFisher SCIENTIFIC

GOLD CORPORATE SPONSORS

MilliporeSigma | Waters THE SCIENCE OF WHAT'S POSSIBLE.

SILVER CORPORATE SPONSORS

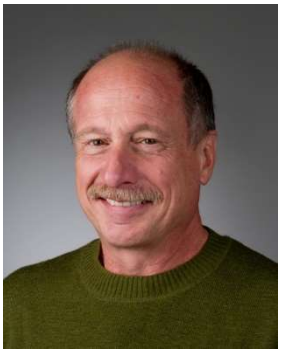
Genentech A Member of the Roche Group | Pfizer Biotech | phenomenex

Symposium & Exposition Manager

Ms. Janet Cunningham
c/o BARR Enterprises
P.O. Box 279, Walkersville, MD 21793 USA
301-668-6001 ✦ janet@barrconferences.com ✦ www.hplc2018.org

The **use of still or video cameras and cell phones is prohibited** during oral sessions and in the poster and exhibition areas without the express consent of the poster presenter or exhibitor. Opinions expressed by presenters, instructors and exhibitors are not necessarily the opinions of the HPLC 2018 Symposium. You must wear your official conference '**name badge in its badge holder**' (no badge sharing), and your 'name badge in its badge holder' must be completely visible at all times to enter and while you are inside the meeting rooms and exhibition hall. Persons without a visible name badge in its badge holder, or with a badge that is not their own name badge, will be escorted out of the meeting room or exhibition hall.

Welcome to Washington, DC and HPLC 2018



It is a great pleasure to welcome you to HPLC 2018 and to Washington, DC. The scientific committee has assembled an outstanding program with over 200 oral presentations by the world's leaders and by rising stars of separation science. We have nearly 350 posters; the poster sessions are where you can talk with the people who have really done the work. The program also has a valuable collection of tutorials, short courses, and vendor workshops that provide the opportunity to learn new technology to advance your career. The exhibition offers close-up views of the latest technology and chances to meet with vendors. Finally, we have a dynamic social program for you to network with old friends and meet new colleagues.

You will see the program has a strong focus on separations in the pharmaceutical industry. I am particularly interested in the sessions devoted to continuous manufacturing, which is a technology that provides significant opportunities for pharmaceutical synthesis that requires on-line analysis for optimization and quality control. There are several presentations on three-dimensional printing and micropillar arrays, which are new technologies for column preparation that allow the tailoring of novel liquid-phase separations. Finally, there is a sprinkling of presentations throughout the program on cannabis analysis, which is a field that is likely to experience significant growth as legalization spreads worldwide.

The conference is held in the Washington Marriott Wardman Park hotel, which is across the street from the Woodland Park/Zoo Metro Subway Station and is a 12-minute walk to the National Zoo. I encourage you to stroll over and see the pandas! The National Zoo is part of the Smithsonian Museum complex, and like all Smithsonian Museums, admission is free. Speaking of the Smithsonian Museums, I highly recommend a visit to the National Air and Space Museum, which is a half-hour Metro Subway ride from the hotel and which houses all sorts of cool artifacts to entertain your inner child! Go early—lines can be long for admission.

Sincerely,

Norm Dovichi

HPLC 2018 Symposium Chair

General Information

VENUE

Washington Marriott Wardman Park
2660 Woodley Road NW
Washington, DC 20008
Phone: 202-328-2000
http://www.marriott.com/hotels/travel/wasdt-washington-marriott-wardman-park/

NAME BADGES

A name badge in its badge holder must be worn by each registered participant and accompanying person in order to gain admittance to the meeting, exhibit hall and social gatherings. You must wear your official conference name badge in its badge holder (no badge sharing), and your name badge in its badge holder must be completely visible at all times to enter and while you are inside the meeting rooms and exhibition hall. Persons without a visible name badge in its badge holder, or with a badge that is not their own name badge, will be escorted out of the meeting room or exhibition hall.

MEETING LOCATIONS

Oral presentations take place in Marriott Ballroom Salon 3, Thurgood Marshall Ballroom, and the Madison Room located on the Mezzanine Level of the hotel. Poster Sessions, Exhibition, Mixers and Vendor Reception take place in Exhibition Hall C, located below Lobby Level (take down escalators to Exhibition Level). The Symposium Registration Desk is located on the Mezzanine Level of the hotel.

REGISTRATION HOURS

Sunday	2:30 PM – 8:15 PM
Monday	7:45 AM – 5:30 PM
Tuesday	7:45 AM – 5:30 PM
Wednesday	7:45 AM – 5:30 PM
Thursday	7:45 AM – 3:30 PM

EXHIBITS

The exhibition is an important component of the conference, so please take the time to thank the exhibitors for their generous support of the program by visiting the booths located in Exhibition Hall C, located below Lobby Level (take down escalators to Exhibition Level).

Exhibit Hours:

- Monday 8:00 AM - 4:45 PM
- Tuesday 8:00 AM - 7:30 PM
- Wednesday 8:00 AM - 4:30 PM

SOCIAL NETWORKING

Sunday Welcome Reception	6:50 PM - 8:20 PM	Marriott Ballroom Salon 3
Monday Mixer	12:15 PM - 1:30 PM	Exhibition Hall C
Tuesday Mixer	12:15 PM - 1:30 PM	Exhibition Hall C
Tuesday Vendor Reception	6:00 PM - 7:30 PM	Exhibition Hall C
Wednesday Mixer	12:15 PM - 1:30 PM	Exhibition Hall C
Wednesday Conference Dinner	7:30 PM - 10:30 PM	Pier 4 at Wharf (ticket required)
Thursday Morning Break	10:00 AM - 11:15 AM	Exhibition Hall C
Thursday Farewell Reception	6:00 PM - 7:00 PM	Thurgood Marshall Ballroom

MESSAGE AND JOB POSTINGS BOARD

Message and Job Posting board is located in Exhibition Hall C, located below Lobby Level – take down escalators to Exhibition Level.

Oral Presentation Guidance

- Prior to the start of each session, please arrive at your session at least 20 minutes before the start of the session to introduce yourself to the session chair and to submit your presentation on a flash drive labeled with the presenter's name. Important to note that if there is no time to submit your presentation between sessions, please submit the presentation during the break that immediately precedes your session.

- When you are next to present in your session, please come to the podium and get your presentation set up during the question period for the previous talk.

- We recommend that you use the computer that is provided unless using your own computer is essential to avoid software/hardware compatibility issues. Computers running Windows XP will be available with PowerPoint and Acrobat Reader software using standard default settings. Please read Lecture Guidelines posted under the link to Author Instructions at HPLC2018.org.

- Kindly note that session chairs are under very strict instructions to keep their sessions on schedule.

Poster Presentation Guidance

POSTER TOPICS The summary of Poster Session Topics is located on the following page.

POSTER SET UP
– ALL posters must be set up on Monday, July 30, at 8:00 AM to 9:45 AM.
– ALL posters stay up all week on the poster boards so they may be viewed throughout the week (do NOT remove until Thursday).

POSTER TEAR DOWN Remove all posters on Thursday at 11:15 AM to 1:30 PM, after Poster Session 7.

POSTER SESSIONS
– Posters are located in Exhibition Hall C (located below Lobby Level – Take down escalators to Exhibition Level)
– Poster board numbers correspond to the poster presentation numbers in the Final Program.
– To verify your poster board number, please search for your name within the Scientific Program.
– Authors presenting posters are required to be in attendance at their poster board during the Poster Session on the day/time of their poster presentation.
– Reprint envelopes are attached to the poster boards. To request reprints of poster abstracts, please insert your business card in the envelope. Each day, poster presenters should look in their reprint envelopes to retrieve any business cards that may be inside the envelope.
– Leave the poster on the poster board all week; do not remove until Thursday.

KEY TO POSTER BOARD & ABSTRACT NUMBERS

First Symbol	P = Poster Presentation	**P**-W-1800
	L = Lecture Presentation	**L**-T-201
Second Symbol	Day to present poster T = Tuesday W = Wednesday Th = Thursday	P-**W**-1800
Third Symbol	Poster Presentation Number	P-W-**1800**
	Lecture Presentation Number	L-**201**

HPLC 2018 Best Poster Awards Competition
(sponsored by Agilent Technologies)

Poster abstracts that were submitted by April 30 and accepted for poster presentation are under consideration for best poster awards. The posters presented at HPLC 2018 will be reviewed by an international panel of scientists. The presented posters will be evaluated based on:

- Scientific contribution and originality of work.
- Completeness of work and quality of experimental or theoretical execution.
- Presentation and readability of the poster.

Presentations by Finalists for Consideration of Best Poster Awards

- By early Thursday morning, there will be special signs on the boards of the posters under consideration.
- Finalists for consideration of best poster awards will present during Poster Session 7 on Thursday, August 2, at 10:00-11:15 a.m.
- Poster presenters who make it into the final round to present during Poster Session 7 are asked to stay until the Agilent Technologies Best Poster Awards ceremony that takes place on Thursday, August 2, at 4:00 p.m.

Cash Prizes will be awarded and presented at the Closing Ceremony on Thursday, August 2

HPLC 2018 Proceedings

All authors of both oral and poster presentations are kindly encouraged to submit manuscripts based on your presentation(s) at HPLC 2018 for possible publication in the *Journal of Chromatography A* or *Journal of Chromatography B*, with the intention of publishing in a joint Special Issue that is dedicated to HPLC 2018. The Special Issue essentially rules out possible delays in publication for contributors to the special issue. Please see below the publication process:

- All papers will go through normal peer review process per journal standard;
- Papers will be published as soon as they are accepted in earliest available regular journal volumes at ScienceDirect, which ensures very fast publication speed for individual authors;
- There will be Footnotes included in each accepted paper, indicating at which conference it was presented;
- The collection of finally accepted papers will be prepared and hosted on a dedicated Special Issue site – with links to the papers on Science Direct, retaining all original citation details.

Authors are suggested reading carefully on the Scope of these two journals before selecting which journal for publication.

Submission instructions:

- Submission link:
  JCA: http://ees.elsevier.com/chroma
  JCB: https://www.evise.com/profile/#/CHROMB/login
- First-time user will need to register;
- Please select Special Issue short title "VSI: HPLC2018 Washington" during submission process;
- Please follow the step-by-step guide in completing the submission procedure;
- Submission deadline: 30th Nov 2018

When preparing your manuscript(s), please carefully follow the Guide to Authors of your selected journal, which you can find at each journal's homepage site. In the cover letter please mention that your manuscript is intended for the HPLC2018 Washington Special Issue.

Please note that all manuscripts will be subjected to the mandatory selection process for the journal selected, including the strict peer review procedure; therefore, acceptance for presentation at the conference is not a guarantee for publication in the journals.

Thanks for your attention and looking forward to your contribution!

Elsevier Team

HPLC 2018 Poster Sessions and Topics
Location: Exhibition Hall C

(Located below Lobby Level – take down escalators to Exhibition Level)

POSTER SESSION 1
Monday @ 10:00 - 11:15 AM

Posters	Session Topics
P-M-0100	Sample Preparation
P-M-0200	Environmental and Energy Applications
P-M-0300	Characterization of Monoclonal Antibodies/Drug Conjugates/Protein-based Drugs

POSTER SESSION 2
Monday @ 2:50 - 4:30 PM

Posters	Session Topics
P-M-0400	Stationary Phases
P-M-0500	Emerging Separation Methods
P-M-0600	Foods/Beverages and Nutrition
P-M-0700	Electrically-driven Separations/Capillary Electrophoresis

POSTER SESSION 3
Tuesday @ 10:00 - 11:15 AM

Posters	Session Topics
P-T-0800	Protein Characterization and Modification
P-T-0900	Omics (metabolomics/lipidomics/glycomics/proteomics/genomics)
P-T-1000	Method Development and Automation

POSTER SESSION 4
Tuesday @ 2:50 - 4:30 PM

Posters	Session Topics
P-T-1100	Multi-dimensional Separations
P-T-1200	Design of Experiments and Quality by Design
P-T-1300	Supercritical Fluid Chromatography
P-T-1400	Instrument Design and Applications

POSTER SESSION 5
Wednesday @ 10:00 - 11:15 AM

Posters	Session Topics
P-W-1500	Microfabricated Systems/Nanoscience and Materials
P-W-1600	Forensics/Toxicology/Drugs of Abuse
P-W-1700	Biopharmaceutical and Pharmaceutical Applications
P-W-1800	LC Column Technology

POSTER SESSION 6
Wednesday @ 2:50 - 4:30 PM

Posters	Session Topics
P-W-1900	Chiral Separations
P-W-2000	Quantitative Hyphenated Mass Spectrometry Techniques
P-W-2100	Natural Products

POSTER SESSION 7
Thursday @ 10:00 - 11:15 AM

Presentations by Finalists for Consideration of Best Poster Awards
Best Poster Awards ceremony at 4:00 PM is sponsored by Agilent Technologies

HPLC 2018 Sponsors, Exhibitors, and Media Partners

908 Devices
Activated Research Company
Advanced Chemistry Development (ACD/Labs)
Advanced Chromatography Technologies (ACE)
Agilent
AkzoNobel/Kromasil
American Laboratory
American Pharmaceutical Review
Analyst
Analytical Chemistry
Analytical Scientist
Axcend Corporation
AZYP, LLC
Bioanalysis-Zone
Bioprocessing Journal
Biotage
Birch Biotech
Chem Service, Inc.
Chiral Technologies
Chromatographia
Chromatography Today
CryoBioPhysica
Elsevier
ES Industries
European Pharmaceutical Review
Genentech
GENews
G.I.T. Laboratory Journal
GL Sciences
Hamilton Company
HPLC 2019-Milan
HPLC 2019-Kyoto
HPLC 2020-San Diego
Imtakt USA
International Labmate
Innovations in Pharmaceutical Technology
JASCO
Journal Chromatographic Science
Journal of Separation Science
Journal Proteome Research
KNAUER
LabBulletin
LabCompare
Lab Worldwide
LCGC
LGC Standards
MAC-MOD Analytical
Metabolites MDPI
MicroSolv
MilliporeSigma
Molex - Polymicro
Molnar-Institute for Applied Chromatography
Mott Corporation
Nanofilm Technologies International
Optimize Technologies
Pfizer
PHARMAFLUIDICS
Phenomenex
Postnova Analytics
Princeton Chromatography
Regis Technologies
Restek
S.C.A.T. Europe
SCIEX
SelectScience
separationsNOW.com
Separations MDPI
SeparationScience
Sepax Technologies
Shimadzu Scientific Instruments
Shodex, Showa Denko America
S-Matrix Corporation
Technology Networks
Thermo Fisher Scientific
Tosoh Bioscience
USP
VICI
Waters Corporation
Wyatt Technology
YMC America

HPLC 2018 Supporting Scientific Organizations

Analytical Division of the CIC (Canada)

Austrian Society of Analytical Chemistry (Austria)

CASSS, an International Separation Science Society (USA)

Central European Group for Separation Sciences

Chicago Chromatography Discussion Group (USA)

Chinese American Chromatography Association, CACA

Chromatographic Society (UK)

Chromatography and Electrophoresis Group of the Czech Chemical Society (Czech Republic)

Chromatography Forum of the Delaware Valley (USA)

Committee of Analytical Chemistry of the Polish Academy of Sciences (Poland)

Delaware Valley Mass Spectrometry Discussion Group (USA)

Division of Analytical Chemistry of the American Chemical Society (USA)

European Society for Separation Sciences

German Chemical Society (Germany)

Greater Boston Mass Spectrometry Discussion Group (USA)

HPLC Inc. (USA)

Hungarian Society for Separation Sciences (Hungary)

Interdivisional Group of Separation Science of the Italian Chemical Society (Italy)

MASSEP.org (USA)

Norwegian Chromatographic Group of the Norwegian Chemical Society (Norway)

Pacific Northwest Mass Spectrometry Group, PacMass (USA)

Pharmaceutical and Bioscience Society, International, PBSS (USA)

Society for Chromatographic Sciences (Japan)

Washington-Baltimore Mass Spectrometry Discussion Group (USA)

Washington Chromatography Discussion Group (USA)

Working Group Separation Science of the German Chemical Society (Germany)

HPLC 2018 Scientific Committee

*Member of the Permanent Scientific Committee

Daniel Armstrong	University of Texas - Arlington (USA)
Gert Desmet*	Vrije Universiteit Brussel (Belgium)
Atilla Felinger*	University of Pecs (Hungary)
Gérard Hopfgartner*	University of Geneva (Switzerland)
Robert Kennedy*	University of Michigan (USA)
Milton Lee	Brigham Young University (USA)
Xingfang Li	University of Alberta (Canada)
Koji Otsuka*	Kyoto University (Japan)
Aran Paulus	Thermo Fisher Scientific (USA)
Janus Pawliszyn	University of Waterloo (Canada)
Peter J. Schoenmakers*	University of Amsterdam (The Netherlands)
Hailin Wang	Res. Center for Eco-Environmental Sci., CAS (China)
Mary Wirth	Purdue University (USA)
Guowang Xu*	Dalian Institute of Chemical Physics, CAS (China)
John Yates*	The Scripps Research Institute (USA)
Edward Yeung*	Iowa State University (USA)
Kelly Zhang*	Genentech (USA)

HPLC 2018 Organizing Committee

Lois Ann Beaver	LAB Enterprises (USA)
Tosin Dada	Seattle Genetics (USA)
Monika Dittmann	Agilent Technologies (Germany)
Cexiong (Winston) Fu	Shire (USA)
Hernan Fuentes	Ardelyx (USA)
Martin Gilar	Waters Corporation (USA)
James Grinias	Rowan College (USA)
Yingmei Gu	Eli Lilly & Co (USA)
Roy Helmy	Merck (USA)
Lisa Holland	West Virginia University (USA)
Sergey Krylov	York University (Canada)
Ronald Majors	LCGC (USA)
Peter Nemes	George Washington University (USA)
Mark Schure	Kroungold Analytical (USA)
Frantisek Svec	Lawrence Berkeley National Laboratory (USA)
Karen Waldron	University of Montreal (Canada)
Hui Zhang	Johns Hopkins University (USA)

Conference History and Future Meetings

The HPLC series since its first edition in 1973 in Interlaken, Switzerland, has established itself as one of the leading conferences in analytical chemistry and in particular in the field of separations sciences and related topics. The emphasis of the meeting will be around fundamentals aspects of separations sciences, sample preparation, novel developments and applications as well as hyphenation with mass spectrometry.

HPLC is an international forum for the scientific discussion of the methods of high performance liquid chromatography in its various forms, along with the complementary separation techniques such as electrophoresis, electrochromatography, field-flow fractionation, supercritical fluid chromatography and hyphenated techniques, such as LC/MS and CE/MS. In addition, microfluidics, separations on chips, diagnostic systems, and other leading technologies are also considered.

This conference originated in 1973. Advances in the field of liquid-phase separations are highlighted at each meeting. The meetings alternated between Europe and the United States with even years being in the US. Since 2008 additional meetings are held in Asia and other continents.

Year	No.	Location	Chair(s)
1973	1st	Interlaken, Switzerland	Willy Simon
1975	2nd	Wilmington, USA	Jack J. Kirkland
1977	3rd	Salzburg, Austria	Joseph F.K. Huber
1979	4th	Boston, USA	Barry L. Karger
1981	5th	Avignon, France	Georges Guiochon
1982	6th	Cherry Hill, USA	Robert Bardford
1983	7th	Baden-Baden, Germany	Klaus Peter Hupe
1984	8th	New York City, USA	Csaba Horváth
1985	9th	Edinburgh, UK	John H. Knox
1986	10th	San Francisco, USA	Ronald E. Majors
1987	11th	Amsterdam, The Netherlands	Hans Poppe
1988	12th	Washington, USA	Georges Guiochon
1989	13th	Stockholm, Sweden	Douglas Westerlund
1990	14th	Boston, USA	Barry L. Karger
1991	15th	Basel, Switzerland	Fritz Erni
1992	16th	Baltimore, USA	Fred E. Regnier
1993	17th	Hamburg, Germany	Klaus K. Unger
1994	18th	Minneapolis, USA	Larry D. Bowers and Peter W. Carr
1995	19th	Innsbruck, Austria	Wolfgang Lindner
1996	20th	San Francisco, USA	William S. Hancock
1997	21st	Birmingham, UK	Anthony F. Fell
1998	22nd	St. Louis, USA	Daniel W. Armstrong
1999	23rd	Granada, Spain	Emilio Gelpi
2000	24th	Seattle, USA	Edward S. Yeung
2001	25th	Maastricht, The Netherland	Hans Poppe and Henk Lingeman
2001	25th	Kyoto, Japan	Nobuo Tanaka and Shigeru Terabe
2002	26th	Montreal, Canada	Irving W. Wainer

Year	No.	Location	Chair(s)
2003	27th	Nice, France	Antoine M. Siouffi
2004	28th	Philadelphia, USA	Mark R. Schure
2005	29th	Stockholm, Sweden	Douglas Westerlund
2006	30th	San Francisco, USA	John H. Frenz
2007	31st	Gent, Belgium	Jacques Crommen and Pat Sandra
2008	32nd	Baltimore, USA	Georges Guiochon and Steven Jacobson
2008	33rd	Kyoto, Japan	Koji Otsuka and Nobuo Tanaka
2009	34th	Dresden, Germany	Christian Huber
2010	35th	Boston, USA	Steven A. Cohen
2011	36th	Budapest, Hungary	Attila Felinger
2011	37th	Dalian, China	Yukui Zhang and Peter Schoenmakers
2012	38th	Anaheim, USA	Frantisek Svec
2013	39th	Amsterdam, The Netherlands	Peter Schoenmakers
2013	40th	Hobart, Australia	Paul Haddad and Emily Hilder
2014	41st	New Orleans, USA	J. Michael Ramsey
2015	42nd	Geneva, Switzerland	Gérard Hopfgartner
2015	43rd	Beijing, China	Guibin Jiang
2016	44th	San Francisco, USA	Robert T. Kennedy
2017	45th	Prague, Czech Republic	Michal Holcapek and Frantisek Foret
2017	46th	Jeju, South Korea	Doo Soo Chung
2018	47th	Washington, DC, USA	Norman Dovichi
2019	48th	Milan, Italy	Alberto Cavazzini and Massimo Morbidelli
2019	49th	Kyoto, Japan	Koji Otsuka
2020	50th	San Diego, USA	Mary Wirth
2021	51st	Dusseldorf, Germany	Michael Laemmerhofer

Csaba Horváth Young Scientist Award (sponsored by HPLC Inc.)

About the Award

The purpose of the Award is to honor the memory of Csaba Horváth and recognize his contributions to HPLC, including his interest in fostering the careers of young people in separation science and engineering. The award includes an invitation to speak at the HPLC 2019 symposium, a grant to support travel to that meeting, and a trophy engraved with the winner's name. The award is sponsored by HPLC, Inc. The award will be presented during the Closing Ceremony on Thursday, August 2.

Eligibility Criteria

All presenters of oral contributions (excepting past winners) who are less than 35 years of age at the time of their lecture are eligible for consideration. Candidates will be required to provide evidence of eligibility (e.g., passport, driver's license).

Selection Process

The Scientific Committee selects abstracts for inclusion in the oral program. An Award Jury judges the eligible presentations and chooses a winner. The winner will be announced at the closing ceremony.

About Csaba Horváth

Professor Csaba Horváth (1930-2004) was born in Hungary and graduated in chemical engineering from the Budapest Institute of Technology. After receiving his Ph.D. in physical chemistry at the J.W. Goethe University in Frankfurt under the direction of Prof. Halász, he immigrated to the United States in 1963 and started research at the Harvard Medical School. In the following year, Dr. Horváth moved to Yale where he designed and built the first high performance liquid chromatograph to demonstrate the feasibility and potential of HPLC in bioseparation sciences. He chaired the Department of Chemical Engineering at Yale from 1987 to 1993 and was named as Roberto C. Goizueta Professor of Chemical Engineering in 1998. Professor Horváth contributed close to 300 publications to the field of separation sciences and had nine patents. His main topics were all fundamental aspects of separations, including instrumentation, stationary phase designs, and mechanisms of separation processes, as well as their application mainly to biological and biomedical research, especially for the high-resolution separation of proteins and peptides.

Past Recipients of the Csaba Horváth Young Scientist Award

HPLC 2006 San Francisco, USA	Norma Scully, University of Cork, Ireland
HPLC 2007 Gent, Belgium	Caterina Temporini, University of Pavia, Italy
HPLC 2008 Baltimore, USA	Jude Abia, University of Tennessee, USA
HPLC 2009 Dresden, Germany	André de Villiers, Stellenbosch University, South Africa
HPLC 2010 Boston, USA	Jesse Omamogho, University College Cork, Ireland
HPLC 2011 Budapest, Hungary	Matthias Verstraeten, Free University of Brussels, Belgium
HPLC 2012 Anaheim, USA	Stefan Bruns, Philipps-Universität Marburg, Germany
HPLC 2013 Amsterdam, The Netherlands	James Grinias, University of North Carolina Chapel Hill, USA
HPLC 2014 New Orleans, USA	William Black, University of North Carolina Chapel Hill, USA
HPLC 2015 Geneva, Switzerland	Andrea Gargano, University of Amsterdam, The Netherlands
HPLC 2016 San Francisco, USA	Simone Dimartino, University of Edinburgh, UK
HPLC 2017 Prague, Czech Republic	Bob Pirok, University of Amsterdam, The Netherlands

Georges Guiochon Faculty Fellowship (sponsored by HPLC Inc.)

About the Fellowship

The purpose of the Fellowship is to honor the memory of Georges Guiochon and recognize his major contributions to HPLC, including his interest in fostering the careers of young people in separation science. The Fellow will be selected annually and will receive a $15,000 research grant and a commemorative plaque. The inaugural Fellow will be expected to present specially dedicated lectures at the HPLC 2018 symposium in Washington, DC and at the HPLC 2019 symposium in Milan, Italy for which travel support will be provided. The Fellowship is sponsored by HPLC, Inc. The award will be presented during the Opening Plenary Session on Sunday, July 29.

Eligibility Criteria

All full-time faculty members at U.S. academic or government institutions who are within 10 years of their first independent research appointments at the time of the award are eligible for consideration. The selection process will be based on overall excellence in research in fields aligned with liquid phase separation science.

Nominations

Nominations are welcome from any individual or institution and are due on January 9, 2018. Individual faculty members may nominate themselves. All nominations should include a brief professional biography of the candidate and a complete publication list. Up to two seconding letters may also be included but not required. A citation of 200 words or less stating why the candidate is worthy of the Fellowship should be submitted. The complete package should be sent as an email attachment to the Secretary/Treasurer of HPLC Inc., currently Professor Edward Yeung (edyeung@iastate.edu).

Selection Process

The U.S. members, one European member and one Asian member of the Permanent Scientific Committee of the HPLC series, will select the Fellow annually and an announcement will be made 5 months prior to the HPLC meeting of that year.

About Georges Guiochon

Professor Georges Guiochon (1931-2014) was born in France. He graduated in 1953 with an MS degree in engineering at Ecole Polytechnique (Paris, France) and received a Ph.D. in chemistry from the University of Paris (France) in 1958. He was a Professor of Chemistry at Ecole Polytechnique (1958-1985) and at the University Pierre et Marie Curie of Paris (1968-1984), then at Georgetown University, Washington, D.C. (1984-1987). He was appointed a Distinguished Professor at the University of Tennessee (Department of Chemistry) and a Senior Scientist at the Oak Ridge National Laboratory (Division of Chemical Sciences) in 1987. Georges Guiochon was the undisputed master of the theory in almost all fields related to chromatography. He presented many rigorous treatments on retention and, especially, efficiency in liquid chromatography. He provided the theoretical foundation for the large-scale application of preparative chromatography, which is now one of the key technologies of the emerging biopharmaceutical industry. More recently, Georges Guiochon guided the re-emergence of supercritical-fluid chromatography in the fundamentally correct directions. No other scientist has demonstrated the breadth of knowledge, nor the unceasing motivation, that Georges Guiochon used to shape the field of chromatography to where it is today. His efforts garnered awards that included 2 from the ACS and the LCGC Lifetime Achievement Award. He received honorary doctoral degrees from the Universities of Pardubice, Ramon Llull (Barcelona), Ferrara, and Science and Technology (Liaoning), and was inducted into the Spanish Academy of Science in 2011. He published 10 books and about 1100 peer-reviewed papers while performing research with over a hundred graduate students and post-doctoral fellows.

Faculty Fellows

2015 Professor Amy E. Herr, University of California, Berkeley
2016 Professor Ying Ge, University of Wisconsin-Madison
2017 Professor Dwight Stoll, Gustavus Adolphus College
2018 Professor Peter Nemes, University of Maryland, College Park

Uwe D. Neue Award in Separation Science (sponsored by Waters Corporation)

The Uwe D. Neue Award was created to recognize scientists that have made and continue to make significant contributions to the field of separation science, in honor of the legacy of Dr. Uwe D. Neue, late scientist and Waters® Corporate Fellow. The award will honor a distinguished industrial scientist, preferably 15-20 years after receiving his or her doctoral degree, who has made a significant contribution to the field of separation science and continues to advance it. In addition, the awardee should be an industrial scientist, and one who was instrumental in the embodiment of technology in commercial products. The award will be presented during the Opening Plenary Session on Sunday, July 29.

Waters
THE SCIENCE OF WHAT'S POSSIBLE.®

Finalists for Consideration of the 2018 Csaba Horváth Young Scientist Award
Presentation of the award takes place on Thursday, August 2, during the Closing Ceremony

Finalist	Oral Session	Presentation Title
Martina Catani University of Ferrara Ferrara, Italy	Monday Session 2B. New Stationary Phases-I	Investigation of Mass Transfer Phenomena and Thermodynamic Properties of New Generation Porous Particles for Ultrafast High-Efficient Enantioseparations
Alexander Zestos American University Washington, DC, USA	Monday Session 2B. New Stationary Phases-I	LC-MS/MS Method to Detect Neurotransmitters during Period of Drug Abuse
Zhenbin Zhang University of Notre Dame Notre Dame, IN, USA	Tuesday Session 6B. Process Analytical - Continuous Manufacturing-II	Preparation of Coated Capillary with Reversible Addition-Fragmentation Chain Transfer Polymerization Method and Its Application in Capillary Zone Electrophoresis-Electrospray-Tandem Mass Spectrometry for Bottom-Up Proteomics
Lissa Anderson NHMFL ICR Program Tallahassee, FL, USA	Tuesday Session 6B. Process Analytical - Continuous Manufacturing-II	Analyses of Intact Proteins by On-line LC-FT-ICR Mass Spectrometry at 21 Tesla
Ravindra Hegade University of Gent Ghent, Belgium	Tuesday Session 9B. SFC and Multidimensional Separations	Enhanced Resolution of Stereoisomers through Stationary Phase Optimized Selectivity Liquid and Supercritical Fluid Chromatography (SOS-LC and SOS-SFC)
Theodora Adamopoulou University of Amsterdam Amsterdam Netherlands	Tuesday Session 9B. SFC and Multidimensional Separations	Creating Devices for Multidimensional Separations based on Computational Insights
Hisashi Shimizu University of Tokyo Tokyo, Japan	Wednesday Session 10B. Microfabricated Devices-I	Separation of Proteins at Femtoliter Scale using Extended-Nano Channel for Single Cell Proteomics
Camille Lombard-Banek University of Maryland College Park, MD, USA	Wednesday Session 10B. Microfabricated Devices-I	Microprobe CE-ESI-HRMS for In-situ Analysis of Proteins and Metabolites in Single Embryonic Cells

Sunday Short Course Program
Great Training Opportunities at HPLC 2018

SUNDAY, JULY 29	**Course #**	**Full-day Short Courses** (must pre-register)
9:00 am – 4:00 pm Mezzanine Level MADISON-B Room	Course 1	Two-dimensional Liquid Chromatography: Principles, Instrumentation, Method Development, and Applications
9:00 am – 4:00 pm Mezzanine Level TYLER Room	Course 2	The Role of Chromatography in the Analysis and Characterization of Protein Therapeutic Drugs
9:00 am – 4:00 pm Mezzanine Level MADISON-A Room	Course 3	LC-MS and LC-MS/MS of Small Molecules
SUNDAY, JULY 29	**Course #**	**Morning Short Courses** (must pre-register)
9:00 am – 12:00 pm Mezzanine Level TRUMAN Room	Course 4	HPLC/UHPLC Method Development
9:00 am – 12:00 pm Mezzanine Level TAYLOR Room	Course 5	Contributions of LC and LC/MS to Characterize Protein Glycosylation
9:00 am – 12:00 pm Mezzanine Level TAFT Room	Course 6	Introduction to Capillary Liquid Chromatography
SUNDAY, JULY 29	**Course #**	**Afternoon Short Courses** (must pre-register)
1:00 pm – 4:00 pm Mezzanine Level TRUMAN Room	Course 7	HPLC Operation, Maintenance and Troubleshooting
1:00 pm – 4:00 pm Mezzanine Level TAYLOR Room	Course 8	The Essential Roles of Separation Science in Mass Spectrometry-Based Metabolomics for Biomarker Discovery in Clinical Research
1:00 pm – 4:00 pm Mezzanine Level TAFT Room	Course 9	Cannabis Analysis

FREE TUTORIALS (Monday, Tuesday, Wednesday)

The tutorial track is part of the educational mission of HPLC 2018. Experts are asked to give presentations on a topic with more background than might be found in a typical 20-minute talk. The goal is to make the topic more accessible to those less expert in the area. In some cases, discussion and other interactive activities may be used. (Open to all who are registered as full industry/government, academic, one-day, or student conferees, first-come seating.)

TUTORIALS		
Monday, July 30	**Tutorial Title**	**Tutorial Presenter**
8:55-9:40 am Mezzanine Level MADISON Room	Session 2D. Molecular Characterization of Biotherapeutic Proteins: Concepts and Challenges for Separation Science and Mass Spectrometry	Christian G. Huber University of Salzburg
11:15 am-12:00 pm Mezzanine Level MADISON Room	Session 3D. Analytical Challenges in the Development and Implementation of Continuous Manufacturing Processes	Todd Maloney Eli Lilly and Company
1:55-2:40 pm Mezzanine Level MADISON Room	Session 4D. Chiral Separations	Christopher J. Welch Indiana Consortium for Analytical Science and Engineering
4:55-5:40 pm Mezzanine Level MADISON Room	Session 5D. Prospects of Monolithic Columns for LC in the Era of Sub 2-Micrometer Particles	Frantisek Svec Charles University
TUTORIALS		
Tuesday, July 31	**Tutorial Title**	**Tutorial Presenter**
8:55-9:40 am Mezzanine Level MADISON Room	Session 6D. Capillary Electrophoresis Coupled with Mass Spectrometry for the Analysis of Biomolecules and Biopharmaceuticals	David Chen University of British Columbia
11:15 am-12:00 pm Mezzanine Level MADISON Room	Session 7D. Designing Efficient Workflows to Support an HPLC Procedural Lifecycle	Robert Hartman Merck & Co., Inc.
1:55-2:40 pm Mezzanine Level MADISON Room	Session 8D. Preparing Your Manuscript and Publishing it from an Editor's Perspective	Jonathan Sweedler University of Illinois at Urbana-Champaign
4:55-5:40 pm Mezzanine Level MADISON Room	Session 9D. Modeling Peptide Separations in Proteomics Era: HPLC (RP, HILIC, SCX) and CZE	Oleg Krokhin University of Manitoba
TUTORIALS		
Wednesday, August 1	**Tutorial Title**	**Tutorial Presenter**
8:55-9:40 am Mezzanine Level MADISON Room	Session 10D. Striking the Right Balance between Preparative RP-HPLC and Supercritical Fluid Chromatography to Support Drug Discovery	Mengling Wong Genentech
11:15 am-12:00 pm Mezzanine Level MADISON Room	Session 11D. 3D Printing in the Separation Science	Simone Dimartino University of Edinburgh
1:55-2:40 pm Mezzanine Level MADISON Room	Session 12D. Current Supercritical Fluid Chromatography	Lucie Novakova Charles University
4:55-5:40 pm Mezzanine Level MADISON Room	Session 13D. Development of HPLC Methods for the Release & Characterization Testing of Antibody-Drug Conjugates	Michael Fleming ImmunoGen Inc.

Monday Free Vendor Technical Workshops
pre-register at sponsor's booth to attend

Monday, July 30, 2018 @ 12:25-1:25 PM

Extend Your Application Reach with the New PrimeLC and SFC Solutions

Sponsored by Agilent Technologies

Location: Thurgood Marshall Ballroom North (Mezzanine Level)

Speakers: Martin Greiner, Marketing Manager Core LC and Daniel Kutscher, R&D, Agilent Technologies

The Agilent 1260 Infinity II PrimeLC is the newest family member of the InfinityLab LC series. High-pressure-mixing binary pump-like performance, automated solvent blending and seamless method transfer capability (ISET), representing the most capable LC. Discover the obvious choice paired with the Agilent Ultivo Triple Quadrupole. The Agilent InfinityLab SFC Solution provides the most powerful instrumentation available extending your application reach in multiple analysis types. This novel tool combines- feed injection for larger injection volumes with ultra-fast separation for answers to challenging chiral and achiral separations. The Agilent InfinityLab SFC solution reduces toxic solvent use, making your lab greener.

Monday, July 30, 2018 @ 12:25-1:25 PM

Effectively Supporting Synthetic Chemistry for Pharmaceutical and Academic Research

Sponsored by Thermo Fisher Scientific

Location: Madison Room (Mezzanine Level)

Speaker: Dr. Frank Steiner, Senior Manager, Application Development & Scientific Advisor, Thermo Fisher Scientific, Germering

Monitoring the synthesis of small or larger molecules is a key activity in pharmaceutical but also academic research. The investigation of new structural entities and compounds often requires re-creation of the characterized novel structures to conduct further general research or identify therapeutic properties. This workshop will showcase our comprehensive new workflow solution discussing not only fast mass confirmation, but also how to produce better mass balances of unknown impurities and non-chromophores. In addition, we discuss advanced system configurations multiplying detection options as well as productivity of multi-detector UHPLC setups.

Monday, July 30, 2018 @ 12:25-1:25 PM

Perfect Fit in Pharmaceutical Drug Development – Best Solutions for Small and Large Molecules

Sponsored by MilliporeSigma

Location: Thurgood Marshall Ballroom West (Mezzanine Level)

Speakers: Jason Wrigley, MilliporeSigma, and Petra Lewits, Merck KGaA

HPLC is the preferred method for determination of pharmaceutical drugs, degradations, impurity profiling, and for analytical characterization during drug development. HPLC allows for the development of robust and reliable analytical methods with desired sensitivity and selectivity while also meeting cost effective requirements in a laboratory. It is therefore important to use the right column for small and large molecules depending on individual needs. Different column technologies and selectivities are available for impurity profiling and QC of APIs. This seminar will cover the best solutions for separation of small and large molecules in the pharmaceutical workflow.

Tuesday Free Vendor Technical Workshops
pre-register at sponsor's booth to attend

Tuesday, July 31, 2018 @ 12:25-1:25 PM

Simple Approaches to Charge Variant Analysis

Sponsored by Thermo Fisher Scientific

Location: Thurgood Marshall Ballroom West (Mezzanine Level)

Speaker: Jonathan Bones, Principal Investigator, NIBRT Characterization and Comparability Laboratory, NIBRT

The characterization of monoclonal antibodies (mAbs) during biopharmaceutical development involves the identification, monitoring, and analysis of charge variants. Antibodies can exhibit changes in charge heterogeneity during production and purification caused by amino acid substitutions, glycosylation, and other post-translational or chemical modifications. Not only can these changes impact stability and activity, they can also cause adverse immunological reactions. Identification of charge variants in development, and their monitoring throughout manufacturing is therefore critical. In this presentation the use of ion exchange and reverse phase approaches is discussed along with enabling technologies that simplify analysis.

Tuesday, July 31, 2018 @ 12:25-1:25 PM

Maximizing Sensitivity without Jeopardizing Ruggedness and Reliability

Sponsored by Shimadzu Scientific Instruments

Location: Madison Room (Mezzanine Level)

In the ever-changing field of liquid chromatography, micro-LC could bring many desired advantages such as sensitivity boost, sample and solvents saving, expanded dynamic range of quantitation, and minimized matrix effects. Then why is it not widely used in routine laboratories? In this workshop, we will investigate the creation of a product that is developed around the unique physics of the micro-LC/MSMS technique. In addition, we will share how the product can resolve the challenges in foods and nutraceutical/pharmaceutical chemistry, without jeopardizing productivity and robustness.

Tuesday, July 31, 2018 @ 12:25-1:25 PM

2DLC - A “Swiss Army Knife” to Solve Chromatographic Challenges?

Sponsored by Agilent Technologies

Location: Thurgood Marshall Ballroom North (Mezzanine Level)

Speakers: Ulrich Eberhardinger, Product Manager Agilent Technologies and an invited speaker

Do you have doubts on the purity of your analytes, even after performing modern HPLC? Lack of chromatographic resolution, preventing stable and robust quantitative results for your analytes? Still doing manual sample preparation prior to your chromatography to obtain reasonable peak shapes? These chromatographic challenges can be addressed by applying state-of-the art multidimensional HPLC without the necessity of being an expert in the technique. Join us for a discussion of the latest solutions for 2DLC in combination with real-life industrial applications highlighting the benefits 2DLC can contribute to the efficiency of your analytical laboratory.

Wednesday Free Vendor Technical Workshops
pre-register at sponsor's booth to attend

Wednesday, August 1, 2018 @ 12:25-1:25 PM

The New Benchmark for Preparative LC Workflows - Pathways to Achieve Exceptional Accuracy and Flexibility

Sponsored by Agilent Technologies
Location: Harding Room (Mezzanine Level)
Speaker: Stefan Ullrich, Product Manager PREP Solutions, Agilent Technologies
Agilent offers high-efficiency InfinityLab LC and LC/MSD solutions ranging from analytical scale up to preparative scale for purification of multiple grams. Explore the portfolio of state-of-the-art LC purification instruments with scalable solutions that grow with your needs. Don't miss a single compound through a wide range of fraction collectors and detectors including mass-selective detection. Join the discussion and configure a comprehensive platform that meets your laboratory's current and future needs.

Wednesday, August 1, 2018 @ 12:25-1:25 PM

A Complete Solution for Streamlined LC Method Development

Sponsored by Waters Corporation
Location: Coolidge Room (Mezzanine Level)
Margaret Maziarz, Principal Scientist, Waters Corporation
Method development is often a time-consuming process that is repeated many times throughout the lifecycle of a method. In order to maximize the understanding of a methods capabilities and robustness, a systematic screening protocol that employs a number of selectivity factors provides a thorough approach that ensures a greater chance of successful method validation and transfer in downstream processes. This workshop describes a synergistic approach towards method development that leverages the ACQUITY UPLC H-Class PLUS, sub-2-µm column chemistry, mass detection and Empower 3 Software to quickly develop robust methods.

Wednesday, August 1, 2018 @ 12:25-1:25 PM

Orthogonal LC and LC-MS Methods for the Characterization of Size, Charge Variants and Glycoforms in Therapeutic Proteins

Sponsored by Phenomenex
Location: Hoover Room (Mezzanine Level)
Speaker: A. Carl Sanchez, Senior Research Scientist, Phenomenex
Determination of relative abundance of glycoforms is a critical quality attribute for monoclonal antibodies, since different glycosylation patterns affect important characteristics including effector function, pharmacokinetics, clearance, and immunogenicity. There are several methods to characterize and quantitate relative abundance of glycoforms. In this presentation, we will give an overview of LC related methods, including intact mass by LC-MS with high resolution Q-TOF, HILIC LC-MS of glycopeptides, and HILIC of N-linked glycans. We will discuss the strengths and limitations of each technique. Also, novel HPLC columns based on advanced particle morphology and surface modification developed specifically for such analyses will be highlighted.

Sunday, July 29, 2018

2:30-8:15 pm Registration Open

1. Sunday Opening Ceremony and Opening Plenary Session

Co-chairs: Norman Dovichi, University of Notre Dame, USA, and
Kelly Zhang, Genentech, USA
Location: Thurgood Marshall Ballroom (Mezzanine Level)

4:30-5:00 pm **Opening Ceremony**
sponsored by the Washington Chromatography Discussion Group

5:00-5:40 pm (L-001) **Analytical Technologies in the Biopharmaceutical Industry.**
Stacey Ma, Genentech/Roche, South San Francisco, CA, USA
[PLENARY LECTURE]

5:40-6:20 pm (L-002) **New Paths for Ultra-High Resolution Ion Mobility Separations with Mass Spectrometry based upon Structures for Lossless Ion Manipulations.**
Richard D. Smith, Pacific Northwest National Laboratory, Richland, WA, USA
[PLENARY LECTURE]

6:20-6:50 pm **Awards Presentation**

6:50-8:20 pm **Welcome Reception & Toast**
Location: Marriott Ballroom Salon 3, Lobby Level
Ready to meet a few new faces at this year's meeting? Or just reconnect with your colleagues? The Welcome Reception is the perfect opportunity to do so! This networking event takes place immediately following the Opening Ceremony and Plenary Lectures, where the conference chair will kick off the event with a group toast. Conference attendees will enjoy a welcome reception of wine and light hors d'oeuvres. Open to all conference participants; conference name badge is required for entry.

Monday, July 30, 2018

7:45 am – 5:30 pm Registration Open

8:00 am - 4:45 pm **EXHIBITION HOURS**
Mixer and Light Lunch in Exhibition Hall C
Located below Lobby Level – take down escalators to Exhibition Level

Monday Free Tutorials
Location: Madison Room (Mezzanine Level)

8:55-9:40 am Session 2D. Molecular Characterization of Biotherapeutic Proteins: Concepts and Challenges for Separation Science and Mass Spectrometry. Christian G. Huber, University of Salzburg

11:15 am-12:00 pm Session 3D. Analytical Challenges in the Development and Implementation of Continuous Manufacturing Processes. Todd Maloney, Eli Lilly and Company

1:55-2:40 pm Session 4D. Chiral Separations. Christopher J. Welch, Indiana Consortium for Analytical Science and Engineering

4:55-5:40 pm Session 5D. Prospects of Monolithic Columns for LC in the Era of Sub 2-Micrometer Particles. Frantisek Svec, Charles University

2A. Monday Parallel Session: Sample Preparation - I

Chair: Janusz Pawliszyn, University of Waterloo, CANADA
Location: Marriott Ballroom Salon 3 (Lobby Level)

8:30-8:55 am (L-003) **Mass Spectrometry: With Chromatography and Without.** R. Graham Cooks, Christina Ferreira, Karen Yannell, Valentina Pirro, Patrick Fedick, David Logsdon, Purdue University, West Lafayette, IN, USA [KEYNOTE LECTURE]

8:55-9:20 am (L-004) **Ambient Ionization Mass Spectrometry - Can We Really Live without Sample Preparation?** Zoltan Takats, Imperial College of London, UK [KEYNOTE LECTURE]

9:20-9:40 am (L-005) **Field-assisted Online Sample Preparation Methods for Solid Sample Analysis.** Xiaohua Xiao, Yuanyuan He, Jiawen Zheng, Gongke Li, Sun Yat-sen University, Guangzhou, CHINA [INVITED LECTURE]

9:40-10:00 am (L-006) **New Sample Preparation Method for Exosome Proteome Analysis.** Zhigang Sui, Huiming Yuan, Lihua Zhang, Yukui Zhang, Dalian Institute of Chemical Physics Chinese Academy of Sciences, Dalian, CHINA [INVITED LECTURE]

2B. Monday Parallel Session: New Stationary Phases - I

Chair: Fred Regnier, Purdue University, USA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

8:30-8:55 am (L-007) **A Novel Phenyl-based RPLC Stationary Phase for High Throughput, High Resolution Characterization of Protein Therapeutics.** Matthew Lauber, Jennifer Nguyen, Susan Rzewuski, Daniel Walsh, Jim Cook, Maureen DeLoffi, Gary Izzo, Yuehong Xu, Waters Corporation, Milford, MA, USA [KEYNOTE LECTURE]

8:55-9:20 am (L-008) **One-Fits-All HPLC Column: Synthesis of Superficially Porous Particles with Dual Pore Structure.** Ta-Chen Wei, Agilent Technologies, Wilmington, DE, USA [KEYNOTE LECTURE]

9:20-9:40 am (L-009) **Investigation of Mass Transfer Phenomena and Thermodynamic Properties of New Generation Porous Particles for Ultrafast High-Efficient Enantioseparations.** Martina Catani[1], Omar H. Ismail[2], Simona Felletti[1], Chiara De Luca[1], Massimo Morbidelli[3], Francesco Gasparrini[2], Alberto Cavazzini[1], [1]University of Ferrara, Ferrara, ITALY; [2]"Sapienza" University of Rome, Rome, ITALY; [3]ETH Zurich, Zurich, SWITZERLAND [finalist for consideration of 2018 Csaba Horváth Young Scientist Award]

9:40-10:00 am (L-010) **LC-MS/MS Method to Detect Neurotransmitters during Period of Drug Abuse.** Alexander Zestos[1], Robert Kennedy[2], Margaret Gnegy[2], [1]American University, Washington, DC, USA; [2]University of Michigan, Ann Arbor, MI, USA [finalist for consideration of 2018 Csaba Horváth Young Scientist Award]

2C. Monday Parallel Session: Environmental - I

Chair: X. Chris Le, University of Alberta, CANADA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

8:30-8:55 am (L-011) **Emerging Environmental Contaminants: State of the Art in Chromatography and Mass Spectrometry.** Susan Richardson, University of South Carolina, Columbia, SC, USA [KEYNOTE LECTURE]

8:55-9:20 am (L-012) **Integrated Chromatography with Mass Separation Power for Discovery of Peptides and Halogenated Peptides in Water.** Ping Jiang, Guang Huang, Dayong Tian, Lindsay Jmaiff Blackstock, Xing-Fang Li, University of Alberta, Edmonton, CANADA [KEYNOTE LECTURE]

9:20-9:40 am (L-013) **Mass Spectrometry-based Metabolomics and Imaging Analysis in Research of Environmental Toxicology.** Chao Zhao, Zongwei Cai, Hong Kong Baptist University, Kowloon, HONG KONG [INVITED LECTURE]

9:40-10:00 am (L-014) **Identification of New Environmental Contaminants by HPLC Coupled with Mass Spectrometry.** Guibin Jiang, Chinese Academy of Sciences, Beijing, CHINA [INVITED LECTURE]

2D. Monday Free Tutorial (Open to all conferees, first-come seating)

Location: Madison Room (Mezzanine Level)

8:55-9:40 am (L-015) **Molecular Characterization of Biotherapeutic Proteins: Concepts and Challenges for Separation Science and Mass Spectrometry.** Christian G. Huber, Therese Wohlschlager, Christof Regl, Marius Segl, Wolfgang Skala, University of Salzburg, Salzburg, AUSTRIA

Monday Poster Session 1 and Mixer

Location: Exhibition Hall C
(Located below Lobby Level – take down escalators to Exhibition Level)

10:00-11:15 am **Poster Presentations: P-M-0100 through P-M-0300**

P-M-0100 Sample Preparation
P-M-0200 Environmental and Energy Applications
P-M-0300 Characterization of Monoclonal Antibodies/Drug Conjugates/ Protein-based Drugs

3A. Monday Parallel Session: Sample Preparation - II

Chair: Guowang Xu, Dalian Institute of Chemical Physics, CAS, CHINA
Location: Marriott Ballroom Salon 3 (Lobby Level)

11:15-11:30 am (L-016) **In-Capillary Ionic Liquids-based Dispersive Liquid-Liquid Microextraction Coupled with Sonic-Spray Ionization Mass Spectrometry for Direct Analysis of Perfluorinated Compounds.** Yueguang Lv, Qiang Ma, Chinese Academy of Inspection and Quarantine, Beijing, CHINA (presented by Minli Yang)

11:30-11:45 am (L-017) **Proteomics from Low-nanogram to Single-cell Analyses by Ultrasensitive HPLC-MS and NanoPOTS (Nanowell-based Preparation in One-pot for Trace Samples).** Rui Zhao[1], Ying Zhu[1], Pual Piehowski[1], Ronld Moore[1], Yufeng Shen[2], Anil Shukla[2], Qian Weijun[2], Richard Smith[2], Ljiljana Pasa-Tolic[2], Ryan Kelly[2], [1]Pacific Northwest National Lab., Richland, WA, USA; [2]Pacific Northwest National Laboratory, Richland, WA, USA

11:45 am-12:00 pm (L-018) **Quantitative Understanding of Nanoconfinement Effects on Molecular Transport and Chemical Reaction with a Core-shell Mesoporous Particle.** Ning Fang, Bin Dong, Georgia State University, Atlanta, GA, USA

12:00-12:15 pm (L-019) **Feed Injection – A New Way of Sample Introduction.** Xiaoli Wang, Thomas Ortmann, Daniel Thielsch, Edgar Naegele, Agilent Technologies, Waldbronn, GERMANY

3B. Monday Parallel Session: New Stationary Phases - II

Chair: Attila Felinger, University of Pecs, HUNGARY
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

11:15-11:30 am (L-020) **Aminophenyl-derived Phases on Superficially Porous Silica Particles.** Luis Colon, Amaris Borges-Munoz, Joseph Ezzo, State University of New York at Buffalo, Buffalo, NY, USA

11:30-11:45 am (L-021) **Evaluation of a Biocompatible UHPLC System for Method Transfer of Biopharmaceutical Assays.** Zhimin Li, Paula Hong, Patricia McConville, Waters Corporation, Milford, MA, USA

11:45 am-12:00 pm (L-022) **Manipulating Protein Variant Separations using High Performance Large Pore Superficially Porous Particles.** Barry Boyes[1], Ben Libert[1], Stephanie Schuster[1], Brian Wagner[1], Connor McHale[1], William Miles[1], Mark Schure[2], Jason Lawhorn[1], [1]Advanced Materials Technologies Inc., Wilmington, DE, USA; [2]Kroungold Analytical Inc., Blue Bell, PA, USA

12:00-12:15 pm (L-023) **π-Interactions in Liquid Chromatography.** Takuya Kubo, Eisuke Kanao, Takuya Morinaga, Toyohiro Naito, Koji Otsuka, Kyoto University, Kyoto, JAPAN

3C. Monday Parallel Session: Environmental - II

Chair: Sergey Krylov, York University, CANADA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

11:15-11:30 am (L-024) **Characterization of Arsenic Metabolites using Liquid Chromatography and Mass Spectrometry.** Qingqing Liu, Xiufen Lu, Hanyong Peng, Aleksandra Popowich, Jeffrey Tao, Jagdeesh Uppal, Xiaowen Yan, X. Chris Le, University of Alberta, Edmonton, CANADA

11:30-11:45 am (L-025) **Capillary Electrophoretic Pre-fractionation of Microbiomes to Isolate Species.** Bonnie J. Huge, Matthew M. Champion, Norman J. Dovichi, University of Notre Dame, Notre Dame, IN, USA

11:45 am-12:00 pm (L-026) **Analysis of Partially Nitrated By-products in Home-made Explosive ETN for Forensic Intelligence using UPLC-APCI-HRMS.** Karlijn Bezemer[1,2], Lara van Duin[1], Chris-Jan Kuijpers[2], Mattijs Koeberg[2], Jan Dalmolen[2], Jos van den Elshout[3], Antoine van der Heijden[3], Lindsay McLennan[4], Taylor Busby[4], Alex Yeudakimau[4], Peter Schoenmakers[1], James Smith[4], Jimmie Oxley[4], Arian van Asten[1], [1]University of Amsterdam, Amsterdam, NETHERLANDS; [2]Netherlands Forensic Institute, Den Haag, NETHERLANDS; [3]TNO Technical Sciences, Rijswijk, NETHERLANDS; [4]University of Rhode Island, Kingston, RI, USA

12:00-12:15 pm (L-027) **Novel Aqueous-based Two-phase Media for Sample Extraction and Enrichment: Applications in Proteomics, Lipidomics, and Environmental Analysis.** Amir Koolivand, Azizi Mohammadmehdi, Weisner Nathan, Rion Halie, Oloumi Armin, Morteza Khaledi, University of Texas-Arlington, Arlington, TX, USA

3D. Monday Free Tutorial (Open to all conferees, first-come seating)

Location: Madison Room (Mezzanine Level)

11:15 am-12:00 pm (L-028) **Analytical Challenges in the Development and Implementation of Continuous Manufacturing Processes.** Todd Maloney, Eli Lilly and Company, Indianapolis, IN, USA

Monday Free Vendor Technical Workshops

12:25-1:25 pm **Extend Your Application Reach with the New PrimeLC and SFC Solutions**
Sponsored by Agilent Technologies
Location: Thurgood Marshall Ballroom North (Mezzanine Level)
Speakers: Martin Greiner, Marketing Manager Core LC, Agilent Technologies, and Daniel Kutscher, R&D, Agilent Technologies

12:25-1:25 pm **Effectively Supporting Synthetic Chemistry for Pharmaceutical and Academic Research**
Sponsored by Thermo Fisher Scientific
Location: Madison Room (Mezzanine Level)
Speaker: Dr. Frank Steiner, Senior Manager, Application Development & Scientific Advisor, Thermo Fisher Scientific, Germering

12:25-1:25 pm **Perfect Fit in Pharmaceutical Drug Development – Best Solutions for Small and Large Molecules**
Sponsored by MilliporeSigma
Location: Thurgood Marshall Ballroom West (Mezzanine Level)
Speakers: Jason Wrigley, MilliporeSigma, and Petra Lewits, Merck KGaA

Mixer and Light Lunch in Exhibition Hall C
(Located below Lobby Level – take down escalators to Exhibition Level)

12:15-1:30 pm Break, Exhibits, Posters

4A. Monday Parallel Session: Sample Preparation - III
Chair: R. Graham Cooks, Purdue University, USA
Location: Marriott Ballroom Salon 3 (Lobby Level)

1:30-1:55 pm (L-029) **In-vivo SPME with Matrix Compatible Coatings Coupled to LC/MS and Directly to MS.** Janusz Pawliszyn, University of Waterloo, Waterloo, CANADA [KEYNOTE LECTURE]

1:55-2:20 pm (L-030) **Nanoscale Sampling Coupled to LC-MS/MS for High Resolution Exploration of Brain Chemistry.** Robert Kennedy, University of Michigan, Ann Arbor, MI, USA [KEYNOTE LECTURE]

2:20-2:35 pm (L-031) **A Polymeric Monolithic Material: For the Extraction of Plasma from Whole Blood.** James Chan[1], Wei Boon Hon[2], Andrew Gooley[2], Rick Barber[2], Dario Arrua[1], Michael Breadmore[3], Emily Hilder[1], [1]University of South Australia, Mawson Lakes, AUSTRALIA; [2]Trajan Scientific and Medical, Ringwood, AUSTRALIA; [3]University of Tasmania, Hobart, AUSTRALIA

2:35-2:50 pm (L-032) **Design of Sequential Extraction Method for Global Metabolomics.** Dmitri Sitnikov, Dajana Vuckovic, Concordia University, Montreal, CANADA

4B. Monday Parallel Session: Process Analytical - Continuous Manufacturing - I
Chair: Todd Maloney, Eli Lilly and Company, USA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

1:30-1:55 pm (L-033) **The Successes and Challenges of Implementing Chromatography-based PAT in Enhanced Process Control in Biotherapeutics.** Bassam Nakhle, Biogen, Research Triangle Park, NC, USA [KEYNOTE LECTURE]

1:55-2:20 pm (L-034) **PAT for Continuous Manufacturing of Biologics: Advances with On-Line LC.** Douglas Richardson, Bhumit Patel, Jayesh Desai, Merck & Co., Inc., Kenilworth, NJ, USA [KEYNOTE LECTURE]

2:20-2:35 pm (L-035) **Know Your Instrument, Know Your Column, Know Peace—for Method Development and Transfer.** Stephanie Schuster[1], Conner McHale[1], Thomas J. Waeghe[2], [1]Advanced Materials Technology, Wilmington, DE, USA; [2]MAC-MOD Analytical, Chadds Ford, PA, USA

2:35-2:50 pm (L-036) **Investigation of Increased Chromatographic Resolution through Mobile Phase Gradients Coupled with Stationary Phase Gradients.** Caitlin Cain, Anna Forzano, Sarah Rutan, Maryanne Collinson, Virginia Commonwealth University, Richmond, VA, USA

4C. Monday Parallel Session: Environmental - III

Chair: Xing-Fang Li, University of Alberta, CANADA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

1:30-1:55 pm (L-037) **Longitudinal Separation by Transverse Diffusion in Laminar Pipe Flow (LSTDLPF): An Accurate Approach for Finding Equilibrium Constants of Protein-Small Molecule Binding.** Jean Luc Rukundo[1], Alexander S. Stasheuski[1], J.C. Yves Le Blank[2], Sergey N. Krylov[1], [1]York University, Toronto, CANADA; [2]SCIEX, Concord, CANADA [KEYNOTE LECTURE]

1:55-2:20 pm (L-038) **Sensitive DNA Demethylation Analysis and Its Applications in Environmental Toxicology.** Hailin Wang, Cuiping Li, Shangwei Zhong, Research Center for Eco-Environmental Sciences Chinese Academy of Sciences, Beijing, CHINA [KEYNOTE LECTURE]

2:20-2:35 pm (L-039) **Formation of Halobenzoquinones from Chlorination of Aromatic Amino Acids: Investigating Bromide and Iodide Impact.** Lindsay K. Jmaiff Blackstock[1], Ping Jiang[1], Wei Wang[2], Xing-Fang Li[1], [1]University of Alberta, Edmonton, CANADA; [2]Zhejiang University, Hangzhou, CHINA

2:35-2:50 pm (L-040) **Chromatographic Separation of 4-hydroxypraziquantel Metabolites and Their Residual Determination in Perch by LC-MS/MS.** Yingxia Zhang[1], Yadi Wang[2], JT Lee[2], Daniel W. Armstrong[2], Limin He[1], [1]South China Agricultural University, Guangzhou, CHINA; [2]University of Texas at Arlington, Arlington, TX, USA

4D. Monday Free Tutorial (Open to all conferees, first-come seating)

Location: Madison Room (Mezzanine Level)

1:55-2:40 pm (L-041) **Chiral Separations**. Christopher J. Welch, Indiana Consortium for Analytical Science and Engineering, Indianapolis, IN, USA

Monday Poster Session 2 and Mixer

Location: Exhibition Hall C
(Located below Lobby Level – take down escalators to Exhibition Level)

2:50-4:30 pm **Poster Presentations: P-M-0400 through P-M-0700**

P-M-0400 Stationary Phases
P-M-0500 Emerging Separation Methods
P-M-0600 Foods/Beverages and Nutrition
P-M-0700 Electrically-driven Separations/Capillary Electrophoresis

5A. Monday Parallel Session: Proteomics and Metabolomics - I

Chair: Richard Smith, Pacific Northwest National Lab., USA
Location: Marriott Ballroom Salon 3 (Lobby Level)

4:30-4:55 pm (L-042) **Molecular Painting of the Proteome.** John Yates, Casimir Basmberger, Sandra Pankow, Salvador Martinez de Bartolome Izquierdo, The Scripps Research Institute, LaJolla, CA, USA [KEYNOTE LECTURE]

4:55-5:10 pm (L-043) **Metaproteomics for Human Microbiome Analysis.** Daniel Figeys, University of Ottawa, Ottawa, CANADA

5:10-5:25 pm (L-044) **Highly Selective and Sensitive Analysis of the Polar Acidic Metabolome by Sheathless Capillary Electrophoresis-Mass Spectrometry.** Rawi Ramautar, Leiden University, Leiden, NETHERLANDS

5:25-5:40 pm (L-045) **Towards "Omics" Analysis: A High Throughput Method with Comprehensive Metabolites Coverage.** Xianzhe Shi, Shuangyuan Wang, Lina Zhou, Guowang Xu, Dalian Institute of Chemical Physics Chinese Academy of Sciences, Dalian, CHINA

5:40-5:55 pm (L-046) **Proteome and Phosphoproteome Analyses of Thymic Epithelial Tumors using 2D LC-MS/MS.** Xu Zhang, Fatos Kirkali, Yue Qi, Tapan Maity, Khoa Dang Nguyen, Arun Rajan, Udayan Guha, NIH/NCI, Bethesda, MD, USA

5B. Monday Parallel Session: Advances in Liquid Chromatography - I

Chair: Matthew Lauber, Waters Corporation, USA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

4:30-4:55 pm (L-047) **Reversed-Flow Liquid Chromatography.** Attila Felinger, University of Pecs, Pecs, HUNGARY [KEYNOTE LECTURE]

4:55-5:10 pm (L-048) **What Can We Learn from Chromatographic Simulations?** Martin Gilar, Jason Hill, Abhijit Tarafder, Fabrice Gritti, Waters Corporation, Milford, MA, USA

5:10-5:25 pm (L-049) **Peptide Retention Time Prediction in Strong Anion Exchange (SAX) HPLC: 2D (SAX-RP) LC-MS/MS Applications.** Oleg Krokhin, Victor Spicer, University of Manitoba, Winnipeg, CANADA

5:25-5:40 pm (L-050) **In-Silico Tools for Method Development and Robustness Assessment of LC Methods.** Pankaj Aggarwal, James Morgado, David Fortin, Kimber Barnett, Pfizer Inc., Groton, CT, USA

5:40-5:55 pm (L-051) **High, Very-high, Ultra-high or Extremely-high Pressure: What is the Limit of Operating Pressure in Analytical Scale Liquid Chromatography?** Ken Broeckhoven, Sander Deridder, Gert Desmet, Vrije Universiteit Brussel, Brussels, BELGIUM

5C. Monday Parallel Session: Affinity Chromatography and Proteomics

Chair: Robert Kennedy, University of Michigan, USA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

4:30-4:55 pm (L-052) **Kinetic Immunoaffinity Chromatography of Proteoforms.** Fred Regnier[1], Youxin Li[1], JinHee Kim[2], [1]Purdue University, West Lafayette, IN, USA; [2]Novilytic, West Lafayette, IN, USA [KEYNOTE LECTURE]

4:55-5:10 pm (L-053) **Analysis of Drug-Protein Interactions in Solution by High-Performance Affinity Microcolumns: New Developments and Biomedical Applications.** David Hage, University of Nebraska, Lincoln, NE, USA

5:10-5:25 pm (L-054) **Receptor-Binding-based RP-HPLC Approach for the Rapid and Selective Determination of Immunologically-Relevant Hemagglutinin Content in Influenza Vaccine.** Barry Lorbetskie[1], Michelle Lemieux[1], Nathalie Fortin[1], Laura Durno[1], Aaron Farnsworth[1], Junzhi Wang[2], Changgui Li[2], Xuguang Li[1], Michel Gilbert[3], Michel Girard[1], Simon Sauve[1], [1]Health Canada, Ottawa, CANADA; [2]National Institute for Food and Drug Control of China, Beijing, CHINA; [3]National Research Council Canada, Ottawa, CANADA

5:25-5:40 pm (L-055) **O-GlcNAc Proteomics Reveals Widespread Protein O-GlcNAcylation Regulating Mitochondrial Function.** Junfeng Ma[1], Brian O'Rouke[2], Donald Hunt[3], Gerald Hart[2], [1]Georgetown University Medical Center, Washington, DC, USA; [2]Johns Hopkins University School of Medicine, Baltimore, MD, USA; [3]University of Virginia, Charlottesville, VA, USA

5:40-5:55 pm (L-056) **Building Standards for Proteomics: A Targeted Mass Spectrometry Approach for Quantification of Cardiovascular Disease Biomarker in Human Blood.** Sebastian Malchow, Christina Loosse, Albert Sickmann, Christin Lorenz, ISAS e.V., Dortmund, GERMANY

5D. Monday Free Tutorial (Open to all conferees, first-come seating)

Location: Madison Room (Mezzanine Level)

4:55-5:40 pm (L-057) **Prospects of Monolithic Columns for LC in the Era of Sub 2-Micrometer Particles.** Frantisek Svec, Charles University, Hradec Kralove, CZECH REPUBLIC

Tuesday, July 31, 2018

7:45 am – 5:30 pm Registration Open

8:00 am - 7:30 pm **EXHIBITION HOURS**
Mixer, Light Lunch, and Vendor Reception in Exhibition Hall C
Located below Lobby Level – take down escalators to Exhibition Level

Tuesday Free Tutorials
Location: Madison Room (Mezzanine Level)

8:55-9:40 am	Session 6D. Capillary Electrophoresis Coupled with Mass Spectrometry for the Analysis of Biomolecules and Biopharmaceuticals. David Chen, University of British Columbia
11:15 am-12:00 pm	Session 7D. Designing Efficient Workflows to Support an HPLC Procedural Lifecycle. Robert Hartman, Merck & Co., Inc.
1:55-2:40 pm	Session 8D. Preparing Your Manuscript and Publishing it from an Editor's Perspective. Jonathan Sweedler, University of Illinois at Urbana-Champaign
4:55-5:40 pm	Session 9D. Modeling Peptide Separations in Proteomics Era: HPLC (RP, HILIC, SCX) and CZE. Oleg Krokhin, University of Manitoba

6A. Tuesday Parallel Session: Proteomics and Metabolomics - II

Chair: David Hage, University of Nebraska-Lincoln, USA
Location: Marriott Ballroom Salon 3 (Lobby Level)

8:30-8:55 am (L-058) **Single Cell Multi-omics: Measuring the Peptides, Metabolites and Transcripts from the Same Cell.** Jonathan Sweedler, University of Illinois at Urbana-Champaign, Urbana, IL, USA [KEYNOTE LECTURE]

8:55-9:20 am (L-059) **Molecular Structure Directed LC-MS Method Development for the Depth Coverage of Metabolome.** Di Yu, Zaifang Li, Disheng Feng, Lina Zhou, Xianzhe Shi, Xin Lu, Guowang Xu, CAS Key Laboratory of Separation Science for Analytical Chemistry Dalian Institute of Chemical Physics Chinese Academy of Sciences, Dalian, CHINA [KEYNOTE LECTURE]

9:20-9:40 am (L-060) **Clinic Applications of Capillary Electrophoresis.** Yi Chen, Institute of Chemistry, Chinese Academy of Sciences, Beijing, CHINA [INVITED LECTURE]

9:40-10:00 am **NEW** (P-W-1804) **Development of Silica-monolithic Capillaries Modified with Poly(ethylene glycol)-conjugated Fullerenes for LC Separations of Glycoproteins.** Kazuya Okada, Toyohiro Naito, Takuya Kubo, Koji Otsuka, Kyoto University, Kyoto, JAPAN

6B. Tuesday Parallel Session: Process Analytical - Continuous Manufacturing - II

Chair: Lois Ann Beaver, LAB Enterprises, USA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

8:30-8:55 am (L-062) **Real Time Online Chromatography Monitoring of Product Quality Attributes for Biologics Continuous Manufacturing Process.** Gang Xue[1], Richard Wu[2], Alicia Zeng[1], Becky Chan[2], Gary Li[2], Jason Richardson[2], Jette Wypych[2], [1]Amgen, Cambridge, MA, USA; [2]Amgen, Thousand Oaks, CA, USA [KEYNOTE LECTURE]

8:55-9:20 am (L-063) **Monitoring Drug Substance in Continuous Manufacturing Processes at GSK with Online UPLC.** Elyse Towns[1], Robert Bondi[1], Irene Areri[2], Peter Hamilton[2], Christian Airiau[1], [1]GlaxoSmithKline, King of Prussia, PA, USA; [2]GlaxoSmithKline, Stevenage, UK [KEYNOTE LECTURE]

9:20-9:40 am (L-064) **Preparation of Coated Capillary with Reversible Addition-Fragmentation Chain Transfer Polymerization Method and Its Application in Capillary Zone Electrophoresis-Electrospray-Tandem Mass Spectrometry for Bottom-Up Proteomics.** Zhenbin Zhang, Norman Dovichi, University of Notre Dame, Notre Dame, IN, USA [finalist for consideration of 2018 Csaba Horváth Young Scientist Award]

9:40-10:00 am (L-065) **Analyses of Intact Proteins by On-line LC-FT-ICR Mass Spectrometry at 21 Tesla.** Lissa Anderson, Chad Weisbrod, Donald Smith, Greg Blakney, Christopher Hendrickson, NHMFL ICR Program, Tallahassee, FL, USA [finalist for consideration of 2018 Csaba Horváth Young Scientist Award]

6C. Tuesday Parallel Session: Advances in Liquid Chromatography - II

Chair: Daniel Armstrong, University of Texas at Arlington, USA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

8:30-8:55 am (L-066) **Silica Hydride HPLC Columns: A Modern Approach to Sample Analysis.** Maria Matyska, Joseph Pesek, San Jose State University, San Jose, CA, USA [KEYNOTE LECTURE]

8:55-9:20 am (L-067) **Nanoflow LC using Serial Columns and Detectors.** Xiaofeng Xie, Leena Patil, Luke Tolley, Paul Farnsworth, Dennis Tolley, Milton Lee, Brigham Young University, Provo, UT, USA [KEYNOTE LECTURE]

9:20-9:40 am (L-068) **New Methods for Deep Coverage Proteome Analysis.** Qun Zhao, Huiming Yuan, Lihua Zhang, Yukui Zhang, Dalian Institute of Chemical Physics Chinese Academy of Sciences, Dalian, CHINA [INVITED LECTURE]

9:40-10:00 am (L-069) **New Chromatographic Methods for the Analysis of Methylproteome.** Qi Wang, Keyun Wang, Mingliang Ye, CAS Key Lab of Separation Sciences for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, CHINA [INVITED LECTURE]

6D. Tuesday Free Tutorial (Open to all conferees, first-come seating)
Location: Madison Room (Mezzanine Level)

8:55-9:40 am (L-070) **Capillary Electrophoresis Coupled with Mass Spectrometry for the Analysis of Biomolecules and Biopharmaceuticals.** David Chen, University of British Columbia, Vancouver, CANADA

Tuesday Poster Session 3 and Mixer

Location: Exhibition Hall C
(Located below Lobby Level – take down escalators to Exhibition Level)

10:00-11:15 am **Poster Presentations: P-T-0800 through P-T-1000**
P-T-0800 Protein Characterization and Modification
P-T-0900 Omics (metabolomics/lipidomics/glycomics/proteomics/genomics)
P-T-1000 Method Development and Automation

7A. Tuesday Parallel Session: Capillary Electrophoresis
Chair: Liangliang Sun, Michigan State University, USA
Location: Marriott Ballroom Salon 3 (Lobby Level)

11:15-11:30 am (L-071) **Enhancing the Binding Strength of Anti-Human Alpha Thrombin 15-mer DNA Aptamer by PolyT Extension in Aptamer Affinity Capillary Electrophoresis Analysis.** Qiang Zhao, State Key Laboratory of Environmental Chemistry and Ecotoxicology Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, CHINA

11:30-11:45 am (L-072) **Differentiating Lysine Methylation on Peptides with Selective Synthetic Host Additives in Capillary Electrophoresis.** Jiwon Lee, Wenwan Zhong, University of California - Riverside, Riverside, CA, USA

11:45 am-12:00 pm (L-073) **Improvement of Robustness and Enzymatic Activity of Glutaraldehyd-crosslinked Proteolytic Enzymes for Peptide Mapping by Capillary Electrophoresis.** Marie-Pier Ouellet, Karen Waldron, Martin Girard, University of Montreal, Montreal, CANADA

12:00-12:15 pm (L-074) **High Throughput Isolation and Purification of Exosomes from Diverse Media via an HIC Mechanism on Capillary-channeled Polymer Fibers.** R. Kenneth Marcus, Terri Bruce, Rhonda Powell, Tyler Slonecki, Sisi Huang, Lei Wang, Clemson University, Clemson, SC, USA

7B. Tuesday Parallel Session: Top-Down Analysis / Bottom Up Protein Profiling

Chair: Mingliang Ye, Dalian Institute of Chemical Physics, CAS, CHINA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

11:15-11:30 am (L-075) **Quality Profiling of Biopharmaceuticals as Intact Entities using High Resolution Native LC-MS.** Florian Fuessl[1], Anne Trappe[1], Ken Cook[2], Kai Scheffler[3], Jonathan Bones[1], [1]National Institute for Bioprocessing Research and Training, Dublin, IRELAND; [2]Thermo Fisher Scientific, Hemel Hempstead, UK; [3]Thermo Fisher Scientific, Gemering, GERMANY

11:30-11:45 am (L-076) **Altered Selectivity in Mass Spectrometry-Compatible Reversed Phase Separations of Intact Proteins.** Kevin Schug, Yehia Baghdady, University of Texas, Arlington, TX, USA

11:45 am-12:00 pm (L-077) **Breaking Up Is Not So Hard To Do: Recent Advances in Peptide Mapping of Biotherapeutics.** Cory Muraco, Gary Oden, MilliporeSigma, Bellefonte, PA, USA

12:00-12:15 pm (L-078) **Simple and Integrated Spintip-based Technology for Deep and High-throughput Proteome Profiling.** Ruijun Tian, Southern University of Science and Technology, Shenzhen, CHINA

7C. Tuesday Parallel Session: Multidimensional Separations - I

Chair: Oleg Krokhin, University of Manitoba, CANADA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

11:15-11:30 am (L-079) **Evaluation of Active Solvent Modulation to Enhance Two-dimensional Liquid Chromatography for Target Analysis in Polymeric Matrices.** Matthias Pursch[1], Antje Wegener[1], Stephan Buckenmaier[2], [1]Dow, Stade, GERMANY; [2]Agilent Technologies, Waldbronn, GERMANY

11:30-11:45 am (L-080) **Decreasing the Uncertainty of Peak Assignments using Two-Dimensional Ultra-High Performance Liquid Chromatography.** Ira Lurie[1], Cecilia Ochoa[1], Peter Schoenmakers[2], Claude Mallet[3], [1]George Washington University, Washington, DC, USA; [2]University of Amsterdam, Amsterdam, NETHERLANDS; [3]Waters, Milford, MA, USA

11:45 am-12:00 pm (L-081) **A Chemical-Mathematical Model to Maximize Protein Sequence Coverage for Shotgun Proteomics in On-Line Comprehensive LC×LC-MS/MS.** Weliton P. Batiston, Álvaro J. Santos-Neto, Emanuel Carrilho, University of Sao Paulo, Sao Carlos, BRAZIL

12:00-12:15 pm (L-082) **Comprehensive Two Dimensional Liquid Chromatography with Active Solvent Modulation as a Versatile Tool for Characterization of Synthetic Polymers.** Peilin Yang[1], Wei Gao[1], Lu Bai[1], Wenqin Wang[1], Yunshen Chen[1], Jim Luong[2], [1]The Dow Chemical Company, Collegeville, PA, USA; [2]Dow Chemical Canada ULC, Fort Saskatchewan, CANADA

7D. Tuesday Free Tutorial (Open to all conferees, first-come seating)
Location: Madison Room (Mezzanine Level)

11:15 am-12:00 pm (L-083) **Designing Efficient Workflows to Support an HPLC Procedural Lifecycle.** Jinjian Zheng, Feng Tan, Margaret Figus, Imad Ahmad, David Lavrich, Robert Hartman, Merck & Co., Inc., Rahway, NJ, USA

Tuesday Free Vendor Technical Workshops

12:25-1:25 pm **Simple Approaches to Charge Variant Analysis**
Sponsored by Thermo Fisher Scientific
Location: Thurgood Marshall Ballroom West (Mezzanine Level)
Speaker: Jonathan Bones, Principal Investigator, NIBRT Characterization and Comparability Laboratory, NIBRT

12:25-1:25 pm **Maximizing Sensitivity without Jeopardizing Ruggedness and Reliability**
Sponsored by Shimadzu Scientific Instruments
Location: Madison Room (Mezzanine Level)

12:25-1:25 pm **2DLC - A "Swiss Army Knife" to Solve Chromatographic Challenges?**
Sponsored by Agilent Technologies
Location: Thurgood Marshall Ballroom North (Mezzanine Level)
Speakers: Ulrich Eberhardinger, Product Manager Agilent Technologies and an invited speaker

Mixer and Light Lunch in Exhibition Hall C
(Located below Lobby Level – take down escalators to Exhibition Level)

12:15-1:30 pm Break, Exhibits, Posters

8A. Tuesday Parallel Session:
Capillary Electrophoresis - Proteomics and Glycomics
Chair: David Chen, University of British Columbia, CANADA
Location: Marriott Ballroom Salon 3 (Lobby Level)

1:30-1:55 pm (L-084) **Recent Advances in Capillary Electrophoresis Enabling Single-cell Mass Spectrometry.** Peter Nemes[1], Rosemary Onjiko[1], Camille Lombard[1], Erika Portero[1], Sally Moody[2], [1]University of Maryland, College Park, MD, USA; [2]George Washington University, Washington, DC, USA [KEYNOTE LECTURE] [recipient of the 2018 Georges Guiochon Faculty Fellowship]

1:55-2:20 pm (L-085) **Deep and High Sensitive Top-down Proteomics using Capillary Zone Electrophoresis-Tandem Mass Spectrometry.** Elijah Mccool, Rachele Lubeckyj, Xiaojing Shen, Liangliang Sun, Michigan State University, East Lansing, MI, USA [KEYNOTE LECTURE]

2:20-2:35 pm (L-086) **A New Paradigm in Glycan Analyses: Integrating Enzymes and Lectins with Capillary Electrophoresis.** Lisa Holland, Srikanth Gattu, Grace Lu, West Virginia University, Morgantown, WV, USA

2:35-2:50 pm (L-087) **Characterization of the Placental Metabolome for Elucidating the Impacts of Maternal High Fat Diet on Fetal Development.** Michelle Saoi, Wajiha Gohir, Jessica Wallace, Katherine Kennedy, Deborah Sloboda, Philip Britz-McKibbin, McMaster University, Hamilton, CANADA

8B. Tuesday Parallel Session: Quality by Design

Co-chairs: Jinjian Zheng, Merck, USA; Richard Verseput, S-Matrix Corp., USA; and Margareth Marques, U.S. Pharmacopeia, USA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

1:30-1:55 pm (L-088) **Method Development and Validation Considerations for Modernization of USP Monographs.** Susan Moini, John Simpson, Jennifer Belsky, US Pharmacopeia, Rockville, MD, USA [KEYNOTE LECTURE]

1:55-2:20 pm (L-089) **Adapting QbD Best Practices to LC Method Development.** Richard Verseput, S-Matrix Corporation, Eureka, CA, USA [KEYNOTE LECTURE]

2:20-2:35 pm (L-090) **Application of DoE for Development of a High Throughput Size Exclusion Chromatography.** Sophia V. Levitskaya-Seaman[1], Hangu Nam[2], Michael Born[1], Alec Liu[1], Adrian Man[1], Sheau-Chiann Wang[1], [1]MedImmune, Gaithersburg, MD, USA; [2]Virginia Technology University, Blacksburg, VA, USA

2:35-2:50 pm (L-091) **Algorithmic Approach to LC-MS and IC-MS Method Development and Optimization of the ESI Ion Source Settings.** Alexander Semyonov, Thermo Fisher Scientific, Sunnyvale, CA, USA

8C. Tuesday Parallel Session: Glycomics - I

Chair: Hui Zhang, Johns Hopkins University, USA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

1:30-1:55 pm (L-092) **High pH Anion Exchange Separation of Carbohydrates: Past, Present and Future.** Christopher Pohl, Thermo Fisher Scientific, Sunnyvale, CA, USA [KEYNOTE LECTURE] [recipient of the 2018 Uwe D. Neue Award in Separation Science]

1:55-2:20 pm (L-093) **Effective Chemical and Enzymatic Methods to Separate Glycoproteins for MS Analysis.** Ronghu Wu, Georgia Institute of Technology, Atlanta, GA, USA [KEYNOTE LECTURE]

2:20-2:35 pm (L-094) **Analysis of Carbohydrates in Dairy Matrices by Different Liquid Chromatography Techniques.** Leon Coulier, Marieke Vijverberg, Wibo van Scheppingen, Lucien Duchateau, DSM Biotechnology Center, Delft, NETHERLANDS

2:35-2:50 pm (L-095) **Evaluation of High Throughput Glycan Assays to Support Large Bioprocess Sample Sets.** Carly Daniels[1], Anastasiya Manuilov[2], Wenqin Ni[2], Himakshi Patel[2], Alexander Piening[3], Joshua Woods[1], [1]Pfizer, Chesterfield, MO, USA; [2]Pfizer, Andover, MA, USA; [3]Rockhurst University, Kansas City, MO, USA

8D. Tuesday Free Tutorial (Open to all conferees, first-come seating)

Location: Madison Room (Mezzanine Level)

1:55-2:40 pm (L-096) **Preparing Your Manuscript and Publishing it from an Editor's Perspective.** Jonathan Sweedler, University of Illinois at Urbana-Champaign, Urbana, IL, USA

Tuesday Poster Session 4 and Mixer

Location: Exhibition Hall C
(Located below Lobby Level – take down escalators to Exhibition Level)

2:50-4:30 pm **Poster Presentations: P-T-1100 through P-T-1400**

P-T-1100 Multi-dimensional Separations
P-T-1200 Design of Experiments and Quality by Design
P-T-1300 Supercritical Fluid Chromatography
P-T-1400 Instrument Design and Applications

9A. Tuesday Parallel Session: Metabolite Analysis

Chair: Philip Britz-McKibbin, McMaster University, CANADA
Location: Marriott Ballroom Salon 3 (Lobby Level)

4:30-4:55 pm (L-097) **Automated Chemical Derivatization Approaches Combined to Liquid Chromatography and High Resolution Mass Spectrometry to Enhance Metabolite Coverage.** Gerard Hopfgartner, University of Geneva, Geneva, SWITZERLAND [KEYNOTE LECTURE]

4:55-5:10 pm (L-098) **Metabolic Profiling of Single Cells in the Xenopus laevis (Frog) Embryo using CE-ESI-MS.** Erika Portero[1], Sally Moody[2], Peter Nemes[1], [1]University of Maryland, College Park, MD, USA; [2]The George Washington University, Washington, DC, USA

5:10-5:25 pm (L-099) **Development of a Novel Tracer-based Proteometabolomics Technology.** Shen Hu, University of California, Los Angeles, CA, USA

5:25-5:40 pm (L-100) **Controlling Selectivity of Polymer-based Monolithic Stationary Phases for Analysis of Dopamine Metabolites.** Jiri Urban[1], Martina Komendova[1], Suhas Nawada[2], Radovan Metelka[3], Peter Schoenmakers[2], [1]Masaryk University, Brno, CZECH REPUBLIC; [2]University of Amsterdam, Amsterdam, THE NETHERLANDS; [3]University of Pardubice, Pardubice, CZECH REPUBLIC

5:40-5:55 pm (L-101) **Integrated Parallel Two-dimensional Liquid Chromatography Mass Spectrometry and Comprehensive Two-dimensional Gas Chromatography Mass Spectrometry for Metabolomics.** Aminul Prodhan, Biyun Shi, Xinmin Yin, Wenke Feng, Craig McClain, Xiang Zhang, University of Louisville, Louisville, KY, USA

9B. Tuesday Parallel Session: Supercritical Fluid Chromatography and Multidimensional Separations

Chair: Lucie Novakova, Charles University, CZECH REPUBLIC
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

4:30-4:50 pm (L-102) **Enhanced Resolution of Stereoisomers through Stationary Phase Optimized Selectivity Liquid and Supercritical Fluid Chromatography (SOS-LC and SOS-SFC).** Ravindra Hegade[1], Maarten De Beer[2], Frederic Lynen[1], University of Gent, Ghent, BELGIUM; [2]AmatsiSEPS Pharma, Gent, BELGIUM [finalist for consideration of 2018 Csaba Horváth Young Scientist Award]

4:50-5:10 pm (L-103) **Creating Devices for Multidimensional Separations based on Computational Insights.** Theodora Adamopoulou[1], Sander Deridder[2], Suhas Nawada[1], Gert Desmet[2], Peter J. Schoenmakers[1], [1]Van 't Hoff Institute for Molecular Science (HIMS), University of Amsterdam, Amsterdam, NETHERLANDS; [2]Vrije Universiteit Brussel, Brussels, BELGIUM [finalist for consideration of 2018 Csaba Horváth Young Scientist Award]

5:10-5:25 pm (L-104) **The Effect of Pressures up to 600 Bar, and Modifier Concentration on the Optimum Flow Rate in Supercritical Fluid Chromatography.** Terry Berger, SFC Solutions Inc., Englewood, FL, USA

5:25-5:40 pm (L-105) **Separation and Quantitation of Seven Cannabinoids using Supercritical Fluid Chromatography-Tandem Mass Spectrometry (SFC-MS/MS).** Lisa Zang, Guannan Li, Agilent Technologies, Santa Clara, CA, USA

5:40-5:55 pm (L-106) **LC-MS versus SFC-MS: Advantages and Challenges.** Gesa Schad[1], Yuka Fujito[2], Alan Barnes[3], Mel Euerby[4], Neil Loftus[3], [1]Shimadzu Europa GmbH, Duisburg, GERMANY; [2]Shimadzu Corporation, Kyoto, JAPAN; [3]Shimadzu MSO, Manchester, UK; [4]University of Strathclyde, Glasgow, UK

9C. Tuesday Parallel Session: Glycomics - II

Chair: Ronghu Wu, Georgia Institute of Technology, USA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

4:30-4:55 pm (L-107) **Co-analysis of Glycoproteomics, Phosphoproteomics, and Global Proteomics from the Same Sample.** Hui Zhang, Johns Hopkins University, Baltimore, MD, USA [KEYNOTE LECTURE]

4:55-5:10 pm (L-108) **Direct Analysis in Real Time Mass Spectrometry for Characterization of Large Saccharides.** Huiying Ma[1], Qing Jiang[1], Hongli Li[1], Wentao Bi[1], David Chen[2], [1]Nanjing Normal University, Nanjing, CHINA; [2]University of British Columbia, Vancouver, CANADA

5:10-5:25 pm (L-109) **Selective Separation of Cell Surface N-Glycoproteins for Their Identification with Mass Spectrometry.** Suttipong Suttapitugsakul, Lindsey Ulmer, Ronghu Wu, Georgia Institute of Technology, Atlanta, GA, USA

5:25-5:40 pm (L-110) **A Major Increase in Selectivity for Phosphopeptides and Glycopeptides in ERLIC and HILIC Conferred by the Salt Selection**. Andrew Alpert, PolyLC Inc., Columbia, MD, USA

5:40-5:55 pm (L-111) **Multiplexed Capillary Zone Electrophoresis-Mass Spectrometry Revealed N-glycome Developmental Plan during Embryogenesis.** Yanyan Qu[1], Elizabeth H. Peuchen[1], Zhenbin Zhang[1], Alex S. Hebert[2], Sarah N. Lum[1], Joshua J. Coon[2], Matthew M. Champion[1], Paul W. Huber[1], Norman J. Dovichi[1], [1]University of Notre Dame, Notre Dame, IN, USA; [2]University of Wisconsin, Madison, WI, USA

9D. Tuesday Free Tutorial (Open to all conferees, first-come seating)

Location: Madison Room (Mezzanine Level)

4:55-5:40 pm (L-112) **Modeling Peptide Separations in Proteomics Era: HPLC (RP, HILIC, SCX) and CZE.** Oleg Krokhin, University of Manitoba, Winnipeg, CANADA

6:00-7:30 pm **VENDORS RECEPTION & MIXER**
Location: Exhibition Hall C, located below Lobby Level,
take down escalators to Exhibition Level
Enjoy an open bar and delicious bites while cruising the exhibit hall to network and build new connections. The exhibition offers opportunities to view new product launches, check out innovative products, explore ground-breaking technologies, and discuss challenges and solutions with experts in the booths. Open to all conference participants; conference name badge is required for entry.

Wednesday, August 1, 2018

7:45 am – 5:30 pm Registration Open

8:00 am - 4:30 pm **EXHIBITION HOURS**
Mixer and Light Lunch in Exhibition Hall C
Located below Lobby Level – take down escalators to Exhibition Level

Wednesday Free Tutorials
Location: Madison Room (Mezzanine Level)

8:55-9:40 am	Session 10D. Striking the Right Balance between Preparative RP-HPLC and Supercritical Fluid Chromatography to Support Drug Discovery. Mengling Wong, Genentech
11:15 am-12:00 pm	Session 11D. 3D Printing in the Separation Science. Simone Dimartino, University of Edinburgh
1:55-2:40 pm	Session 12D. Current Supercritical Fluid Chromatography. Lucie Novakova, Charles University
4:55-5:40 pm	Session 13D. Development of HPLC Methods for the Release & Characterization Testing of Antibody-Drug Conjugates. Michael Fleming, ImmunoGen Inc.

10A. Wednesday Parallel Session: High Speed Liquid Chromatography - I

Chair: Milton Lee, Brigham Young University, USA
Location: Marriott Ballroom Salon 3 (Lobby Level)

8:30-8:55 am (L-113) **Practice and Ramifications of Ultrafast LC and SFC.**
Daniel W. Armstrong, University of Texas at Arlington, Arlington, TX, USA
[KEYNOTE LECTURE]

8:55-9:20 am (L-114) **Increasing Throughput for Pharmacopeial Monographs using UHPLC.** James Grinias, Rowan University, Glassboro, NJ, USA
[KEYNOTE LECTURE]

9:20-9:40 am (L-115) **Subcellular Proteome Analysis using Selective Protein Isolation and Nano LC-MS Identification.** Xiangmin Zhang, Sheng Guan, Hailong Yu, Yiying Liu, Guoquan Yan, Mingxia Gao, Fudan University, Shanghai, CHINA
[INVITED LECTURE]

9:40-10:00 am (L-116) **Lipidomics Analysis of Clinical Samples by 2D LC-MS/MS.**
Huwei Liu, Honggang Nie, Yu Bai, Peking University, Beijing, CHINA
[INVITED LECTURE]

10B. Wednesday Parallel Session: Microfabricated Devices - I

Chair: Rawi Ramautar, Leiden University, NETHERLANDS
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

8:30-8:55 am (L-117) **Micro-Separations for Single-Cell Diagnostics in Clinical Medicine.** Nancy Allbritton, University of North Carolina and North Carolina State University, Chapel Hill, NC, USA [KEYNOTE LECTURE]

8:55-9:20 am (L-118) **Single Cell Analysis with Droplet-based Microfluidic Technique.** Qun Fang[1], Zi-Yi Li[1], Xiao-Li Guo[2], Min Huang[3], Xiu-Kun Wang[4], Ying Zhu[5], Jin-Song Li[6], Catherine C. L. Wong[7], [1]Zhejiang University, Hangzhou, CHINA; [2]Zhejiang University, Hanghou, CHINA; [3]National Center for Protein Science (Shanghai), Shanghai, CHINA; [4]Zhejiang University, Shanghai, CHINA; [5]Institute of Biochemistry and Cell Biology, Hangzhou, CHINA; [6]Institute of Biochemistry and Cell Biology, Shanghai, CHINA; [7]Peking University, Beijing, CHINA [KEYNOTE LECTURE]

9:20-9:40 am (L-119) **Separation of Proteins at Femtoliter Scale using Extended-Nano Channel for Single Cell Proteomics.** Hisashi Shimizu, Kouto Toyoda, Kazuma Mawatari, Takehiko Kitamori, University of Tokyo, Tokyo, JAPAN [finalist for consideration of 2018 Csaba Horváth Young Scientist Award]

9:40-10:00 am (L-120) **Microprobe CE-ESI-HRMS for In-situ Analysis of Proteins and Metabolites in Single Embryonic Cells.** Camille Lombard-Banek[1], Rosemary, M. Onjiko[1], Sally, A. Moody[2], Peter Nemes[1], [1]University of Maryland, College Park, MD, USA; [2]George Washington University, Washington, DC, USA [finalist for consideration of 2018 Csaba Horváth Young Scientist Award]

10C. Wednesday Parallel Session: Forward Looking Pharmaceutical Analysis - I

Chair: Kelly Zhang, Genentech, USA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

8:30-8:55 am (L-121) **Emerging Needs in Pharmaceutical Research, Development and Commercialization – the Challenges, and Opportunities to Analytical Chemistry.** Xiaoyi Gong, Merck and Co., Inc., Rahway, NJ, USA [KEYNOTE LECTURE]

8:55-9:20 am (L-122) **Microchip Electrophoresis Methods for Monitoring Biomarkers of Oxidative Stress In vivo and In vitro.** Susan Lunte, University of Kansas, Lawrence, KS, USA [KEYNOTE LECTURE]

9:20-9:40 am (L-123) **Oxidative Degradation in Pharmaceuticals: Mechanism and Stabilization of Spray Dried Amorphous Drug - A Case Study.** Archana Kumar, Genentech, S. San Francisco, CA, USA [INVITED TALK]

9:40-10:00 am (L-124) **A Novel, Universal Interface for Automated Process Sampling, Sample Preparation, and Online Chromatography.** Gordon Lambertus, Martin Johnson, Todd Maloney, Wei-Ming Sun, Luke Webster, Eli Lilly and Company, Indianapolis, IN, USA

10D. Wednesday Free Tutorial

(Open to all conferees, first-come seating)
Location: Madison Room (Mezzanine Level)

8:55-9:40 am (L-125) **Striking the Right Balance between Preparative RP-HPLC and Supercritical Fluid Chromatography to Support Drug Discovery.** Mengling Wong, Amber Guillen, Won Choi, Joseph Pease, Genentech, South San Francisco, CA, USA

Wednesday Poster Session 5 and Mixer

Location: Exhibition Hall C
(Located below Lobby Level – take down escalators to Exhibition Level)

10:00-11:15 am **Poster Presentations: P-W-1500 through P-W-1800**
P-W-1500 Microfabricated Systems/Nanoscience and Materials
P-W-1600 Forensics/Toxicology/Drugs of Abuse
P-W-1700 Biopharmaceutical and Pharmaceutical Applications
P-W-1800 LC Column Technology

11A. Wednesday Parallel Session: HILIC

Chair: Gerard Hopfgartner, University of Geneva, SWITZERLAND
Location: Marriott Ballroom Salon 3 (Lobby Level)

11:15-11:30 am (L-126) **The Use of a HILIC Peptide Retention Prediction to Identify Sequence Variants and Peptides with Modified Amino Acids.** Majors Badgett[1], Barry Boyes[2], Ron Orlando[1], [1]University of Georgia, Athens, GA, USA; [2]Advanced Materials Technology, Wilmington, DE, USA

11:30-11:45 am (L-127) **HILIC to the Rescue: Pharmaceutical Development Case Examples.** Jonathan Shackman, Bristol-Myers Squibb, New Brunswick, NJ, USA

11:45 am-12:00 pm (L-128) **The Increasing Role of HILIC in Routine Analyses.** Tivadar Farkas, Jianli Zhao, Cicely Zhu, Lawrence Loo, Jason Anspach, Jeffrey Layne, Phenomenex Inc., Torrance, CA, USA

12:00-12:15 pm (L-129) **Assessing the Level of Mis-pairing in Asymmetric Bispecific Antibody by Hydrophobic Interaction Chromatography.** Bhargavi Vemulapalli, Chunlei Wang, Mingyan Cao, Xiangyang Wang, Dengfeng Liu, MedImmune, Gaithersburg, MD, USA

11B. Wednesday Parallel Session: Advances in Liquid Chromatography - III

Chair: Peter Schoenmakers, University of Amsterdam, NETHERLANDS
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

11:15-11:30 am (L-130) **Characterization of the Peptide Separation System: Development of a Column Characterization Protocol based on Peptide Probes.** Jennifer Field[1], Patrik Petersson[2], Mel Euerby[1,3], [1]University of Strathclyde, Glasgow, UK; [2]Novo Nordisk, Copenhagen, DENMARK; [3]Shimadzu, Milton Keynes, UK

11:30-11:45 am (L-131) **Interaction of Toluene with Polar Stationary Phases under Conditions Typical for Hydrophilic Interaction Chromatography Probed by Saturation Transfer Difference Nuclear Magnetic Resonance Spectroscopy.** Adelijiang Xiamuxiding[1], Phuoc Dinh[2], Tobias Jonsson[2], Tobias Sparrman[1], Knut Irgum[1], Muhammad Jamshaid Ashiq[1], [1]Umea University, Umea, SWEDEN; [2]Diduco AB, Umea, SWEDEN

11:45 am-12:00 pm (L-132) **Complementary Parallel LC as a Convenient Alternative to Multi Heart-Cut LC for Samples of Medium Complexity.** Maria Gruebner, Mauro De Pra, Frank Steiner, Thermo Fisher Scientific, Germering, GERMANY

12:00-12:15 pm (L-133) **Empowering Superficially Porous Chiral Stationary Phases for the Separation of Pharmaceutical Chiral Amines.** Diego Lopez[1], J.T. Lee[1], Garrett Hellinghausen[2], Daniel W. Armstrong[2], [1]AZYP LLC, Arlington, TX, USA; [2]University of Texas at Arlington, Arlington, TX, USA

11C. Wednesday Parallel Session: Cannabis and Drugs of Abuse

Chair: Mark Schure, Kroungold Analytical Inc., USA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

11:15-11:30 am (L-134) **Enantiomeric Separations of Illicit Drugs with HPLC and SFC using Novel Core-Shell CSPs.** Garrett Hellinghausen[1], Daipayan Roy[1], JT Lee[2], Diego Lopez[2], Daniel W. Armstrong[1,2], [1]University of Texas at Arlington, Arlington, TX, USA; [2]AZYP LLC, Arlington, TX, USA

11:30-11:45 am (L-135) **Analysis of Pesticide Residues in Cannabis Regulated by California and Oregon State using LC/MS/MS with Electrospray and APCI Source.** Avinash Dalmia, PerkinElmer, Shelton, CT, USA

11:45 am-12:00 pm (L-136) **Enantiomeric Separations of Nicotine and Its Various Nitrosamine Analogues by Novel HPLC Stationary Phases on Core-shell Particles.** J.T. Lee[1], Garrett Hellinghausen[2], Diego Lopez[1], Yadi Wang[2], Daniel W. Armstrong[1,2], [1]AZYP LLC, Arlington, TX, USA; [2]University of Texas at Arlington, Arlington, TX, USA

12:00-12:15 pm (L-137) **Systematic Drug Surveillance by Multisegment Injection-Capillary Electrophoresis-Mass Spectrometry: A High Throughput Method for Comprehensive Screening of Drugs of Abuse.** Philip Britz-McKibbin[1], Alicia DiBattista[2], Zach Kroezen[1], Sabrina Macklai[1], Dianne Rampersaud[2], Howard Lee[2], Marcus Kim[3], [1]McMaster University, Hamilton, CANADA; [2]Seroclinix Corporation, Mississauga, CANADA; [3]Agilent Technologies, Mississauga, CANADA

11D. Wednesday Free Tutorial

(Open to all conferees, first-come seating)
Location: Madison Room (Mezzanine Level)

11:15 am-12:00 pm (L-138) **3D Printing in the Separation Science.** Simone Dimartino, University of Edinburgh, Edinburgh, UK

Wednesday Free Vendor Technical Workshops

12:25-1:25 pm **The New Benchmark for Preparative LC Workflows - Pathways to Achieve Exceptional Accuracy and Flexibility**
Sponsored by Agilent Technologies
Location: Harding Room (Mezzanine Level)
Speaker: Stefan Ullrich, Product Manager PREP Solutions, Agilent Technologies

12:25-1:25 pm **A Complete Solution for Streamlined LC Method Development**
Sponsored by Waters Corporation
Location: Coolidge (Mezzanine Level)
Speaker: Margaret Maziarz, Principal Scientist, Waters Corporation

12:25-1:25 pm **Orthogonal LC and LC-MS Methods for the Characterization of Size, Charge Variants and Glycoforms in Therapeutic Proteins**
Sponsored by Phenomenex
Location: Hoover (Mezzanine Level)
Speaker: A. Carl Sanchez, Senior Research Scientist, Phenomenex

Mixer and Light Lunch in Exhibition Hall C

(Located below Lobby Level – take down escalators to Exhibition Level)

12:15-1:30 pm Break, Exhibits, Posters

12A. Wednesday Parallel Session: High Speed Liquid Chromatography - II

Chair: James Grinias, Rowan University, USA
Location: Marriott Ballroom Salon 3 (Lobby Level)

1:30-1:55 pm (L-139) **Performance Optimization of High Speed Gradient Liquid Chromatography: How to Cope with Frit and Post-column Dispersion?** Fabrice Gritti, Thomas McDonald, Martin Gilar, Waters Corporation, Milford, MA, USA [KEYNOTE LECTURE]

1:55-2:20 pm (L-140) **The Emergence of Fit-for-Purpose and Universal Chromatographic Methods in Pharmaceutical Research and Development.** Frank Bernardoni, Alexey Makarov, Erik L. Regalado, Merck & Co., Inc., Rahway, NJ, USA [KEYNOTE LECTURE]

2:20-2:35 pm (L-141) **Aqueous Normal Phase HPLC – Single Column Fast Approach to Total Peptide Analysis.** Maria Matyska, Joseph Pesek, San Jose State University, San Jose, CA, USA

2:35-2:50 pm (L-142) **Fast and Automated Characterization of Antibody Variants with 4D HPLC/MS.** Christoph Gstoettner[1], Denis Klemm[2], Markus Haberger[3], Anja Bathke[2], Harald Wegele[3], Christian Bell[2], Robert Kopf[2], [1]University Leiden, Leiden, NETHERLANDS; [2]Hoffmann - La Roche, Basel, SWITZERLAND; [3]Hoffmann - La Roche, Penzberg, GERMANY

12B. Wednesday Parallel Session: Oligomers

Chair: Edward Yeung, Iowa State University, USA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

1:30-1:55 pm (L-143) **Displacement Electrophoresis for Large Volume DNA Concentration.** Frantisek Foret[1], Vladimira Datinska[1], Ivona Voracova[1], Jan Berka[2], Yann Astier[2], [1]Czech Academy of Sciences Institute of Analytical Chemistry, Brno, CZECH REPUBLIC; [2]Roche Sequencing Solutions, Pleasanton, CA, USA [KEYNOTE LECTURE]

1:55-2:20 pm (L-144) **Simultaneous Separation of Small Interfering RNA and Lipids by Ion-pair Reversed-phase Liquid Chromatography.** Joe Foley[1], Li Li[2], Mirlinda Biba[3], Roy Helmy[2], [1]Drexel University, Philadelphia, PA, USA; [2]Merck & Co., Inc., West Point, PA, USA; [3]Merck Research Laboratories, Rahway, NJ, USA [KEYNOTE LECTURE]

2:20-2:35 pm (L-145) **On the Issue of Separating Diastereomers of Phosphorothioated Oligonucleotides.** Martin Enmark[1], Jörgen Samuelsson[1], Maria Rova[1], Eivor Örnskov[2], Anders Karlsson[2], Torgny Fornstedt[1], [1]Karlstad University, Karlstad, SWEDEN; [2]AstraZeneca, Gothenburg, SWEDEN

2:35-2:50 pm (L-146) **Enzyme-free Quantification of Exosomal MicroRNA and Surface Protein by the Target-triggered Assembly of Polymer DNAzyme Nanostructure.** Dinggeng He, Hung Wing Li, Hong Kong Baptist University, Kowloon, HONG KONG

12C. Wednesday Parallel Session: Forward Looking Pharmaceutical Analysis - II

Chair: Xiaoyi Gong, Merck & Co., Inc., USA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

1:30-1:55 pm (L-147) **Characterizing Next Generation Therapeutic Modalities: Enabling High Complexity Drug Development using Modern Analytical Approaches.** Peter Yehl, Kelly Zhang, Colin Medley, Mohammad Al-Sayah, Jason Gruenhagen, Sam Yang, Genentech, South San Francisco, CA, USA [KEYNOTE LECTURE]

1:55-2:20 pm (L-148) **Innovation, Advanced Analytics and Regulatory Science.** Patrick Faustino, U.S. Food and Drug Administration, Silver Spring, MD, USA [KEYNOTE LECTURE]

2:20-2:35 pm (L-149) **Application of Chromatography Hyphenated HDX-MS Techniques for Studying Global Conformational Structures of Proteins/Peptides and Their Aggregates in Solution.** Alexey Makarov, Nicole Schiavone, Gregory Pirrone, Nicholas Pierson, Ian Mangion, Merck & Co., Inc. MRL, Rahway, NJ, USA

2:35-2:50 pm (L-150) **Characterization of Bispecific and Mis-paired Antibodies by Charge-Variant Mass Spectrometry.** Guanghui Han[1], Wilson Phung[1], Aaron Bailey[2], Bingchuan Wei[1], Yonghua Zhang[1], Michael Dillon[1], Christoph Spiess[1], Paul Carter[1], Wendy Sandoval[1], [1]Genentech Inc., South San Francisco, CA, USA; [2]Thermo Fisher Scientific, San Jose, CA, USA

12D. Wednesday Free Tutorial

(Open to all conferees, first-come seating)
Location: Madison Room (Mezzanine Level)

1:55-2:40 pm (L-151) **Current Supercritical Fluid Chromatography.** Lucie Novakova, Charles University, Hradec Kralove, CZECH REPUBLIC

Wednesday Poster Session 6 and Mixer

Location: Exhibition Hall C
(Located below Lobby Level – take down escalators to Exhibition Level)

2:50-4:30 pm **Poster Presentations: P-W-1900 through P-W-2100**
P-W-1900 Chiral Separations
P-W-2000 Quantitative Hyphenated Mass Spectrometry Techniques
P-W-2100 Natural Products

13A. Wednesday Parallel Session: Innovative Liquid Chromatography

Chair: Dwight Stoll, Gustavus Adolphus College, USA
Location: Marriott Ballroom Salon 3 (Lobby Level)

4:30-4:55 pm (L-152) **The MANIAC Way: Realizing "Impossible" Two-dimensional LC Combinations.** Bob W.J. Pirok[1], Noor Abdulhussain[1], Tom Aalbers[1], Bert Wouters[1], Ron A.H. Peters[2], Peter J. Schoenmakers[1], [1]University of Amsterdam, Amsterdam, NETHERLANDS; [2]DSM Coating Resins, Waalwijk, NETHERLANDS
[KEYNOTE LECTURE] [recipient of the 2017 Csaba Horváth Young Scientist Award]

4:55-5:10 pm (L-153) **Please Stop Moving!! Techniques for Consistent Retention Times for "Difficult" Samples.** Adam Socia, Yong Liu, Andreas Abend, Merck Research Labs, West Point, PA, USA

5:10-5:25 pm (L-154) **Emerging Chromatographic Technologies for Investigating Disulfide Bonds Variants in Therapeutic Protein Structure and Function: Case Studies.** Bingchuan Wei, Guanghui Han, Diana Liu, Charlene Li, Wendy Sandoval, Yan Chen, Yonghua Taylor Zhang, Genentech Inc., South San Francisco, CA, USA

5:25-5:40 pm (L-155) **A Rapid Approach for Separation of Chiral Isomers and Structurally Similar Compounds by Multiple Heart-cutting Two-dimensional HPLC.** Charlotte Tsang, Jessica Lin, Kelly Zhang, Genentech, South San Francisco, CA, USA

5:40-5:55 pm (L-156) **Selection by Shape: Stationary Phase Architecture and Molecular Shape Discrimination in Liquid Chromatography.** Lane Sander, National Institute of Standards and Technology, Gaithersburg, MD, USA

13B. Wednesday Parallel Session: Microfabricated Devices - II

Chair: Nancy Allbritton, University of North Carolina at Chapel Hill, USA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

4:30-4:55 pm (L-157) **Non-intuitive Separation Schemes for Nanometer-sized Particles and Subcellular Organelles.** Daihyun Kim[1], Edgar Arriaga[2], Alexandra Ros[1], [1]Arizona State University, Tempe, AZ, USA; [2]University of Minnesota, Minneapolis, MN, USA [KEYNOTE LECTURE]

4:55-5:10 pm (L-158) **Achieving a Peak Capacity of 1800 using an 8 m Long Pillar Array Column.** Martyna Baca, Gert Desmet, Heidi Ottevaere, Wim De Malsche, Vrije Universiteit Brussel, Brussels, BELGIUM

5:10-5:25 pm (L-159) **SFC and High-temperature HPLC-MS in Glass Chips using Sub-2 µm and Core/Shell Technology.** Josef Johann Heiland, Detlev Belder, Leipzig University, Leipzig, GERMANY

5:25-5:40 pm (L-160) **Prototyping of Novel Microfluidic Chips for Comprehensive Two- and Three-Dimension Liquid Chromatographic Separations.** Jelle De Vos, Sebastiaan Eeltink, Vrije Universiteit Brussel, Brussels, BELGIUM

5:40-5:55 pm (L-161) **Chip-based Magnetic Solid Phase Extraction Online Coupled with Micro High Performance Liquid Chromatography-Inductive Coupled Plasma Mass Spectrometry for Elemental Speciation in Cells.** Bin Hu, Beibei Chen, Man He, Han Wang, Wuhan University, Wuhan, CHINA

13C. Wednesday Parallel Session: Forward Looking Pharmaceutical Analysis - III

Chair: Patrick Faustino, U.S. Food and Drug Administration, USA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

4:30-4:55 pm (L-162) **Characterization of Complex Pharmaceutical Polymers by 2D-LC/MS.** Kelly Zhang[1], Samuel Yang[1], Jenny Wang[1], Bifan Chen[2], Pete Yehl[1], [1]Genentech, South San Francisco, CA, USA; [2]University of Wisconsin–Madison, Madison, WI, USA [KEYNOTE LECTURE]

4:55-5:10 pm (L-163) **Novel HIC Capture Phase for Improved Two-Dimensional Protein A/SEC Separation of Monoclonal Antibodies.** Lei Wang[1], Douglas Richardson[2], Jay Desai[2], Bhumit Patel[2], R. Kenneth Marcus[1], [1]Clemson University, Clemson, SC, USA; [2]Merck & Co., Inc., Kenilworth, NJ, USA

5:10-5:25 pm (L-164) **Glycoprotein Monosaccharide Compositional Analysis by UPLC-FLD.** Matt Schombs, Hung Tieu, Armando Romero, Lidia Wojnowski, Bayer, Berkeley, CA, USA

5:25-5:40 pm (L-165) **Detection of Point Mutations in Marker Proteins via LC-MS Technologies.** Iulia M. Lazar, Shreya Ahuja, Virginia Tech, Blacksburg, VA, USA

5:40-5:55 pm (L-166) **CITe-Id as a Novel Chemoproteomic Method to Characterize Covalent Inhibitors.** Jarrod Marto, Dana-Farber Cancer Institute, Boston, MA, USA

13D. Wednesday Free Tutorial

(Open to all conferees, first-come seating)
Location: Madison Room (Mezzanine Level)

4:55-5:40 pm (L-167) **Development of HPLC Methods for the Release and Characterization Testing of Antibody-Drug Conjugates.** Michael Fleming, ImmunoGen Inc., Waltham, MA, USA

7:30-10:30 pm **CONFERENCE RECEPTION AND GALA DINNER CRUISE – Ticket Required**

Join us for an evening of sightseeing, food, music and fun while cruising along the Potomac River where you will enjoy fascinating views of America's great landmarks and Washington DC's historic waterfront. The number of tickets is limited for this memorable event. We strongly suggest you pre-purchase your ticket. You may purchase at the time you complete your online registration, or you may return to your online registration and add the conference dinner.

- Must present ticket in order to go onboard—no exceptions.
- Misplaced or lost tickets will not be replaced.
- Boarding time is between 6:30 PM and 7:30 PM.
- The boat departs promptly at 7:30 PM.
- The dinner cruise, operated by Spirit Cruises, is located at Pier 4 at the Wharf.
- Pier 4 is located at the Wharf at 580 Water Street SW, Washington, DC, a 5- to 10-minute walk from the Waterfront Metro Subway Station.
- After you purchase a round trip pass at the Metro Subway Station (approximately $4.60), it is an approximately 30-minute ride from the Woodley Park-Zoo Metro Subway Station, located just outside of the Washington Marriott Wardman Park hotel, to the Waterfront Metro Subway Station. Make sure that you transfer to the 'Green' line at Gallery-Place Chinatown Station! Details may be found under the link to "Trip Planner" on Metro's website at www.wmata.com.

Thursday, August 2, 2018

7:45 am – 3:30 pm Registration Open

14A. Thursday Parallel Session: Multidimensional Separations - II

Chair: Koji Otsuka, Kyoto University, JAPAN
Location: Marriott Ballroom Salon 3 (Lobby Level)

8:30-8:55 am (L-168) **High-resolution Multi-dimensional Liquid Chromatography.** Peter Schoenmakers, University of Amsterdam, Amsterdam, NETHERLANDS [KEYNOTE LECTURE]

8:55-9:20 am (L-169) **New Directions in the use of Two-Dimensional Liquid Chromatography for Deep and Efficient Characterization of Therapeutic Proteins.** David Harmes[1], Gregory Staples[2], Oscar Potter,[2] Carston Dammann[1], Davy Guillarme[3], Alain Beck[4], Dwight Stoll[1], [1]Gustavus Adolphus College, Saint Peter, MN, USA; [2]Agilent Technologies, Santa Clara, CA, USA; [3]University of Geneva, Geneva, SWITZERLAND; [4]Center of Immunology Pierre Fabre, Saint Julien-en-Genvois, FRANCE [KEYNOTE LECTURE] [recipient of the 2017 Georges Guiochon Faculty Fellowship]

9:20-9:40 am (L-170) **Three-Dimensional Chiral HPLC Analysis of Amino Acids and Related Compounds in Complex Biological Matrices including Human Clinical Samples.** Kenji Hamase[1], Reiko Koga[2], Aogu Furusho[1], Chin-Ling Hsieh[1,3], Nutchaya Sereekittikul[1,4], Takeyuki Akita[1], Masashi Mita[5], Tomomi Ide[1], Jen-Ai Lee[3], Wolfgang Lindner[6], [1]Kyushu University, Fukuoka, JAPAN; [2]Fukuoka University, Fukuoka, JAPAN; [3]Taipei Medical University, Taipei, TAIWAN; [4]Mahidol University, Bangkok, THAILAND; [5]Shiseido, Tokyo, JAPAN; [6]University of Vienna, Vienna, AUSTRIA [INVITED LECTURE]

9:40-10:00 am (L-171) **Maximizing Comprehensive Two-dimensional LC Peak Capacity for Complex Aromatic Amines Oligomer Analysis.** Koudi Zhu[1], Gert Desmet[2], Sebastiaan Eeltink[2], Matthias Pursch[3], [1]Dow Chemical Company, Midland, MI, USA; [2]Vrije Universiteit Brussel, Brussels, BELGIUM; [3]Dow Stade Produkt, Stade, GERMANY

14B. Thursday Parallel Session: Innovative HPLC Column Technology

Chair: Mary Wirth, Purdue University, USA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

8:30-8:55 am (L-172) **3D Print Your Own Chromatography Column.** Simone Dimartino, Ursula Simon, University of Edinburgh, Edinburgh, UK [KEYNOTE LECTURE] [recipient of the 2016 Csaba Horváth Young Scientist Award]

8:55-9:20 am (L-173) **Recent Advances in the Fabrication and Use of Perfectly Ordered Chromatographic Media.** Gert Desmet, Vrije Universiteit Brussel, Brussels, BELGIUM [KEYNOTE LECTURE]

9:20-9:40 am **NEW** (P-W-1806) **Parallel Analysis of a Single Sample on Several Monolithic Capillary Columns or 3D Printed Device with an Integrated Electrochemical Detection.** Martina Komendova[1], Suhas Nawada[2], Radovan Metelka[3], Peter Schoenmakers[2], Jiri Urban[1], [1]Masaryk University, Brno, CZECH REPUBLIC; [2]University of Amsterdam, Amsterdam, NETHERLANDS; [3]University of Pardubice, Pardubice, CZECH REPUBLIC

9:40-10:00 am **NEW** (P-M-0108) **Development of Immunoextraction System for On-line Entrapment of Serum Proteins.** Elliott Rodriguez, Saumen Poddar, Shiden Azaria, John Vargas-Badilla, David Hage, University of Nebraska, Lincoln, NE, USA

14C. Thursday Parallel Session: Antibody Drug Conjugates - I

Chair: Koen Sandra, Research Institute for Chromatography, BELGIUM
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

8:30-8:55 am (L-176) **Capillary Electrophoresis with Mass Spectrometry: A Powerful Tool for Characterization of Antibody-Drug Conjugates.** Oluwatosin Dada, Seattle Genetics Inc., Bothell, WA, USA [KEYNOTE LECTURE]

8:55-9:20 am (L-177) **Approaches to Characterization of Antibody Drug Conjugates from Different Conjugation Platforms.** April Xu, Pfizer, Pearl River, NY, USA [KEYNOTE LECTURE]

9:20-9:40 am (L-178) **Probing Signaling Pathway Proteins of Apoptosis at the Single Cell Level via Plasmonic Immunosandwich Assay.** Yanrong Wen, Jia Liu, Zhen Liu, Nanjing University, Nanjing, CHINA [INVITED LECTURE]

9:40-10:00 am (L-179) **HIC-MS of Intact Monoclonal Antibodies and Antibody-Drug Conjugates.** Andrew Alpert[1], Ying Ge[2], Bifan Chen[2], Ziqing Lin[2], [1]PolyLC Inc., Columbia, MD, USA; [2]University of Wisconsin-Madison, Madison, WI, USA

Thursday Poster Session 7 and Mixer

Location: Exhibition Hall C
(Located below Lobby Level – take down escalators to Exhibition Level)

10:00-11:15 am **Poster Presentations by Finalists for Consideration of Best Poster Awards Sponsored by Agilent Technologies**
By early Thursday morning, there will be special signs on the boards of the posters under consideration. Poster presenters who make it into the final round to present during Poster Session 7 are asked to stay until the Agilent Technologies Best Poster Awards ceremony that takes place on Thursday at 4:00 pm.

15A. Thursday Parallel Session: Multidimensional Separations - III

Chair: Bob Pirok, University of Amsterdam, NETHERLANDS
Location: Marriott Ballroom Salon 3 (Lobby Level)

11:15-11:30 am (L-180) **Multidimensional Separation and HRMS Enhance Protein Identification from Limited Neuron Populations.** Sam B. Choi[1], Camille Lombard-Banek[1], Pablo Munoz-LLancao[2], M. Chiara Manzini[2], Peter Nemes[1], [1]University of Maryland, College Park, MD, USA; [2]The George Washington University, Washington, DC, USA

11:30-11:45 am (L-181) **Chiral Stationary Phase Developments in HPLC Enantiomer Separation and Implementation in Enantioselective 2D-HPLC.** Michael Laemmerhofer, Ulrich Woiwode, Stefan Neubauer, Christian Geibel, University of Tuebingen, Tuebingen, GERMANY

11:45 am-12:00 pm (L-182) **Multi-dimensional Spatial Separations - From Concepts to Prototypes.** Suhas Nawada, Theodora Adamopoulou, Noor Abdulhussain, Marta Passamonti, Pascal Bruer, Peter Schoenmakers, University of Amsterdam, Amsterdam, NETHERLANDS

12:00-12:15 pm (L-183) **Fully-automated Purification Method of Substances in Analytical and Preparative Scales by Multiple Dimensional Liquid Chromatography.** Xindu Geng, Northwest University, Xi'an, CHINA and Suzhou Primacy Science & Technology Co., Suzhou, CHINA

15B. Thursday Parallel Session: Innovative Separation Technology

Chair: Gert Desmet, Vrije Universiteit Brussel, BELGIUM
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

11:15-11:30 am (L-184) **Rapid Analyses in Portable Nanoflow Liquid Chromatography.** Luke Tolley[1], Xiaofeng Xie[1], Thy Truong[2], Leena Patil[2], Paul Farnsworth[2], H. Dennis Tolley[2], Milton Lee[2], [1]Axcend, Salt Lake City, UT, USA; [2]Brigham Young University, Provo, UT, USA

11:30-11:45 am (L-185) **Evaluation of a Novel Bimodal Stationary Phase based on Cholic Acid Oligomers that form Self-invertible Molecular Pockets.** Karen C. Waldron, Vincent Dionne-Dumont, Meng Zhang, Nicolas Levaray, Julian Zhu, University of Montreal, Montreal, CANADA

11:45 am-12:00 pm (L-186) **Bio-Inert versus Bio-Compatible: The Benefits of Different Column Materials in Liquid Chromatography Separations.** Jason Anspach, Brian Rivera, Srinivasa Rao, Tivadar Farkas, Phenomenex, Torrance, CA, USA

12:00-12:15 pm (L-187) **A Rapid, Automated Extraction Platform to Assess Drug Product Potency by Online LC.** Stephen Groskreutz, Gordon Lambertus, Todd Maloney, Eli Lilly and Company, Indianapolis, IN, USA

15C. Thursday Parallel Session: Lipids

Chair: Huwei Liu, Peking University, CHINA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

11:15-11:30 am (L-188) **Comprehensive Two-Dimensional Liquid Chromatography with Quadruple Mass Spectrometry, LC2MS4, for Analysis of Triacylglycerols.** William Byrdwell, U.S. Department of Agriculture, Beltsville, MD, USA

11:30-11:45 am (L-189) **Characterization of the Human Plasma Lipidome using LC-IM-qTof-MS.** Timo Koehler, Oliver Schmitz, Sven Meckelmann, University of Duisburg, Essen, GERMANY

11:45 am-12:00 pm (L-190) **Development of UPLC-MSMS Methods for the Analysis of Complex, Sparsely Soluble Compounds in Environmental Toxicology.** Jelena Jokovic (Ciric), Charles River Laboratories Den Bosch BV, 's-Hertogenbosch, NETHERLANDS

12:00-12:15 pm (L-191) **Characterization of Carotenoids and Apocarotenoids in Human Blood Samples by Means of Online Supercritical Fluid Extraction Supercritical Fluid Chromatography Tandem Mass Spectrometry.** Mariosimone Zoccali, Daniele Giuffrida, Fabio Salafia, Paola Dugo, Luigi Mondello, University of Messina, Messina, ITALY

12:15-1:30 pm Lunch Break on your own

16A. Thursday Parallel Session: Biomarkers

Chair: Lisa Holland, West Virginia University, USA
Location: Marriott Ballroom Salon 3 (Lobby Level)

1:30-1:55 pm (L-192) **Looking for Biomarkers with Finite Detection Limits using a Statistical Approach.** Mark Schure[1], Nicole Devitt[2], Joe Davis[3], [1]Kroungold Analytical Inc., Blue Bell, PA, USA; [2]University of Delaware, Newark, DE, USA; [3]Southern Illinois University, Carbondale, IL, USA [KEYNOTE LECTURE]

1:55-2:10 pm (L-193) **Comparative Proteomic Analysis of Microvesicles and Exosomes in Human Saliva for the Detection of Lung Cancer.** Hua Xiao, Shanghai Jiao Tong University, Shanghai, CHINA

2:10-2:25 pm (L-194) **Multiplexed Targeted Quantitation of Membrane-Integrated Receptors.** Simion Kreimer, Peter Abadir, Robert Cole, Johns Hopkins University, Baltimore, MD, USA

16B. Thursday Parallel Session: Novel Detectors

Chair: Karen Waldron, University of Montreal, CANADA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

1:30-1:55 pm (L-195) **Online SERS Detection for Chemical Separations.** Zachary Schultz[1], Anh Nguyen[2], Emily Peters[2], Rafael Masitas[1], Lifu Xiao[1], [1]Ohio State University, Columbus, OH, USA; [2]University of Notre Dame, Notre Dame, IN, USA [KEYNOTE LECTURE]

1:55-2:10 pm (L-196) **Battling the Backlog: Novel CZE System for Forensic Separations.** Sarah Lum, Norman Dovichi, University of Notre Dame, Notre Dame, IN, USA

2:10-2:25 pm (L-197) **Simultaneous Online Fluorescence and ESI-MS Detection for 1D and 2D HPLC in Microfluidic Glass Chips.** Sebastian Piendl, Josef Heiland, Detlev Belder, Leipzig University, Leipzig, GERMANY

16C. Thursday Parallel Session: Antibody Drug Conjugates - II

Chair: Oluwatosin Dada, Seattle Genetics, USA
Location: Thurgood Marshall Ballroom West (Mezzanine Level)

1:30-1:55 pm (L-198) **Advances in the Analysis of Monoclonal Antibodies, Antibody-Drug Conjugates and Therapeutic Proteins.** Koen Sandra, Jonathan Vandenbussche, Isabel Vandenheede, Mieke Steenbeke, Emmie Dumont, Gerd Vanhoenacker, Pat Sandra, Research Institute for Chromatography, Kortrijk, BELGIUM [KEYNOTE LECTURE]

1:55-2:10 pm (L-199) **Drug-to-antibody Determination for an Antibody-drug-conjugate Utilizing Cathepsin B Digestion Coupled with Reversed-Phase High-Pressure Liquid Chromatography Analysis.** Guoyong Sun, Michael Adamo, Amit Katiyar, Tapan Das, Bristol-Myers Squibb, Pennington, NJ, USA

2:10-2:25 pm (L-200) **Novel Application of 2D-LC-MS in Assessing Enantiomeric Purity of Complex Linker Drug Intermediates with Multiple Chiral Centers used in Antibody Drug Conjugates (ADCs).** CJ Venkatramani[1], Anne Kraft[2], [1]Genentech, South San Francisco, CA, USA; [2]Roche, Basel, SWITZERLAND

17. Thursday Closing Plenary Session

Chair: Norman Dovichi, University of Notre Dame, USA
Location: Thurgood Marshall Ballroom North (Mezzanine Level)

2:30-3:00 pm (L-201) **State of the Art and Future Perspectives of Ultrafast Chiral Separations by Liquid Chromatography.** Alberto Cavazzini[1], Martina Catani[1], Omar H. Ismail[2], Francesco Gasparrini[2], [1]University of Ferrara, Ferrara, ITALY; [2]La Sapienza University of Rome, Rome, ITALY [PLENARY LECTURE]
2019 HPLC Milan Chair

3:00-3:30 pm (L-202) **Specific Interactions in Liquid Phase Microscale Separations.** Koji Otsuka, Takuya Kubo, Eisuke Kanao, Kei Kubota, Toyohiro Naito, Koji Otsuka, Kyoto University, Kyoto, JAPAN [PLENARY LECTURE]
2019 HPLC Kyoto Chair

3:30-4:00 pm (L-203) **Avoiding the Compromise: New Bonded Phases for Coupling Protein LC with MS.** Yiyang Zhou, Rachel Jacobson, Aaron Chen, Yun Yang, Mary Wirth, Purdue University, West Lafayette, IN, USA [PLENARY LECTURE]
2020 HPLC San Diego Chair

18. Thursday Award Presentations and Closing Ceremony

Location: Thurgood Marshall Ballroom North (Mezzanine Level)

4:00-4:15 pm **Presentation of Best Poster Awards, sponsored by Agilent Technologies**

4:15-4:30 pm **Presentation of 2018 Csaba Horváth Young Scientist Award**

4:30-4:40 pm **Invitation to HPLC 2020 San Diego, CA, USA**
Mary Wirth, Chair

4:40-4:50 pm **Invitation to HPLC 2019 Kyoto, JAPAN**
Koji Otsuka, Chair

4:50-5:00 pm **Invitation to HPLC 2019 Milan ITALY**
Alberto Cavazzini, Co-Chair

5:00-5:05 pm **Closing Ceremony**

5:05-6:05 pm **Farewell Reception**
Location: Thurgood Marshall Ballroom West (Mezzanine Level)
The Farewell Reception takes place immediately following the Closing Ceremony on Thursday. Before heading out, join us to bid farewell to fellow conference attendees.

HPLC 2018 Poster Sessions and Topics
Location: Exhibition Hall C

(Located below Lobby Level – take down escalators to Exhibition Level)

POSTER SESSION 1
Monday @ 10:00 - 11:15 AM

Posters	Session Topics
P-M-0100	Sample Preparation
P-M-0200	Environmental and Energy Applications
P-M-0300	Characterization of Monoclonal Antibodies/Drug Conjugates/Protein-based Drugs

POSTER SESSION 2
Monday @ 2:50 - 4:30 PM

Posters	Session Topics
P-M-0400	Stationary Phases
P-M-0500	Emerging Separation Methods
P-M-0600	Foods/Beverages and Nutrition
P-M-0700	Electrically-driven Separations/Capillary Electrophoresis

POSTER SESSION 3
Tuesday @ 10:00 - 11:15 AM

Posters	Session Topics
P-T-0800	Protein Characterization and Modification
P-T-0900	Omics (metabolomics/lipidomics/glycomics/proteomics/genomics)
P-T-1000	Method Development and Automation

POSTER SESSION 4
Tuesday @ 2:50 - 4:30 PM

Posters	Session Topics
P-T-1100	Multi-dimensional Separations
P-T-1200	Design of Experiments and Quality by Design
P-T-1300	Supercritical Fluid Chromatography
P-T-1400	Instrument Design and Applications

POSTER SESSION 5
Wednesday @ 10:00 - 11:15 AM

Posters	Session Topics
P-W-1500	Microfabricated Systems/Nanoscience and Materials
P-W-1600	Forensics/Toxicology/Drugs of Abuse
P-W-1700	Biopharmaceutical and Pharmaceutical Applications
P-W-1800	LC Column Technology

POSTER SESSION 6
Wednesday @ 2:50 - 4:30 PM

Posters	Session Topics
P-W-1900	Chiral Separations
P-W-2000	Quantitative Hyphenated Mass Spectrometry Techniques
P-W-2100	Natural Products

POSTER SESSION 7
Thursday @ 10:00 - 11:15 AM

Presentations by Finalists for Consideration of Best Poster Awards
Best Poster Awards ceremony at 4:00 PM is sponsored by Agilent Technologies

POSTER SESSION 1 - Monday @ 10:00 - 11:15 AM
Location: Exhibition Hall C

(Located below Lobby Level – take down escalators to Exhibition Level)

Posters	Session Topics
P-M-0100	Sample Preparation
P-M-0200	Environmental and Energy Applications
P-M-0300	Characterization of Monoclonal Antibodies/Drug Conjugates/Protein-based Drugs

P-M-0100: Sample Preparation (Monday at 10:00-11:15 AM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0101 **Robot-assisted Dynamic Large Drop Microextraction.** Luis Felipe Rodriguez Cabal, Deyber Arley Vargas Medina, Santos Neto Álvaro Jose, Universidade de Sao Paulo, Sao Carlos, BRAZIL

P-M-0102 **The Development of Functionalized Magnetic Graphene Hydrophilic Biocomposites as Matrix for Specific Recognition for N-linked Glycopeptide.** Mingxia Gao, Jiaxi Wang, Yanan Wang, Xiangmin Zhang, Fudan University, Shanghai, CHINA

P-M-0103 **Fabrication of Graphene Oxide on Cellulose Paper for Micro-solid Phase Extraction of Aromatic Compounds.** Yanawut Manmana, Boonta Chutvirasakul, Leena Suntornsuk, Nantana Nuchtavorn, Mahidol University, Bangkok, THAILAND

P-M-0104 **Nitrogen-doped Carbon Nanomaterials Derived from MOFs for Chromatographic Analysis.** Lan Zhang, Fuzhou University, Fuzhou, CHINA

P-M-0105 **Magnetic Solid Phase Extraction of Trace Phenolic Pollutants using Polyaniline-modified Zerovalent Iron-silica Magnetic Particle as Sorbent.** Jirasak Kamonchuang, Rodjana Burakham, Khon Kaen University, Khon Kaen, THAILAND

P-M-0106 **Thermal-responsive Magnetic Nanoparticle Conjugated with a Molecularly Imprinted Polymer for Selective Drug Releasing.** Kaname Tachibana, Toyohiro Naito, Takuya Kubo, Koji Otsuka, Kyoto University, Kyoto, JAPAN

P-M-0107 **Simpler, Cleaner, Faster: Solid Phase Extraction Methods for Basic Analyte Extraction with Phospholipid Removal.** Donna Osterman, Thomas Swann, Kenneth Berthelette, Thomas Walter, Bonnie Alden, Waters Corporation, Milford, MA, USA

P-M-0108 **Development of Immunoextraction System for On-line Entrapment of Serum Proteins.** Elliott Rodriguez, Saumen Poddar, Shiden Azaria, John Vargas-Badilla, David Hage, University of Nebraska, Lincoln, NE, USA

P-M-0109 **Ecofriendly Mechanochemical Extraction of Bioactive Compounds from Plants with Deep Eutectic Solvents.** Man Wang[1], Wentao Bi[1], David Chen[1,2], [1]Nanjing Normal University, Nanjing, CHINA; [2]University of British Columbia, Vancouver, CANADA

P-M-0110 **Developed On-line Pre-treatment System with SFE and LC/MS for Food Analysis.** Naoki Hamada[1], Satoshi Yamaki[1], Jingjing Xue[2], Yuki Hashi[2], [1]Shimadzu (China) Co., Ltd., Beijing, CHINA; [2]Shimadzu (China) Co., Ltd., Shanghai, CHINA

P-M-0111 **A Fast and Simple Workflow for Surrogate Peptide Bioanalysis: NISTmAb Case Study.** Mike Oliver, Jon Bardsley, Kean Woodmansey, Thermo Fisher Scientific, Runcorn, UK

P-M-0100: Sample Preparation (Monday at 10:00-11:15 AM) continued
Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0112 **Incorporating Solid Phase Extraction into a Compendial Method for the Determination of Dexamethasone and its Impurities in Low-dose Drug Products.** Qun Xu, U.S. Pharmacopeia, Rockville, MD, USA

P-M-0113 **Development of a High Throughput HILIC N-glycan Quantification Method with Automated Sample Preparation.** Bridget Sessions, Catherine Eakin, Eoin Cosgrave, Seattle Genetics, Bothell, WA, USA

P-M-0114 **Fluoroalcohol–induced Coacervates in Proteomics and Lipidomics.** Amir Koolivand, Mohammadmehdi Azizi, Halie Rion, Armin Oloumi, Sajad Tasharofi, Morteza Khaledi, University of Texas at Arlington, Arlington, TX, USA

P-M-0115 **Bisphenols; HPLC–TOF; Magnetic Solid-phase Extraction; Ultrasound; Sludge.** Qian Wang[1], Guanghu Lian[1], Micong Jin[2], Zhijun Song[1], Meiqiang Cai[1], [1]Zhejiang Gongshang University, Hangzhou, CHINA; [2]Ningbo Municipal Center for Disease Control and Prevention, Ningbo, CHINA

P-M-0116 **Microwave Chemical Extraction of Bioactive Compounds from Natural Products.** Jun Cao, Hangzhou Normal University, Hangzhou, CHINA

P-M-0117 **Determination of Patulin by Single-drop Liquid-liquid-liquid Microextraction Coupled with LC-MS.** Xianjiang Li, Hongmei Li, National Institute of Metrology, Beijing, CHINA

P-M-0118 **Sensitive Determination of Perfluorinated Compounds in Water Samples by Carboxylated Carbon Nanospheres-based Solid-Phase Extraction-Liquid Chromatography–Tandem Mass Spectrometry**. Ru-Song Zhao, Shandong Academy of Science, Jinan, CHINA

P-M-0200: Environmental and Energy Applications (Monday at 10:00-11:15 AM)
Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0201 **Physicochemical and Chemical Characterization of Three Categories Surface Waters of Jacqueville City (Côte d'Ivoire).** N'cho Christophe Amin[1,5], Koffi Sylvain Dibi[2], Sawa Andre Philippe Kpaibe[3], Kla Anglade Malan[4], Luc Kouadio[1], [1]Institut National d'Hygiene Publique, Abidjan, COTE D'IVOIRE; [2]Direction du Laboratoire Central de la Police, Abidjan, COTE D'IVOIRE; [3]Département de Chimie Analytique Chimie Minerale et Generale, Abidjan, COTE D'IVOIRE; [4]Laboratoire National de Sante Publique, Abidjan, COTE D'IVOIRE; [5]Félix Houphouët-Boigny University, COTE D'IVOIRE

P-M-0202 **Ascorbic Acid Assisted High Performance Liquid Chromatography Mass Spectrometry Differentiation of Isomeric C-chloro- and N-chloro- Tyrosyl Peptides.** Ping Jiang, Guang Huang, Lindsay Blackstock, Jianye Zhang, Xing-Fang Li, University of Alberta, Edmonton, CANADA

P-M-0203 **Development of a Method for Trace-level Quantification of Nitrosamines in Wastewater.** Anthony Lapointe, Stephanie Gallant, Karen C. Waldron, Alexandra Furtos, University of Montreal, Montreal, CANADA

P-M-0204 **Separation and Decomposition Kinetics of Xanthate Compounds in Mining Waters by Capillary Electrophoresis and Headspace Gas Chromatography-Mass Spectrometry.** Kingsley Donkor[1], Adrian Batista[1], Tyson Bodor[1], John Andrew[2], [1]Thompson Rivers University, Kamloops, CANADA; [2]New Afton Mine New Gold Inc., Kamloops, CANADA

P-M-0200: Environmental and Energy Applications (Monday at 10:00-11:15 AM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0205 **HPLC-MS/MS Method for Measuring Ten Flame Retardant Metabolites and Six Organophosphate Insecticide Metabolites in Human Urine.** Nayana K. Jayatilaka, Paula Restrepo, Zachary Davis, Meghan Vidal, Antonia M. Calafat, Maria Ospina, Centers for Disease Control and Prevention, Atlanta, GA, USA

P-M-0206 **Improvement to the Theory of the Slot Model to Explain the Shape Selectivity of Cata-Condensed Polycyclic Aromatic Hydrocarbons in Reversed-Phase Liquid Chromatography.** Jorge Ona Ruales, Nazarbayev University, Astana, KAZAKHSTAN

P-M-0207 **Optimized Analysis of Jet Fuel, Kerosene, Fuel Oil, Diesel and Recycling Oil using Monolithic Silica Columns.** Anita Piper, Stephan Altmaier, Michael Schulz, Merck KGaA, Darmstadt, GERMANY

P-M-0208 **Multi-residue Ultra Liquid Chromatography-high Resolution Mass Spectrometric Method for the Analysis of 21 Cyanotoxins in Surface Water for Human Consumption.** Federica Nigro Di Gregorio[1], Giorgia Di Pofi[1], Emanuele Ferretti[1], Valentina Fuscoletti[1], Emanuela Viaggiu[2], Luca Lucentini[1], [1]Italian National Institute of Health, Rome, ITALY; [2]University of Rome 'Tor Vergata', Rome, ITALY

P-M-0209 **Solid Phase Extraction-Liquid Chromatography Mass Spectrometric Protocol for Determination of Cylindrospermopsin in Surface Water Sample: First Identification in Italian Lake.** Luca Lucentini[1], Giorgia Di Pofi[2], Emanuele Ferretti[1], Valentina Fuscoletti[1], Federica Nigro Di Gregorio[1], Emanuela Viaggiu[3], [1]Instituto Superiore di Sanita, Rome, ITALY; [2]Sapienza University of Rome, Rome, ITALY; [3]University of Rome 'Tor Vergata', Rome, ITALY

P-M-0210 **HRMS Identification of Transformation Products and Pathways: Treatment of Aquacide in Wastewaters by Oxydol Oxidation System.** Micong Jin[1], Meiqiang Cai[2], [1]Ningbo Municipal Center for Disease Control and Prevention, Ningbo, CHINA; [2]Zhejiang Gongshang University, Hangzhou, CHINA

P-M-0211 **Bioaccumulation of Perfluoroalkyl Acids by Three Species of Earthworms Exposed to Contaminated Soils.** Bei Wen, State Key Laboratory of Environmental Chemistry and Ecotoxicology Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, CHINA

P-M-0212 **Contamination by Pesticides in Southern Brazil Water Determined by LC-MS/MS.** Mariana Bortholazzi Almeida, Tiago Bervelieri Madeira, Suzana Lucy Nixdorf, Londrina State University, Londrina, BRAZIL

P-M-0213 **Method Development for the Analysis of Antiretroviral Drugs with its Related Drugs in Wastewater using High-pressure Liquid Chromatography.** Mmanoko Berlina Seroto, Simiso Dube, Mathew Muzi Nindi, University of South Africa, Florida Park Roodepoort, SOUTH AFRICA

P-M-0214 **Identification of Chlorinated and Hydrogenated Polyfluoroalkyl Ether Sulfonates by High Resolution Mass Spectrometry.** Ting Ruan, Yongfeng Lin, Guibin Jiang, Research Center for Eco-Environmental Sciences Chinese Academy of Sciences, Beijing, P.R. CHINA

P-M-0215 **A Solid-phase Extraction Based Ultra-performance Liquid Chromatography/Tandem Mass Spectrometry Method for the Analysis of Toxic Malachite Green in Wastewater: A Green Environmental Approach.** Zeid Alothman, King Saud University, Riyadh, SAUDI ARABIA

P-M-0200: Environmental and Energy Applications (Monday at 10:00-11:15 AM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0216 **Shimadzu LVi-LCMSMS System for Trace Analysis of Multi-class Pharmaceuticals in Water Samples.** Qisheng Zhong[1], Ting Zhou[2], Jiaqi Liu[1], Yanshan Liang[2], Dianbao Yu[1], Jinting Yao[1], Taohong Huang[3], [1]Shimadzu (China) Co. LTD., Guangzhou, CHINA; [2]South China University of Technology, Guangzhou, CHINA; [3]Shimadzu (China) Co. LTD., Shanghai, CHINA

P-M-0217 **Experimental Investigation on the Interaction between Micro-particle and Plane Surface under Different Humidity.** Ming Dong, Xue Li, Sufen Li, Dalian University of Technology, Dalian, CHINA

P-M-0300: Characterization of Monoclonal Antibodies/Drug Conjugates/ Protein-based Drugs (Monday at 10:00-11:15 AM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0301 **Charge Variant Analysis of Therapeutic Proteins using a Novel Weak Cation Exchange Stationary Phase.** Shanhua Lin, Shane Bechler, Julia Baek, Yin Hu, Yoginder Singh, Xiaodong Liu, Thermo Fisher Scientific, Sunnyvale, CA, USA

P-M-0302 **Rapid Charge Variant Analysis of Monoclonal Antibodies to Support Lead Candidate Biopharmaceutical Development.** Anne Trappe, Florian Fussl, Izabela Zaborowska, Jonathan Bones, National Institute for Bioprocessing Research & Training, Dublin, IRELAND

P-M-0303 **Native Reversed-phase Liquid Chromatography: A Technique for LC-MS of Antibody-Drug Conjugates.** Tse-Hong Chen[1], Yun Yang[1], Zhaorui Zhang[2], Mary Wirth[1], [1]Purdue University, West Lafayette, IN, USA; [2]AbbVie Inc., North Chicago, IL, USA

P-M-0304 **HILIC-MS for Rapid Middle-down Assay of IgG1 Fc Glycosylation.** Rachel Jacobson[1], Yiyang Zhou[1], Bingchuan Wei[2], Guanghui Han[2], Yonghua Zhang[3], Wendy Sandoval[2], Mary Wirth[1], [1]Purdue University, West Lafayette, IN, USA; [2]Genentech Inc., South San Francisco, CA, USA; [3]Juno Therapeutics, Seattle, WA, USA

P-M-0305 **New Capillary Electrophoresis Separations to Evaluate IgG Antibody Glycosylation.** Lloyd Bwanali, Grace Lu, Lisa Holland, West Virginia University, Morgantown, WV, USA

P-M-0306 **Efficient Development of a High Throughput Analytical SEC Method for Bispecific mAbs.** Hangu Nam[2], Adrian Man[3], Sheau-Chiann Wang[3], Sophia V. Levitskaya-Seaman[1], [1]Salubris Biotherapeutics, Gaithersburg, MA, USA; [2]Virginia Tech, Blacksburg, VA, USA; [3]MedImmune, Gaithersburg, MA, USA

P-M-0307 **Direct Injection HPLC Method to Quantify Free Drug in Antibody Drug Conjugates.** Amish Karanjit, Christopher Cornell, Fredric Jacobson, Genentech, South San Francisco, CA, USA

P-M-0308 **Development of NISTmAb-derived Homogeneous Antibody-drug Conjugate (ADC) Standards.** Shanhua Lin[1], Terry Zhang[2], Brian Agnew[3], Trina Mouchahoir[4], John Schiel[4], [1]Thermo Fisher Scientific, Sunnyvale, CA, USA; [2]Thermo Fisher Scientific, San Jose, CA, USA; [3]Thermo Fisher Scientific, Eugene, OR, USA; [4]NIST, Gaithersburg, MD, USA

P-M-0309 **"Snapshot" RP-UHPLC Method to Monitor Post-translational Modifications in Monoclonal Antibody Therapeutics.** Justin Jeong, Michael Kim, Bing Zhang, Genentech Inc., South San Francisco, CA, USA

P-M-0300: Characterization of Monoclonal Antibodies/Drug Conjugates/ Protein-based Drugs (Monday at 10:00-11:15 AM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0310 **Development of a Reversed-phase LC-MS Method to Characterize Low-abundant Product Variants of a Bispecific Antibody.** Charlene Li, Bingchuan Wei, Genentech, South San Francisco, CA, USA

P-M-0311 **Structural Characterization of Polymer-drug-linked ADCs by LC-MS.** Kenneth Avocetien, Susan M. Clardy, Barrett J. Nehilla, Dmitry Gumerov, Natalya Bodyak, David H. Lee, Mersana Therapeutics Inc., Cambridge, MA, USA

P-M-0312 **Antibody-drug Conjugate Surrogates: A Tool for Process and Method Development.** Patrick Endres, Tom Huck, Egbert Müller, Tosoh Bioscience GmbH, Griesheim, GERMANY

P-M-0313 **Comparability Study of a Monoclonal Antibody (mAb).** Yong Liu, Yutian Gan, Anna Mah, Lynn Gennaro, Genentech, South San Francisco, CA, USA

P-M-0314 **Improvement of Separation of Monoclonal Antibodies using Core-shell Column.** Tomoyasu Tsukamoto, Norikazu Nagae, Makoto Sato, Chromanik Technologies Inc., Osaka, JAPAN

P-M-0315 **Characterization of a Novel Antibody-drug Conjugate Mimic by Several Modes of Chromatography.** Cory Muraco, Edward Jones, Bill Maule, Michael Ye, MilliporeSigma, Bellefonte, PA, USA

P-M-0316 **Purification and Characterization of ADC-surrogates with Hydrophobic Interaction Chromatography on Preparative and Analytical Scale.** Manuela Sevilla, Patrick Endres, Werner Conze, Egbert Mueller, Tosoh Bioscience GmbH, Griesheim, GERMANY

P-M-0317 **Method Development of Online Protein A Affinity Capture for Direct SEC Analysis of mAb Aggregates using Two Dimensional HPLC.** Lisa Zang, Te-Wei Chu, Jordy Hsiao, Agilent, Santa Clara, CA, USA

P-M-0318 **Accurate and Precise Quantification of mAb-released N-glycans with an Amide HILIC Column.** Stacy Tremintin, Xin Zhang, Thermo Fisher Scientific, Sunnyvale, CA, USA

P-M-0319 **Charge Variant Method Design for Analysis of Monoclonal Antibodies.** Shanhua Lin, Julia Baek, Shane Bechler, Stacy Tremintin, Thermo Fisher Scientific, Sunnyvale, CA, USA

P-M-0320 **High Throughput, Flexible Chromatographic Analysis of Monoclonal Antibodies.** Nicola McGillicuddy[1], Sara Carillo[1], Martin Samonig[2], Amy Farrell[1], Jenny-Marie T. Wong[2], Jonathan Bones[1], [1]NIBRT, Dublin, IRELAND; [2]Thermo Fisher Scientific, Germering, GERMANY

P-M-0321 **pH Gradient-based Cation Exchange Purification of IgG2 Disulfide Isoforms.** Mark Chipley, Pfizer, Chesterfield, MO, USA

P-M-0322 **pH Gradient Chromatofocusing: Proper Selection of Buffering Compounds based on Simulations using Simul 5 Complex and Experimental Validation.** Jana Steflova[1], Martina Riesova[1], Vlastimil Hruska[2], [1]Charles University, Prague, CZECH REPUBLIC; [2]Agilent Technologies, Deutschland GmbH & Co. KG, Waldbronn, GERMANY

P-M-0300: Characterization of Monoclonal Antibodies/Drug Conjugates/ Protein-based Drugs (Monday at 10:00-11:15 AM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0323 **Analysis of the Fragments Generated from the Oxidation of Monoclonal Antibody using Hydrophobic Interaction Chromatography and Mass Spectrometry.** Daniel Shollenberger, Atis Chakrabarti, TOSOH Bioscience LLC, King of Prussia, PA, USA

P-M-0324 **Native Mode Separation of Bio-therapeutics by Novel Hydrophobic Interaction Chromatography Stationary Phase.** Andrew Coffey[1], Priya Jayaraman[2], Sandeep Kondaveeti[2], [1]Agilent Technologies, Church Stretton, UK; [2]Agilent Technologies, Wilmington, DE, USA

P-M-0325 **Real-time PQ Analysis via 2D UPLC.** Anoushka Durve, Dharani Vora, Jeff Goby, Eike Zimmermann, Kenji Furuya, Boehringer Ingelheim, Fremont, CA, USA (presented by Lin Wang)

P-M-0326 **Enhancing Subunit-Level Profiling of mAbs and ADCs with MS-Quality Difluoroacetic Acid.** Qi Wang[1], Jennifer Nguyen[1], Jacquelynn Smith[2], Olga Friese[2], Jason Rouse[3], Daniel Walsh[1], Ximo Zhang[1], Nilini Ranbaduge[1], Matthew Lauber[1], [1]Waters Corporation, Milford, MA, USA; [2]Biotherapeutics Pharm. Sci., Pfizer WRD, St. Louis, MO, USA; [3]Biotherapeutics Pharm. Sci., Pfizer WRD, Andover, MA, USA

POSTER SESSION 2 - Monday @ 2:50 - 4:30 PM
Location: Exhibition Hall C

(Located below Lobby Level – take down escalators to Exhibition Level)

Posters	Session Topics
P-M-0400	Stationary Phases
P-M-0500	Emerging Separation Methods
P-M-0600	Foods/Beverages and Nutrition
P-M-0700	Electrically-driven Separations/Capillary Electrophoresis

P-M-0400: Stationary Phases (Monday at 2:50-4:30 PM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0401 **HILIC-HR-MS for (Untargeted) Metabolomics in Microorganisms – (Finally) Getting Rid of Ion-pair LC-MS Methods.** Wouter Coppes, Raymond Ramaker, Sandra Pous-Torres, Reza Maleki-Seifar, Leon Coulier, DSM Biotechnology Center, Delft, NETHERLANDS

P-M-0402 **Application of Novel HILIC Column Configurations to Improve Polar Analyte Analyses.** Anne Mack, William Long, Mia Summers, Adam Bivens, Agilent Technologies, Wilmington, DE, USA

P-M-0403 **Revealing the Ways of Manipulating Selectivity of Covalently-bonded Anion Exchangers for Ion Chromatography Toward Mono- and Polyvalent Organic Acids.** Aleksandra Zatirakha, Anna Uzhel, Anastasia Borodina, Igor Kvachenok, Alexander Smolenkov, Oleg Shpigun, Lomonosov Moscow State University, Moscow, RUSSIA

P-M-0404 **Investigating the Retention Mechanisms and Types of Secondary Interactions Determining the Influence of Structural Fragments of Novel HILIC Materials on Their Selectivity.** Alla Chernobrovkina, Aleksandra Zatirakha, Alexander Popov, Ilya Kovalenko, Alexander Smolenkov, Oleg Shpigun, Lomonosov Moscow State University, Moscow, RUSSIA

P-M-0405 **Evaluation of Two Hydrophilic Interaction Liquid Chromatography Stationary Phases for Global Metabolomics Analysis of Human Plasma.** Rosalynde Sonnenberg, Dajana Vuckovic, Concordia University, Montreal, CANADA

P-M-0406 **High Performance Separations using 100% Aqueous Mobile Phase Compatible Superficially Porous Particle Columns Coupled with Mass Spectrometry.** Chuping Luo, Justin Godinho, Benjamin Libert, Stephanie Schuster, Barry Boyes, Advanced Materials Technology, Wilmington, DE, USA

P-M-0407 **Exosome Isolation from Cell Culture Milieu by HIC on Polyester Capillary-channeled Polymer Fiber Phase.** Sisi Huang, R. Kenneth Marcus, Clemson University, Clemson, SC, USA

P-M-0408 **Retention Characteristics of Carbon-materials Coated Columns for Halogenated Aromatic Compounds in Liquid Chromatography.** Takuya Morinaga, Toyohiro Naito, Takuya Kubo, Koji Otsuka, Kyoto University, Kyoto, JAPAN

P-M-0409 **Analytical Method Development for the Detection of Phytocannabinoids using the Silica Hydride-based Prototype Phases.** Seiichiro Watanabe, Theresa Santos, Joseph Pesek, Maria Matyska-Pesek, San Jose State University, San Jose, CA, USA

P-M-0410 **Synthesis and Characterization of Three Novel Silica Hydride-based Stationary Phases.** Seiichiro Watanabe, Joseph Pesek, Maria Matyska-Pesek, San Jose State University, San Jose, CA, USA

P-M-0411 **Characterization of Four Type-C Silica Columns using Resveratrol Analogues.** Joshua Topete[1], Maria Matyska-Pesek[1], MIlton Hearn[2], Reinhard Boysen[2], Joseph Pesek[1], [1]San Jose State University, San Jose, CA, USA; [2]Monash University, Melbourne, AUSTRALIA

P-M-0412 **Characterization and Comparison of Two Torus Columns in HILIC.** Kveta Kalikova[1], Olexandr Kozlov[2], Zuzana Kadlecova[1], Martin Gilar[3], Tatana Gondova[2], Eva Tesarova[1], [1]Charles University, Prague, CZECH REPUBLIC; [2]P.J. Safarik University, Kosice, SLOVAK REPUBLIC; [3]Waters Corporation, Milford, MA, USA

P-M-0413 **Evaluation of Nicotine in Commercial Tobacco and Tobacco-Free Nicotine Products.** J.T. Lee[1], Garrett Hellinghausen[2], Choyce A. Weatherly[2], Diego A. Lopez[1], Daniel W. Armstrong[1,2], [1]AZYP, LLC, Arlington, TX, USA; [2]University of Texas at Arlington, Arlington, TX, USA

P-M-0414 **Best Practices for Achieving Optimal Separations and Long Column Lifetimes in UPLC SEC of Proteins.** Pamela Iraneta, Matthew Lauber, Susan Rzewuski, Bill Warren, Stephan Koza, Tom Walter, Waters Corporation, Milford, MA, USA

P-M-0415 **LC/MS Analysis of Oligonucleotides using a New Polymer-based HILIC Column having a Diol Group.** Junji Sasuga[1], Yuzuru Kokido[1], Hirobumi Aoki[1], Eiji Kagawa[1], Leah Sullivan[2], [1]Showa Denko K.K., Kawasaki, JAPAN; [2]Showa Denko America Inc., New York, NY, USA

P-M-0416 **Investigating the Effects of Chromatographic Parameters on Column Equilibration in Isocratic and Gradient HILIC Separations.** Alan McKeown[1], Ed Faden[2], Geoff Faden[2], [1]Advanced Chromatography Technologies Ltd., Aberdeen, UK; [2]MACMOD Analytical Inc., Chadds Ford, PA, USA

P-M-0417 **Advantages of a Hydrophilic-lipophilic Balanced Polymeric Phase Over a Standard Hydrophobic PS-DVB-phase.** Thomas Gersthagen, Manuela Paschert, Carsten Schmitz, Rainer Wollseifen, Martin Rödel, MACHEREY-NAGEL GmbH & Co. KG, Dueren, GERMANY

P-M-0418 **Immobilization of Ligands onto Silica Monoliths.** Benjamin Peters, Tom Kupfer, Gisela Jung, Peter Knoell, Egidijus Machtejevas, Petra Lewits, MilliporeSigma, Darmstadt, GERMANY

P-M-0419 **Affecting Selectivity and HILIC Retention on a FluoroPhenyl Stationary Phase.** Sharon Lupo, Ty Kaher, Vernon Bartlett, Susan Steinike, Restek, Bellefonte, PA, USA

P-M-0420 **HILIC, Polar, and Shape Selectivity of a FluoroPhenyl Phase.** Frances Carroll, Randy Romesberg, Ty Kahler, Susan Steinike, Restek, Bellefonte, PA, USA

P-M-0421 **Comparison of Highly-polar Compound Separation Modes in HPLC.** Hideo Matsuoka[1], Hiroshi Oikawa[2], Yukio Ootsuka[2], Atsushi Sato[1], [1]GL Sciences Inc., Iruma, JAPAN; [2]GL Sciences Inc., Fukushima, JAPAN

P-M-0422 **Absorbed Water and Acetonitrile R1 NMRD Profiles on the Surfaces of Polar Silica Stationary Phases.** Adelijiang Xiamuxiding, Tobias Sparrman, Per-Olof Westlund, Knut Irgum, Umea University, Umea, SWEDEN

P-M-0423 **One Size Does not Fit All: Exploring the Relationship between Pore Size and Separation Efficiency.** Justin Godinho[1], Richard Henry[2], Barry Boyes[1], Joseph DeStefano[1], [1]Advanced Materials Technology Inc., Wilmington, DE, USA; [2]State College, PA, USA

P-M-0424 **Ethylene Bridged Hybrid (BEH) SEC Particles.** Jessica Field, Nicole Lawrence, Stephan Koza, Waters Corporation, Milford, MA, USA

P-M-0425 **A Diphenyl Bonded-phase on Wide Pore Superficially Porous Particles for Efficient Separations of Proteins.** William Miles, Stephanie Schuster, Brian Wagner, Ben Libert, Barry Boyes, Advanced Materials Technology, Wilmington, DE, USA

P-M-0426 **Assessing Chelate Cooperativity in Liquid Chromatography with Bifunctional Stationary Phases.** Xiaohuan Wang, Lei Chen, Tianjin Qian-Hong Wan, Tianjin University, Tianjin, CHINA

P-M-0427 **Retention of Anionic Compounds on Charged Surface Hybrid Columns.** Bonnie A. Alden, Kerri M. Smith, Paul Rainville, Thomas H. Walter, Martin Gilar, Waters Corporation, Milford, MA, USA

P-M-0428 **pH Stable Liquid Chromatography Stationary Phase Made using the Thiol-yne Polymerization Reaction.** Erin Shields, Stephen Weber, University of Pittsburgh, Pittsburgh, PA, USA

P-M-0500: Emerging Separation Methods (Monday at 2:50-4:30 PM)
Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0501 **Importance of Hydrogen Bonding and CH–π Interaction on Deuterium Isotope Effect in Liquid Chromatographic Separations.** Eisuke Kanao, Toyohiro Naito, Takuya Kubo, Koji Otsuka, Kyoto University, Kyoto, JAPAN

P-M-0502 **Fabrication and Characterization of Phenyl Stationary Phase Gradients on Particle Packed Columns for Liquid Chromatography.** Anna Forzano, Maryanne Collinson, Sarah Rutan, Virginia Commonwealth University, Richmond, VA, USA

P-M-0503 **Micro Pillar Array Columns: A Novel Robust Chromatography Platform for Deep and Reproducible Proteome Coverage.** Jeff Op de Beeck[1], Kurt Van Mol[1], Bo Claerebout[1], Natalie Van Landuyt[1], Wim De Malsche[2], Gert Desmet[2], Paul Jacobs[1], [1]PharmaFluidics, Ghent, BELGIUM; [2]Vrije Universiteit Brussel, Brussels, BELGIUM

P-M-0504 **Field Flow Fractionation for Separating Materials that Chromatography Cannot.** Robert Reed, Soheyl Tadjiki, Postnova Analytics, Salt Lake City, UT, USA

P-M-0505 **Modernizing PCD via 1) High Throughput and 2) Narrow Bore Scale Reaction Flow Chromatography Columns.** Agustin Acquaviva[1], Andrew Jones[2], Gary Denis[3], Andrew Shalliker[3], Arianne Soliven[4], Cecilia Castells[1], [1]Universidad Nacional de La Plata, La Plata, ARGENTINA; [2]Australian Centre for Research on Separation Science (ACROSS), Western Sydney University, Sydney, AUSTRALIA; [3]Western Sydney University, Sydney, AUSTRALIA; [4]Universidad de la Republica, Montevideo, URUGUAY

P-M-0506 **Online Separation and Detection of Metalloproteins by Customized GE System Hyphenated with ICP-MS.** Bin He, Dingyi Wang, Ligang Hu, Guibin Jiang, State Key Laboratory of Environmental Chemistry and Ecotoxicology Research Center for Eco-Environmental Sciences CAS, Beijing, CHINA

P-M-0507 **Intensification of Intracellular Enzyme Recovery.** Jayeshkumar Mevada, Aniruddha Pandit, Institute of Chemical Technology, Mumbai, INDIA

P-M-0600: Foods/Beverages and Nutrition (Monday at 2:50-4:30 PM)
Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0601 **Liquid Chromatography and Chemometrics in the Characterization, Classification and Authentication of Spanish Paprika by Means of Polyphenolic and Metabolomic Fingerprinting.** Oscar Nunez, Cristina Sanchez-Garcia, Guillem Campmajo, Sergio Barbosa, Xavier Ceto, Nuria Serrano, Javier Saurina, Jose Manuel Diaz-Cruz, Cristina Arino, Miquel Esteban, University of Barcelona, Barcelona, SPAIN

P-M-0602 **Characterization and Classification of Extra Virgin Olive Oils with Protected Designation of Origin by Capillary Electrophoresis, Liquid Chromatography and Chemometrics.** Nerea Nunez, Oscar Nunez, Javier Saurina, University of Barcelona, Barcelona, SPAIN

P-M-0603 **HPLC-UV Fingerprinting in the Characterization and Classification of Arabica and Robusta Coffees by Chemometric Methods.** Xavi Collado, Nerea Nunez, Oscar Nunez, Javier Saurina, University of Barcelona, Barcelona, SPAIN

P-M-0604 **Determination of Organic Acid Profiles in Fruit Juices and Alcoholic Beverages by Suppressed Ion Chromatography.** Anna Uzhel, Anastasia Borodina, Anastasia Gorbovskaja, Aleksandra Zatirakha, Alexander Smolenkov, Oleg Shpigun, Lomonosov Moscow State University, Moscow, RUSSIA

P-M-0605 **A Rapid and Sensitive Method for the Determination of Acrylamide and Related Compounds in Food and Beverages.** Alan McKeown[1], Ed Faden[2], Geoff Faden[2], [1]Advanced Chromatography Technologies Ltd., Aberdeen, UK; [2]MACMOD Analytical Inc., Chadds Ford, PA, USA

P-M-0606 **Analysis of Carbohydrates in Beer using Liquid Chromatography Triple Quadrupole Mass Spectrometry.** Michael Volny[1], Stephanie Samra[1], Stacy Tremintin[2], [1]Thermo Fisher Scientific, San Jose, CA, USA; [2]Thermo Fisher Scientific, Sunnyvale, CA, USA

P-M-0607 **Determination of Four Aflatoxins in Hazelnuts by Immunoaffinity-SPE with HPLC-FLD Detection without Photo Derivatization.** Sylvia Grosse, Mauro De Pra, Frank Steiner, Thermo Fisher Scientific, Germering, GERMANY

P-M-0608 **Development of an Isotope Dilution-liquid Chromatography Tandem Mass Spectrometry for the Determination of Cyanocobalamin in Infant Formula.** Kihwan Choi, Byungjoo Kim, Korea Research Institute of Standards and Science, Daejeon, REPUBLIC OF KOREA

P-M-0609 **Analysis of Optical Brightening Agents using Hydrophilic Interaction Liquid Chromatography-tandem Mass Spectrometry.** Petr Cesla, Petra Komenska, Jana Vanova, University of Pardubice, Pardubice, CZECH REPUBLIC

P-M-0610 **Determination of Sugars in Honey using HILIC Separation and RI Detection.** Hagen Schlicke, Kate Monks, KNAUER, Berlin, GERMANY

P-M-0611 **Separation of Ascorbic Acid and Vitamin B Complexes - Essentially Required Nutrients.** Stefan Weiz, Hagen Schlicke, Kate Monks, KNAUER, Berlin, GERMANY

P-M-0612 **Analysis of Vitamin D and Previtamin D in Food Products.** Jinchuan Yang, Waters Corporation, Milford, MA, USA

P-M-0613 **Routine Botanical Authentication using a Miniature Mass Spectrometry.** Jinchuan Yang, Jimmy Yuk, Paul Rainville, Waters Corporation, Milford, MA, USA

P-M-0614 **Determination of Isoflavones in Dietary Supplements: Method Transfer to UPLC.** Jinchuan Yang, Gareth Cleland, Waters Corporation, Milford, MA, USA

P-M-0615 **Challenges and Trends in (Multi-) Mycotoxin Analysis.** Severin Sindayikengera, Ndikuriyo Pascal, National Centre of Food Technology, Bujumbura, BURUNDI

P-M-0700: Electrically-driven Separations/Capillary Electrophoresis (Monday at 2:50-4:30 PM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-M-0701 **Measurement of Sphingosine Kinase Activity via Chemical Cytometry.** David Abraham, Weigang Huang, Angela Proctor, Qisheng Zhang, Nancy Allbritton, University of North Carolina, Chapel Hill, NC, USA

P-M-0702 **Determination of Steroids at Nanomolar Levels using Capillary Electrophoresis-UV-visible Absorbance Detection.** Safa Ahad, Lisa Holland, West Virginia University, Morgantown, WV, USA

P-M-0703 **Integrating Gold Nanoparticle-based Colorimetry with Capillary Electrophoresis for Determination of Heavy-Metal Ions.** Junmin Bi, Tong Li, Hang Ren, Rui Ling, Weidong Qin, Beijing Normal University, Beijing, CHINA

P-M-0704 **Capillary Electrophoresis based Glycosylation Characterization with Phospholipid Nanogels.** Cassandra Crihfield, Lloyd Bwanali, Srikanth Gattu, Lisa Holland, West Virginia University, Morgantown, WV, USA

P-M-0705 **Capillary Electrophoresis Evaluation of Enantiospecific Interactions of Chiral Helical Cations.** Dusan Koval, Harish Talele, Lukas Severa, Vaclav Kasicka, Filip Teply, IOCB Prague, Prague, CZECH REPUBLIC

P-M-0706 **Effect of Additives on Capillary Nanogel Electrophoresis.** Courtney Kristoff[1], Cassandra Crihfield[2], Lisa Holland[2], [1]Waynesburg University, Waynesburg, PA, USA; [2]West Virginia University, Morgantown, WV, USA

P-M-0707 **Custom-built Capillary Electrophoresis-electrospray Ionization-mass Spectrometry (CE-ESI-MS) for Single-cell Metabolomics.** Jie Li, Erika Portero, Peter Nemes, University of Maryland, College Park, MD, USA

P-M-0708 **Can Capillary Electrophoresis Coupled to ICP-MS Serve as a Platform to Investigate the Speciation Changes of Gold Nanoparticles in Human Cytosol?** Magdalena Matczuk[1], Joanna Legat[1], Andrei Timerbaev[2], Maciej Jarosz[1], [1]Warsaw University of Technology, Warsaw, POLAND; [2]Vernadsky Institute of Geochemistry and Analytical Chemistry, Russian Academy of Sciences, Moscow, RUSSIAN FEDERATION

P-M-0709 **A High Sensitivity Multicolor Capillary Electrophoresis System for High Through Biomolecular Analysis.** Wei Wei, Homing Pang, Chris Foster, Tom Kurt, AATI, Ankeny, IA, USA

P-M-0710 **Automated Glycan Sequencing of Biopharmaceuticals.** Andras Guttman[1], Marton Szigeti[2], Mukesh Malik[1], [1]SCIEX, Brea, CA, USA; [2]University of Debrecen, Debrecen, HUNGARY

POSTER SESSION 3 - Tuesday @ 10:00 - 11:15 AM
Location: Exhibition Hall C

(Located below Lobby Level – take down escalators to Exhibition Level)

Posters	Session Topics
P-T-0800	Protein Characterization and Modification
P-T-0900	Omics (metabolomics/lipidomics/glycomics/proteomics/genomics)
P-T-1000	Method Development and Automation

P-T-0800: Protein Characterization and Modification (Tuesday at 10:00-11:15 AM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-0801 **A Critical Investigation into the Effects of Operating Temperature on Protein Retention in Hydrophobic Interaction Chromatography.** Michael Menz, Sebastiaan Eeltink, Vrije Universiteit Brussel, Brussels, BELGIUM

P-T-0802 **Molecularly Imprinted Hydrogels for the Selective Fluorescent Detection of Bovine Serum Albumin.** Naoki Watanabe, Toyohiro Naito, Takuya Kubo, Koji Otsuka, Kyoto University, Kyoto, JAPAN

P-T-0803 **Developing Phage Endolysins as Novel Therapeutics for Multi-drug Resistant Bacterial Infections.** Sarah Gao, Sara Linden, Daniel Nelson, IBBR, Rockville, MD, USA

P-T-0804 **Charge Variant and Glycoform Analysis of Human Alpha1-acid Glycoprotein by Capillary Electrophoresis with Electrophoretic Injection.** Chenhua Zhang[1], Cong Bi[1], William Clarke[2], David Hage[1], [1]University of Nebraska-Lincoln, Lincoln, NE, USA; [2]Johns Hopkins University School of Medicine, Baltimore, MD, USA

P-T-0805 **Analysis of Drug-protein Interactions During Diabetes using High-performance Affinity Chromatography and Affinity Microcolumns.** Pingyang Tao, Zhao Li, Ryan Mastuda, David Hage, University of Nebraska-Lincoln, Lincoln, NE, USA

P-T-0806 **The Ligand Does Matter: Development of a Robust and Reliable Titer Measurement Assay for a Fragment Antigen-binding (Fab) Product.** Dharani Vora, Anoushka Durve, Jeff Goby, Eike Zimmermann, Kenji Furuya, Boehringer Ingelheim, Fremont, CA, USA (presented by Melissa Schwartz)

P-T-0807 **Rapid Drug-binding Studies with Modified Transport Proteins using Immunoextraction and Affinity Microcolumns.** Elliott Rodriguez, David Hage, University of Nebraska, Lincoln, NE, USA

P-T-0808 **Rapid Screening of Drug-protein Interactions by High-performance Affinity Chromatography.** Ashley Woolfork, Pingyang Tao, Zuchen Sun, University of Nebraska, Lincoln, NE, USA

P-T-0809 **Released N-linked Glycan Analysis by HILIC-UHPLC Method Optimization.** Dandan Liu, Cindy Quan, Genentech, South San Francisco, CA, USA

P-T-0810 **Expanding the Analytical Toolbox for Studying Global Conformational Structures of Peptides in Solution.** Nicole M. Schiavone[1], Gregory F. Pirrone[2], Erik D. Guetschow[1], Ian Mangion[1], Alexey A. Makarov[1], [1]Merck & Co., Inc., Rahway, NJ, USA; [2]Merck & Co., Inc., Kenilworth, NJ, USA

P-T-0811 **Tandem UHPLC Operation for High-throughput LC-MS Peptide Mapping Analyses.** Martin Samonig, Sabrina Patzelt, Carsten Paul, Martin Ruehl, Remco Swart, Theresa Riley, Thermo Fisher Scientific, Germering, GERMANY

P-T-0800: Protein Characterization and Modification (Tuesday at 10:00-11:15 AM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-0812 **Enhanced-fluidity Liquid Chromatography-mass Spectrometry for Intact Protein Separation and Characterization.** Yanhui Wang, Susan Olesik, The Ohio State University, Columbus, OH, USA

P-T-0813 **High-precision, Automated Peptide Mapping of Proteins.** Mike Oliver, Jon Bardsley, Kean Woodmansey, Thermo Fisher Scientific, Runcorn, UK

P-T-0900: Omics (metabolomics/lipidomics/glycomics/proteomics/genomics) (Tuesday at 10:00-11:15 AM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-0901 **Lipoprotein Sub-Class Composition, Size and Particle Number Measured by Quantitative LC-MS/MS Methods.** Christopher Toth[1], Zsuzsanna Kuklenyik[1], Michael Gardner[1], David Schieltz[1], Bryan Parks[1], Jon Rees[1], Michael Andrews[2], Antony Lehtikoski[3], John Barr[1], [1]Centers for Disease Control and Prevention, Atlanta, GA, USA; [2]Battelle Memorial Institute, Atlanta, GA, USA; [3]Oak Ridge Institute for Science and Education, Atlanta, GA, USA

P-T-0902 **(Nano)-Lc Coupled to Ion Mobility Q-TOF for an Improved Sensitivity and Proteome Coverage.** Gwenael Nys, Gael Cobraiville, Anne-Catherine Servais, Marianne Fillet, University of Liege, Liege, BELGIUM

P-T-0903 **Multiplexed, High Throughput LCMS Methods for Non-polar and Polar Lipid Quantification in Size Separated Lipoproteins.** Antony Lehtikoski, Zsuzsanna Kuklenyik, Michael Gardner, Centers for Disease Control and Prevention, Atlanta, GA, USA

P-T-0904 **A Novel 4D-analytical Platform for Omics Sciences.** Kristina Rentmeister, Lidia Montero, Sven W. Meckelmann, Oliver J. Schmitz, University of Duisburg, Essen, GERMANY

P-T-0905 **Metabolomics Characterization of Grape (Vitis vinifera) Skin Extracts by LC-TOF-MS using Silica Hydride-based Stationary Phases.** Seiichiro Watanabe[1], Gary Takeoka[2], Joseph Pesek[1], Maria Matyska-Pesek[1], Craig Ledbetter[3], [1]San Jose State University, San Jose, CA, USA; [2]U.S. Department of Agriculture, Albany, CA, USA; [3]U.S. Department of Agriculture, Parlier, CA, USA

P-T-0906 **New Bioanalytical Capillary Separations to Determine N- Glycan Structures.** Srikanth Gattu, Cassandra Crihfield, Lloyd Bwanali, Grace Lu, Lisa Holland, West Virginia University, Morgantown, WV, USA

P-T-0907 **UHPLC-HRMS Metabolomic Profiling of Patients with Chronic Vulvovaginal Discomfort – A Pilot Study.** Pavel Jakubec[1], Jakub Eduard Syrínek[1], Hana Kocova Vlckova[1], Veronika Pilarova[1], Vladimír Buchta[2], Lucie Novakova[1], [1]Charles University, Hradec Kralove, CZECH REPUBLIC; [2]University Hospital and Faculty of Medicine, Hradec Kralove, CZECH REPUBLIC

P-T-0908 **Evaluating 3-hydroxy-n-butyl Paraben as a Biomarker of Butyl Paraben Exposure in a Convenience Sample of U.S. Adults (2000 to 2017).** Prabha Dwivedi[1], Xiaoliu Zhou[1], Tolar Powell[2], Kyle Smith[1], Antonia Calafat[1], [1]Centers for Disease Control and Prevention, Atlanta, GA, USA; [2]CDC Foundation, Atlanta, GA, USA

P-T-0900: Omics (metabolomics/lipidomics/glycomics/proteomics/genomics) (Tuesday at 10:00-11:15 AM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-0909 **Improved LC/MS Methods for the Analysis of Anionic Metabolites.** Alex Apffel[1], Jordy Hsiao[1], Oscar Potter[1], Genevieve Van de Bittner[1], Te-Wei Chu[2], Hong Feng Yin[1], [1]Agilent Technologies, Santa Clara, CA, USA; [2]Agilent Technologies, Little Falls, DE, USA

P-T-0910 **Enhancing Sensitivity of Top-down LC/MS-based Cardiac Troponin Assay.** Yanlong Zhu, Yutong Jin, Ziqing Lin, Bifan Chen, Timothy Tiambeng, Ying Ge, University of Wisconsin-Madison, Madison, WI, USA

P-T-0911 **A Systematic Study of the Determinants of Phospholipid Retention and Isomer Separation on Reversed-phase-type Sorbents.** Stefanie Wernisch[1], Mark Sartain[2], Michael Woodman[3], Steve Fisher[2], Subramaniam Pennathur[1], [1]University of Michigan, Ann Arbor, MI, USA; [2]Agilent Technologies, Santa Clara, CA, USA; [3]Agilent Technologies, Wood Dale, IL, USA

P-T-0912 **A Test Solution for the Comparison of Non-targeted Analytical Methods using Liquid Chromatography with High Resolution Mass Spectrometry.** Benjamin Place, Catherine Rimmer, National Institute of Standards and Technology, Gaithersburg, MD, USA

P-T-0913 **Capillary-flow LC-MS Platform for Robust and Sensitive High-throughput Proteomics.** Frank Steiner[1], Alexander Boychenko[1], Martin Ruehl[1], Mike Baynham[2], Alexander Harder[3], Remco Swart[1], [1]Thermo Fisher Scientific, Germering, GERMANY; [2]Thermo Fisher Scientific, Runcorn, UK; [3]Thermo Fisher Scientific, Bremen, GERMANY

P-T-0914 **Exosomes Purification Strategies for New Biomarkers Discovery in Cancer.** Federica Anastasi[1], Marco Cecchini[1], Liam A. McDonnell[2], [1]NEST: National Enterprise for nanoScience and nanoTechnology, Pisa, ITALY; [2]Fondazione Pisana per la Scienza ONLUS, San Giuliano Terme, ITALY

P-T-0915 **Development of a Nano-flow FD-LC-MS/MS Method using Monolithic Silica Capillary Columns.** Hiroshi Kobayashi[1], Hiroo Wada[1], Kazuhiro Imai[2], [1]Shinwa Chemical Industries Ltd., Kyoto, JAPAN; [2]Research Institute of Pharmaceutical Sciences Musashino University, Tokyo, JAPAN

P-T-0916 **Continuous MS Utilization for Proteomics Data Acquisition using a Novel Low-flow Tandem LC-MS Setup.** Oleksandr Boychenko[1], Christopher Pynn[1], Wim Decrop[1], Martin Ruehl[1], Bart van den Berg[1], Stacy Tremintin[2], Remco Swart[1], [1]Thermo Fisher Scientific, Germering, GERMANY; [2]Thermo Fisher Scientific, Sunnyvale, CA, USA

P-T-0917 **LC-MS Metabolomics: Investigation of a Brazilian Medicinal Plant Composition Against Leishmania Amazonensis.** Mariana Bortholazzi Almeida, Tiago Bervelieri Madeira, Caroline Teixeira Lopes, Francielle de Fátima Garcia, Rhye Lessa Ishikawa, Suzana Lucy Nixdorf, Londrina State University, Londrina, BRAZIL

P-T-0918 **Rapid Multi-level Analysis of Complex Proteins by Microchip Capillary Electrophoresis-ESI-MS.** Aditya Kulkarni, Erin Redman, Ashley Bell, Scott Mellors, 908 Devices, Boston, MA, USA

P-T-1000: Method Development and Automation (Tuesday at 10:00-11:15 AM)
Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-1001 **Development of a Universal LC/MS Method for Product Integrity Analysis in Agriculture Formulations.** Koudi Zhu, Michael Kerry, Dow Chemical Company, Midland, MI, USA

P-T-1002 **Optimization of LCMS Methods for Characterization of Regenerable Amine Solvents used in CO2 Capture.** Stephanie Gallant, Alexandra Furtos, Karen C. Waldron, University of Montreal, Montreal, CANADA

P-T-1003 **Rapid and Accurate Analysis of Trace Dopamine in Mouse Striatum by Ultrasonic Extraction Coupling with HPLC-fluorescence Detection.** Ziyong Huang, Luyan Jiao, Zhuomin Zhang, Xian Lin, Sun Yat-sen University, Guangzhou, PR CHINA

P-T-1004 **RP-HPLC Method Development for On-line Analysis of Acidic Organic Chemical in the Presence of Metal Complexes.** Huiyan Helen Lu, Eugene Shalyt, Michael MacEwan, ECI Technology, Totowa, NJ, USA

P-T-1005 **HILIC Method Development in Pharmaceutical Analysis.** Dennis Asberg, Novo Nordisk A/S, Malov, DENMARK

P-T-1006 **Determination of Small Polar Molecules in Complex Biological Matrix using UHPLC-MS/MS and Application for Clinical Research.** Lenka Javorska[1], Lenka Kujovska Krcmova[1], Nike Hazukova[1], Lubos Sobotka[2], Petr Solich[1], [1]Charles University, Hradec Kralove, CZECH REPUBLIC; [2]3rd Internal Gerontometabolic Clinic, University Hospital, Hradec Kralove, CZECH REPUBLIC

P-T-1007 **Fully Automated Online Coupling of Robot-assisted Single Drop Microextraction with HPLC.** Deyber Arley Vargas Medina, Luis Felipe Rodriguez Cabal, Alvaro Jose Santos Neto, Fernando Mauro Lancas, University of Sao Paulo, Sao Carlos, BRAZIL

P-T-1008 **The Use of Ultra-high Pressure Liquid Chromatography in Pharmacopeial Monograph Modernization.** Glenn Kresge[1], Jenny-Marie Wong[2], Mauro De Pra[3], Frank Steiner[3], James Grinias[1], [1]Rowan University, Glassboro, NJ, USA; [2]Thermo Fisher Scientific, Waltham, MA, USA; [3]Thermo Fisher Scientific, Germering, GERMANY

P-T-1009 **Simultaneous Determination of Seven Lignan Components from Schisandra Chinensis (Turcz.) Baill by Ultra-performance Liquid Chromatography.** Tiejie Wang, Yan Wang, Kun Jiang, Yang Huang, Xinmeng Song, Guo Yin, Jue Wang, Lihe Xiao, Shenzhen Institute for Drug Control, Shenzhen CHINA

P-T-1010 **Online HPLC with Bespoke Sampling Interface for Flow Reaction Monitoring.** Przemek Stasica, GlaxoSmithKline, Stevenage, UK

P-T-1011 **Development and Validation of a Technique by UV/Vis HPLC for the Determination of Losartan and E-3174.** Edgar Alejandro de Leon Diaz de Leon, Antonio Augusto Gordillo Moscoso, Angel Antonio Vertiz Hernandez, Juan Manuel Lopez Quijano, Ursula Fabiola Medina Moreno, Universidad Autonoma de San Luis Potosi, San Luis Potosi, MEXICO

P-T-1012 **Comparison of Reversed-Phase, Anion-Exchange, and Hydrophilic Interaction HPLC for the Analysis of Nucleotides Involved in Biological Enzymatic Pathways.** Allison Fabino Carr[1], Diego Lopez[2], Darsan Patel[2], Victor Ryzhov[1], Daniel W. Armstrong[2], [1]Northern Illinois University, Dekalb, IL, USA; [2]University of Texas at Arlington, Arlington, TX, USA

P-T-1013 **No Doubts – How Complementary Chromatographic Methods Can Support a Full Analytical Picture in Pharmaceutical Drug Development.** Petra Lewits, Holger Bauer, Merck KGaA, Darmstadt, GERMANY

P-T-1014 **Influencing the Selectivity of Small Proteins and Peptides on the Raptor™ ARC-18.** Sharon Lupo, Shun-Hsin Liang, Frances Carroll, Ty Kahler, Susan Steinike, Restek, Bellefonte, PA, USA

P-T-1015 **Development of a Novel Accelerated Release Method for a Long Acting Peptide-PLGA Formulation.** Meenakshi Goel, Zeenat Razvi, Breanna Conklin, Dennis Leung, Debby Chang, Mohammad Al-Sayah, Genentech Inc., South San Francisco, CA, USA

P-T-1016 **Modernization of USP Methods using Ion Chromatography (IC) for Active Pharmaceutical Ingredient (API) Determination.** Hua Yang[1], Joachim Weiss[2], Jeff Rohrer[1], [1]Thermo Fisher Scientific, Sunnyvale, CA, USA; [2]Thermo Fisher Scientific, Dreieich, GERMANY

P-T-1017 **HILIC Mode UHPLC Analysis of Nucleotides with LC-MS Conditions.** William Maule, Gary Oden, Michael Ye, Edward Jones, Cory Muraco, MilliporeSigma, Bellefonte, PA, USA

P-T-1018 **Development and Validation of a Stability-indicating HPLC-UV Method for Triamcinolone Acetonide.** Katya Petrova, Mitan Gokulgandhi, Joshua Bhattacharya, Ren-Hwa Yeh, Daren Tran, U.S. Pharmacopeial Convention, Rockville, MD, USA

P-T-1019 **Insight into the Distribution of Amino Groups Along the Chain of Chemically Deacetylated Hyaluronan.** Martina Hermannova, Jakub Sedlacek, Jiri Mrazek, Radovan Buffa, Contipro a.s., Dolni Dobrouc, CZECH REPUBLIC

P-T-1020 **Analytical and Stability Challenges for Development of Water Soluble Vitamin Reference Standard Solutions.** Zongqin Ruan, Sarah Aijaz, Shelby Waddell, Uma Sreenivasan, MilliporeSigma, Round Rock, TX, USA

P-T-1021 **Modernization of USP Salicylic Acid HPLC Analysis.** William Long[1], Kylen Whitaker[2], [1]Agilent Technologies, Wilmington, DE, USA; [2]Procter and Gamble, Mason, OH, USA

P-T-1022 **Minimize Dimerizations during HPLC Analysis of the Instable Hydroxy Urea Intermediate of Relebactam.** Bangping Xiang, Merck & Co., Inc., Rahway, NJ, USA

P-T-1023 **Development of an Ion pair HPLC Method for the Analysis of 8-aminonapthalene-1,3,6-trisulfonic Acid and Evaluating its Performance on a Traditional C18 Versus a Poroshell C18 Column.** Ruchi Mehta, Pfizer Inc., Groton, CT, USA

P-T-1024 **Determination of Neonicotinoids (Nitenpyram and 6-chloronicotinic acid) in Environmental Samples by Ion Chromatography Coupled with Online Photochemically Induced Fluorescence Detector.** Nadeem Muhammad[1], Qamar Subhani[2], Farooq Ahmad[3], Zhu Yan[1], [1]Zhejiang University, Hangzhou, CHINA; [2]Higher Education Department, Lahore, PAKISTAN; [3]COMSATS Institute of Information Technology, Lahore, PAKISTAN

P-T-1000: Method Development and Automation (Tuesday at 10:00-11:15 AM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-1025 *Withdrawn*

Determination of PPCPs Residues in Drinking Water using Online SPE Enrichment System Coupled with Tandem Mass Spectrometry. Jiaqi Liu[1], Yanshan Liang[2], Ting Zhou[2], Qisheng Zhong[1], Jinting Yao[1], Tanghong Huang[3], [1]Shimadzu (China) Co. Ltd., Guangzhou, CHINA; [2]Guangzhou, CHINA; [3]Shimadzu (China) Co. Ltd., Shanghai, CHINA

POSTER SESSION 4 - Tuesday @ 2:50 - 4:30 PM
Location: Exhibition Hall C

(Located below Lobby Level – take down escalators to Exhibition Level)

Posters	Session Topics
P-T-1100	Multi-dimensional Separations
P-T-1200	Design of Experiments and Quality by Design
P-T-1300	Supercritical Fluid Chromatography
P-T-1400	Instrument Design and Applications

P-T-1100: Multi-dimensional Separations (Tuesday at 2:50-4:30 PM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-1101

On-line Comprehensive Two-dimensional Liquid Separations for Impurity Analysis in Nitric Acid-rich Industrial Reaction Mixtures. Karine Faure[1], Florent Rouviere[1], Eric Tuva[2], Candice Grivel[2], Sabine Heinisch[1], [1]Institut des Sciences Analytiques CNRS, Universite Lyon 1, Villeurbanne, FRANCE; [2]Solvay Recherches & Innovation, Saint Fons, FRANCE

P-T-1102

Preparative Comprehensive Two-dimensional Chromatography: Comparison of CPCxLC and prepLCxLC for the Isolation of Multiple Targets from Edelweiss. Lea Marlot, Magali Batteau, Karine Faure, Institut des Sciences Analytiques CNRS, Universite Lyon 1, Villeurbanne, FRANCE

P-T-1103

Adding Mass Detection to a USP Method for Lidocaine and Prilocaine Cream Using Multi-dimensional Liquid Chromatography. Margaret Maziarz, Claude Mallet, Paul Rainville, Mark Wrona, Waters Corporation, Milford, MA, USA

P-T-1104

Benefits of 2D-LC-MS/MS in Analysis of Biological Samples: Avoiding Matrix Effects - Increasing Detection Sensitivity. Jonas Dinser[1], Veronika Rozehnal[1], Sonja Krieger[2], [1]Daiichi Sankyo Europe GmbH, Martinsried, GERMANY; [2]Agilent Technologies, Waldbronn, GERMANY

P-T-1105

Two-Dimensional Liquid Chromatography with Orthogonal Reversed Phase Liquid Chromatographic Conditions for Peak Purity Evaluation in Pharmaceutical Analysis. Qinggang Wang, Kaitlyn Frankenfield, George Wang, Brian He, Jonathan Shackman, Brent Kleintop, Bristol-Myers Squibb, New Brunswick, NJ, USA

P-T-1106

Liquid Chromatography as Sample Preparation Technique On-line Coupled to Comprehensive Two Dimensional Gas Chromatography with Dual Detection for the Analysis Mineral Oil and Synthetic Hydrocarbons in Cosmetic Lip Products. Mariosimone Zoccali, Luigi Mondello, University of Messina, Messina, ITALY

P-T-1107 **Three-dimensional HPLC Analysis of Chiral Amino Acids in the Plasma of Patients with Chronic Kidney Disease.** Aogu Furusho[1], Reiko Koga[2], Takeyuki Akita[1], Masashi Mita[3], Tomonori Kimura[4], Kenji Hamase[1], [1]Kyushu University, Fukuoka, JAPAN; [2]Fukuoka University, Fukuoka, JAPAN; [3]Shiseido Co. Ltd., Tokyo, JAPAN; [4]National Institute of Biomedical Innovation Health and Nutrition, Osaka, JAPAN

P-T-1108 **A Fully Automated and Modular Multi-dimensional HPLC/MS System for Expedited Characterization of Monoclonal Antibodies.** Michael Leiss[1], Raphael Ruppert[1], Christoph Gstöttner[2], Tobias Graf[1], Ingrid Schmid[1], Katrin Heinrich[1], Denis Klemm[3], Robert Kopf[3], [1]Roche Pharma Development Analytics, Penzberg, GERMANY; [2]Center for Proteomics and Metabolomics, Leiden, NETHERLANDS; [3]Roche Pharma Development Analytics, Basel, SWITZERLAND

P-T-1109 **Development of New Size Exclusion Chromatography and Normal-Phase Liquid Chromatography Fractionation Procedures for the Determination of Polycyclic Aromatic Hydrocarbons in Edible Oils and Combustion-Related Samples.** Walter Wilson[1], Jacolin Murray[1], Hugh Hayes[2], Andres Campiglia[2], Stephen Wise[1], Lane Sander[1], National Institute for Standards and Technology, Gaithersburg, MD, USA; [2]University of Central Florida, Orlando, FL, USA

P-T-1110 **Using Modern 2D High Performance Thin Layer Chromatography Coupled with MALDI-TOF-MS for a First Screening Approach of Plant Extracts.** Petra Lewits, Michaela Oberle, Merck KGaA, Darmstadt, GERMANY

P-T-1111 **Chromatographic Column Switching for Improved Selectivity – a Case Study.** Michele Bisson, Guy Lemieux, Sandoz, Boucherville, CANADA

P-T-1112 **Electrodriven Focusing as a Tool for Improvement of 2D LC Separations.** Petr Cesla, Jana Vanova, Tereza Matuskova, Helena Lanikova, University of Pardubice, Pardubice, CZECH REPUBLIC

P-T-1113 **Exploring Achiral-chiral Separations of Betablockers with Multiple Heart-cutting 2D-LC.** Sascha Lege, Stephan Buckenmaier, Agilent Technologies, Waldbronn, GERMANY

P-T-1114 **Increased Resolving Power and Detection Sensitivity of Two-dimensional Liquid Chromatography for Bottom-up Analysis of Therapeutic Proteins.** Hayley Lhotka[1], David Harmes[1], Benjamin Madigan[1], Gabriel Leme[1], Gregory Staples[2], Dwight Stoll[1], [1]Gustavus Adolphus College, Saint Peter, MN, USA; [2]Agilent, Santa Clara, CA, USA

P-T-1115 **Detection of Xylazine and Ketamine in Rodent Bones, Fur and Insects by 2D-LC Technology.** Neesha Karanth[1], Sabra Botch Jones[1], Claude Mallet[2], [1]Boston University School of Medicine, Boston, MA, USA; [2]Waters Corporation, Milford, MA, USA

P-T-1116 **Comprehensive Two-dimensional Ion Chromatography (2D-IC) Coupled to Post-column Photochemical Fluorescence Detection System for Determination of Neonicotinoids (Imidacloprida and Clothianidin) in Food Samples.** Nadeem Muhammad, Hairong Cui, Wuchang University of Technology, Wuhan, CHINA

P-T-1200: Design of Experiments and Quality by Design (Tuesday at 2:50-4:30 PM)
Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-1201 **Applying QbD in Process and Impurity Control Strategy Development.** Joe DiMartino, Andrew Anderson, Sanjivanjit Bhal, Irina Oshchepkova, ACD/Labs, Toronto, CANADA

P-T-1202 **An Evaluation of the Robustness of a Peptide Based Column Characterization Protocol.** Jennifer Field[1], Melvin Euerby[1,2], Patrik Petersson[3], [1]University of Strathclyde, Glasgow, UK; [2]Shimadzu, Milton Keynes, UK; 3Novo Nordisk, Copenhagen, DENMARK

P-T-1203 **Development of a Simple Chromatographic Characterization Protocol for Strong Cation Exchange (SCX) Columns.** Jennifer Field[1], Ashleigh Bell[1], Melvin Euerby[1,2], Patrik Petersson[3], [1]University of Strathclyde, Glasgow, UK; [2]Shimadzu, Milton Keynes, UK; [3]Novo Nordisk, Copenhagen, DENMARK

P-T-1204 **A Streamlined Approach for Reversed-phase Method Development Using a Combination of Column Screening and Software Modelling.** Alan McKeown[1], Ed Faden[2], Geoff Faden[2], [1]Advanced Chromatography Technologies Ltd., Aberdeen, UK; [2]MACMOD Analytical Inc., Chadds Ford, PA, USA

P-T-1205 **Quality by Design based Development of a Fast and Robust Method for Impurity Profiling of Carbamazepine using SFC and Fusion QbD.** Mijo Stanic[1], Alexander Schmidt[1], Richard Verseput[2], [1]Chromicent, Berlin, GERMANY; [2]S-Matrix Corporation, Eureka, CA, USA

P-T-1206 **UPLC Method Development and Structure Elucidation of Pharmaceutical Impurities.** Jiangwei Li, Hong Jiang, Kevin Barry, JC Hus, Donald Walker, Jessica Stolee, Biogen, Cambridge, MA, USA

P-T-1207 **Development of a Reversed-phase HPLC Separation Method for Oxidation Analysis of a Therapeutic Protein through Design of Experiments.** Nicholas Woon, Cindy Quan, Genentech, South San Francisco, CA, USA

P-T-1208 **Automated UHPLC Separation of 10 Pharmaceutical Compounds using Software-modeling.** Arnold Zoldhegyi, Hans-Jurgen Rieger, Imre Molnar, Molnar-Institute, Berlin, GERMANY

P-T-1209 **High-throughput Purification Workflow Management using BIOVIA Experiment (Formerly Accelrys Experiment Knowledge Base).** David Smith, Merck Research Labs, Boston, MA, USA

P-T-1300: Supercritical Fluid Chromatography (Tuesday at 2:50-4:30 PM)
Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-1301 **A Systematic Approach for the Optimization and Validation of On-line Supercritical Fluid Extraction – Supercritical Fluid Chromatography – Mass Spectrometry for Polyaromatic Hydrocarbons in Soil.** A. Paige Wicker[1], Kenichiro Tanaka[2], Masayuki Nishimura[3], Vivian Chen[3], Wiiliam Hedgepeth[3], Tairo Ogura[3], Kevin A. Schug[1], [1]University of Texas at Arlington, Arlington, TX, USA; [2]Shimadzu Corporation, Kyoto, JAPAN; [3]Shimadzu Scientific Instruments Inc., Columbia, MD, USA

P-T-1302 **Why Gradient Elution Lead to Increased Robustness of SFC Separations.** Martin Enmark[1], Emelie Glenne[1], Marek Lesko[2], Annika Langborg Weinmann[3], Tomas Leek[3], Krzysztof Kaczmarski[2], Magnus Klarqvist[3], Torgny Fornstedt[1], Joergen Samuelsson[1], [1]Karlstad University, Karlstad, SWEDEN; [2]Rzeszow University of Technology, Rzeszow, POLAND; [3]AstraZeneca, Gothenburg, SWEDEN

P-T-1303 **Highlighting often Neglected Experimental Parameters in Analytical Supercritical Fluid Chromatography.** Martin Enmark[1], Jörgen Samuelsson[1], Anders Karlsson[2], Torgny Fornstedt[1], [1]Karlstad University, Karlstad, SWEDEN; [2]AstraZeneca, Gothenburg, SWEDEN

P-T-1304 **Two-Dimensional Separation for Surfactants using SFC-LC-MS.** Yoshiyuki Watabe[1], Yuka Fujito[1], Masato Ohmine[2], Hiroyasu Umemura[2], Takuya Tsutsui[2], Akinori Igarashi[2], Shinichi Kawano[1], Yoshihiro Hayakawa[1], [1]Shimadzu Corporation, Kyoto, JAPAN; [2]Lion Corporation, Tokyo, JAPAN

P-T-1305 **A SFC/UHPLC-Hybrid System for the Orthogonal Sample Analysis.** Edgar Naegele, Agilent Technologies, Waldbronn, GERMANY

P-T-1306 **Using Organosilane Reinforced Silica as an Orthogonal Stationary Phase in SFC.** Fredrik Limé, Joakim Högblom, Mattias Bengtsson, Kromasil/AkzoNobel, Bohus, SWEDEN

P-T-1307 **Development of Stationary Phases for the SFC Separations of Amines without the use of Mobile Phase Additives.** Matthew Przybyciel, David Kohler, ES Industries, West Berlin, NJ, USA

P-T-1308 **Green Separation Analytical Technique and Application in Food Safety.** Minli Yang, Wei Guo, Feng Zhang, Chinese Academy of Inspection and Quarantine, Beijing, CHINA

P-T-1309 **Poly(4-vinylpyridine)based Novel Stationary Phase Investigated Under Supercritical Fluid Chromatography Condition.** Stephen Swartz[1], Joseph Barendt[1], Kanji Nagai[2], Satoshi Shinkura[2], Tohru Shibata[2], Atsushi Ohnishi[2], [1]Chiral Technologies Inc., West Chester, PA, USA; [2]Daicel Corporation, Tokyo, JAPAN

P-T-1310 **Investigating a Series of Heterocyclic Stationary Phases for SFC.** Jeffrey Caldwell, Walton Caldwell, Princeton Chromatography Inc., Cranbury, NJ, USA

P-T-1400: Instrument Design and Applications (Tuesday at 2:50-4:30 PM)
Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-1401 **Transfer and Scaling of a USP Assay for Quetiapine Fumarate Across Liquid Chromatographic Systems.** Jennifer Simeone, Patricia McConville, Amanda Dlugasch, Waters Corporation, Milford, MA, USA

P-T-1402 **Carryover Improvement Achieved through Instrument Design Changes and Needle Wash Optimization for HPLC Systems.** Jennifer Simeone, Patricia McConville, Amanda Dlugasch, Waters Corporation, Milford, MA, USA

P-T-1403 **A Bio-inert, Durable, and Reliable Surface for HPLC and UHPLC Columns and Components used in the Analysis of Proteins and other Difficult Molecules.** Gary Barone, David Smith, Luke Patterson, Jesse Bischof, SilcoTek Corporation, Bellefonte, PA, USA

P-T-1404 **How HPLC Performance Can Easily be Improved – Tips and Tricks.** Stephan Altmaier, Anita Piper, Michael Schulz, Merck KGaA, Darmstadt, GERMANY

P-T-1405 **Carryover Mitigation using Autosampler Features of a LC UV/MS System.** Chris DesJardins, Patricia McConville, Waters Corporation, Milford, MA, USA

P-T-1406 **Detection of Dopamine via Green Synthesis of Gold Nanoparticles Dipped Carbon-fiber Microelectrodes.** Pauline Wonnenberg, Alexander Zestos, Sanuja Mohanaraj, Casey Culhane, Raquel Lara, American University, Washington, DC, USA

P-T-1407 **Automated Dilution Using the UHPLC Autosampler for Potency Analysis for CBD in Hemp Oils for Pets.** Sue D'Antonio[1], Greg Hunlen[2], Karen Kaikaris[3], Dat Phan[4], [1]Agilent Technologies, Cedar Creek, TX, USA; [2]Agilent Technologies, Alpharetta, GA, USA; [3]CWC Laboratories, Austin, TX, USA; [4]Agilent Technologies, Wilmington, DE, USA

P-T-1408 **Improving µLC-ESI/MS Post Column Dispersion with an Arduino Controlled Portable Oven.** Joao Victor Basolli Borsatto, Alvaro Jose Santos Neto, Deyber Arley Vargas Medina, University of Sao Paulo, Sao Carlos, BRAZIL

P-T-1409 **HPAE-PAD Analysis of N-linked Oligosaccharides from Glycoproteins using Dual Eluent Generation Cartridge Mode.** Beibei Huang[1], Lillian Chen[1], Joachim Weiss[2], Jeffrey Rohrer[1], [1]Thermo Fisher Scientific, Sunnyvale, CA, USA; [2]Thermo Fisher Scientific, Dreieich, GERMANY

P-T-1410 **Improvement of Workflow Efficiency for Dissolution Test using Online HPLC System.** Daiki Fujimura, Satoru Watanabe, Tomohiro Shagawa, Katsuaki Koterasawa, Yosuke Iwata, Kyoko Watanabe, Shimadzu Corporation, Kyoto, JAPAN

P-T-1411 **Use of a Novel UHPLC System for the Simultaneous UHPLC Analysis of Water-soluble and Fat-soluble Vitamins.** Sylvia Grosse, Matthias Krajewski, Mauro De Pra, Markus M. Martin, Jenny-Marie T. Wong, Frank Steiner, Thermo Fisher Scientific, Germering, GERMANY

P-T-1412 **Bioanalytical Method Transfer from a Waters H-Class Bio UPLC to an Agilent UHPLC using ISET.** Stephan Crowley, Lydia Slattery, Louise Mansfield, Eurofins BPT, Waterford, IRELAND

P-T-1413 **Fatty Acid Analysis in Polysorbate 80 by UHPLC-CAD.** Klaus Schilling[1], Ruben Pawellek[1], Katherine Lovejoy[2], Tibor Muellner[2], Ulrike Holzgrabe[1], [1]University of Würzburg Institute for Pharmacy and Food Chemistry, Wuerzburg, GERMANY; [2]Thermo Fisher Scientific, Germering, GERMANY

P-T-1400: Instrument Design and Applications (Tuesday at 2:50-4:30 PM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-T-1414 **A Multi-detector Set-up Comprising UV/Vis, Charged Aerosol and Single Quadrupole Mass Spectrometric Detection for Comprehensive Quantitative Sample Analysis.** Stephan Meding, Katherine Lovejoy, Martin Samonig, Frank Hoefler, Remco Swart, Frank Steiner, Martin Ruehl, Thermo Fisher Scientific, Germering, GERMANY

P-T-1415 **Improved Sensitivity for LC-MS Quantitation of Pharmaceutical Compounds in Human Plasma with MicroLC using a New Microflow Source Design.** Remco van Soest[1], Carmai Seto[2], Tom Biesenthal[2], Ian Moore[2], [1]SCIEX, Redwood City, CA, USA; [2]SCIEX, Concord, CANADA

P-T-1416 **Dielectric Barrier Electrospray Ionization (DB-ESI) for Next Generation Protein Mass Spectrometry.** Albert Sickmann[1], Stefan Loroch[1], Sebastian Brandt[1], Irina Reginskaya[1], Michael Schilling[1], Rene P. Zahedi[2], Joachim Franzke[1], [1]ISAS, Dortmund, GERMANY; [2]Lady Davis Institute, Montreal, CANADA

POSTER SESSION 5 - Wednesday @ 10:00 – 11:15 AM
Location: Exhibition Hall C

(Located below Lobby Level – take down escalators to Exhibition Level)

Posters	Session Topics
P-W-1500	Microfabricated Systems/Nanoscience and Materials
P-W-1600	Forensics/Toxicology/Drugs of Abuse
P-W-1700	Biopharmaceutical and Pharmaceutical Applications
P-W-1800	LC Column Technology

P-W-1500: Multi-dimensional Separations (Wednesday at 10:00-11:15AM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-1501 **A Novel Distance-based Paper Device for DNA Measurement in Genomic Plant Cell Extraction.** Boonta Chutvirasakul, Nuntana Nuchtavorn, Leena Suntornsuk, Mahidol University, Bangkok, THAILAND

P-W-1502 **Separation of Lipophilic Dyes Utilizing Ultra-thin Layer Chromatography and SiO2 Nanopillars.** Allegra Pekarek, Elliot Rodriguez, Erynn Johnson, Sandya Beeram, Darin Peev, University of Nebraska, Lincoln, NE, USA

P-W-1503 **Chip-based Capillary Electrophoresis Mass Spectrometry for Rapid Intact Mass Analysis, Structure Analysis, and Quantitation for Large and Small Molecules.** Laura Blue[1], Tawnya Flick[1], Andrew Dykstra[1], Helen Yan[1], Jiemin Bao[1], Burton Lee[1], Scott Mellors[2], Erin Redman[2], [1]Amgen Inc., Thousand Oaks, CA, USA; [2]908 Devices Inc., Cambridge, MA, USA

P-W-1504 **Molecular Diagnostic of Zika Fever by Reverse Transcription-loop Mediated Isothermal Amplification (RT-LAMP) in Disposable Polyester-toner Microdevices.** Paulo Estrela[1], Renata Batista[1], Alexandre Bailao[1], Nilson Assuncao[2], Juliane Borba[1], Emanuel Carrilho[1], Gabriela Duarte[1], [1]Universidade Federal de Goias, Goiania, BRAZIL; [2]Unifesp, Sao Paulo, BRAZIL

P-W-1600: Forensics/Toxicology/Drugs of Abuse (Wednesday at 10:00-11:15AM)
Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-1601 **Broad Screening of 100 Illicit Ingredients in Cosmetics using Ultra-High-Performance Liquid Chromatography-Hybrid Quadrupole-Orbitrap Mass Spectrometry with Customized Accurate-Mass Database and Mass Spectral Library.** Xianshuang Meng, Qiang Ma, Chinese Academy of Inspection and Quarantine, Beijing, CHINA

P-W-1602 **The Use of Metabonomic Profiling with Liquid Chromatography Time-of-Flight Mass Spectrometry for the Detection of Complex Food Fraud.** Kate Sidwick[1], Amy Johnson[1], Craig Adam[1], Luisa Pereira[2], David Thompson[1], [1]Keele University, Newcastle-under-Lyme, UK; [2]Thermo Fisher Scientific, Runcorn, UK

P-W-1603 **Measuring Primary Aromatic Amines in Kitchenware by Liquid Chromatography-tandem Mass Spectrometry.** Mary Angela Favaro Perez[1,2], Marisa Padula[1], Carla Beatriz Grespan Bottoli[2], [1]Packaging Technology Center (CETEA), Food Technology Institute, ITALY; [2]Institute of Chemistry, University of Campinas (UNICAMP), Campinas, BRAZIL

P-W-1604 **Determination of Diarrhetic Shellfish Toxins in Scallops by Column Switching Liquid Chromatography-tandem Mass Spectrometry with Solid Phase Extraction.** Migaku Kawaguchi[1], Sakae Eyama[1], Shinsuke Inagaki[1], Ayano Miyamoto[1], Takashi Yarita[2], Taichi Yamazaki[1], Hajime Uchida[3], Akiko Takatsu[1], Toshiyuki Suzuki[3], [1]National Institute of Advanced Industrial Science and Technology, Tsukuba, JAPAN; [2]Ibaraki University, Ibaraki, JAPAN; [3]National Research Institute of Fisheries Science, Yokohama, JAPAN

P-W-1605 **Development of a Sensitive Method for a Potential Genotoxic Impurity using UPLC Fluorescence Detection.** Shirley Feng, Gilead Sciences, Foster City, CA, USA

P-W-1606 **Analysis of Fentanyl and its Analogues in Human Urine by LC-MS/MS.** Shun-Hsin Liang, Ravali Alagandula, Frances Carroll, Shane Stevens, Ty Kahler, Susan Steinike, Restek, Bellefonte, PA, USA

P-W-1607 **Important Lab and HPLC Safety Guidelines.** Renee Keth[1], James A. Kaufman[2], [1]S.C.A.T. Europe GmbH, Moerfelden-Walldorf, GERMANY; [2]The Laboratory Safety Institute (LSI), Natick, MA, USA

P-W-1608 **Simultaneous Determination of 18 Plant Toxins in Beverages for Food Safety Purpose using LS-MS/MS.** Akifumi Oishi, Masayoshi Tamura, Yasushi Nagatomi, Koji Suzuki, Asahi Group Holdings Ltd., Moriya, JAPAN

P-W-1609 **Tailoring Solvent Purity for Liquid Phase Separation Analysis.** Subhra Bhattacharya, Stephen Roemer, Thermo Fisher Scientific, Fair Lawn, NJ, USA

P-W-1610 **Simultaneous Determination of Five Kinds of Common Drugs in Saliva using Automatic LLE Followed by UHPLC-MS/MS.** Chen Jianli[1], Sun Youbao[2], Hao Hongyuan[2], Song Lun[2], Yao Jinting[2], Huang Taohong[2], [1]Shimadzu (China) Co. Ltd., Wuhan, CHINA; [2]Shimadzu (China) Co. Ltd., Shanghai, CHINA

P-W-1611 **Abridging Pharmaceutical Analysis and Drug Discovery via LC-MS-TOF, NMR, In-Silico Toxicity - Bioactivity Profiling for Therapeutic Purposing Zileuton Impurities: Need of Hour.** Saurabh Ganorkar, Atul Shirkhedkar, R. C. Patel Institute of Pharmaceutical Education and Research, Shirpur, INDIA

P-W-1700: Biopharmaceutical and Pharmaceutical Applications (Wednesday at 10:00-11:15AM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-1701 **Proposed Validated HPLC Method for Analysis of Chlorpheniramine Maleate and its Organic Impurities in Tablets Formulations using Silica Hydride Columns.** Joshua Young[1], William Ciccone[1], Suzanne Ciccone[1], Lisa Bamford[1], Richard Nguyen[2], Joseph Pesek[3], Maria Matyska[3], [1]MicroSolv Technology Corporation, Wilmington, NC, USA; [2]U.S. Pharmacopeial Convention, Rockville, MD, USA; [3]San Jose State University, San Jose, CA, USA

P-W-1702 **Analysis of Multiple Active Ingredients in Cough, Cold, and Allergy Over-the-Counter Medicines using Silica Hydride HPLC Columns.** Joshua Young[1], William Ciccone[1], Suzanne Ciccone[1], Lisa Bamford[1], Joseph Pesek[2], Maria Matyska[2], [1]MicroSolv Technology Corporation, Wilmington, NC, USA; [2]San José State University, San Jose, CA, USA

P-W-1703 **An Efficient Method for the Determination of Trace Excipient Impurities in Biotherapeutic Drug Products Containing Polysorbate.** Robert Birdsall, Brooke Koshel, Scott Berger, Ying Qing Yu, Weibin Chen, Waters Corporation, Milford, MA, USA

P-W-1704 **Peptide Mapping: Best Practices for Generating Reliable and Robust Liquid Chromatography Methods.** Jennifer Simeone, Paula Hong, Waters Corporation, Milford, MA, USA

P-W-1705 **Application of Polydopamine-coated Capillary-Channeled Polymer (C-CP) Nylon Fiber for Phosphopeptide Analysis.** Hung Trang, Clemson University, Clemson, SC, USA

P-W-1706 **First HPLC-FL Method for Quatification of Milrinone Plasma Levels in Cardiac Surgery Patients.** Peter Tang, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA

P-W-1707 **Analyzing Phosphorylated N-glycans with Full Recovery.** Sonja Schneider[1], Sonja Krieger[1], Heike Waechtler[1], Udo Huber[1], Pat Sandra[2], Koen Sandra[2], Jonathan Vandenbussche[2], Gerd Vanhoenacker[2], [1]Agilent Technologies, Waldbronn, GERMANY; [2]Research Institute for Chromatography, Kortrijk, BELGIUM

P-W-1708 **Strategies to Evaluate and Monitor Forced Degradation Studies using a Dual Detection (UV-MS) System.** Patricia McConville, Paula Hong, Waters Corporation, Milford, MA, USA

P-W-1709 **Investigation and Application of the Solvation Parameter Model in Reverse Phase Chromatography for Cholic Acid Derivatives as Therapeutics in Non-clinical Safety Assessment.** Shishan Zhao, Aomar Aissaoui, Yelena Danilova, Dominic Guerette, Victoryia Klypa, Akram Borji, Samir Benmakrelouf, Dana Roman, Charles River Laboratories, Senneville, CANADA

P-W-1710 **Analysis of Drug Interactions with Alpha1-acid Glycoprotein using High-performance Affinity Chromatography.** Kyungah Suh, Chenhua Zhang, David. S. Hage, University of Nebraska, Lincoln, NE, USA

P-W-1711 **Separation of Oligonucleotides Using Reversed Phase Ion-pairing Chromatography.** Noriko Shoji[1], Chie Yokoyama[1], Saoko Nozawa[2], Takashi Sato[2], Noritaka Kuroda[2], Naohiro Kuriyama[2], Jeffrey Kakaley[3], [1]YMC Co., Ltd., Komatsu, JAPAN; [2]YMC Co., Ltd., Kyoto, JAPAN; [3]YMC America Inc., Allentown, PA, USA

P-W-1700: Biopharmaceutical and Pharmaceutical Applications (Wednesday at 10:00-11:15AM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-1712 **Determination of Gentamicin and Related Impurities in Gentamicin Sulfate.** Jingli Hu, Alex Semyonov, Joachim Weiss, Thermo Fisher Scientific, Sunnyvale, CA, USA

P-W-1713 **Biomolecule Separation on Silica Monoliths.** Benjamin Peters, Tom Kupfer, Gisela Jung, Peter Knoell, Egidijus Machtejevas, Petra Lewits, MilliporeSigma, Darmstadt, GERMANY

P-W-1714 **Stability-indicating HPLC Method Development and Validation for Phenobarbital.** Mitan Gokulgandhi, Deb Biswas, Vibhuti Parikh, Natalia Kouznetsova, U.S. Pharmacopeia, Rockville, MD, USA

P-W-1715 **At-line Bioprocess Monitoring of Multiple Quality Attributes using a Single Reversed Phase (RP)-UPLC.** Lin Huang, Udayanath Aich, Jagdish Tewari, Marina Hincapie, Bioanalytics, Biopharmaceutical Development, Sanofi, Framingham, MA, USA

P-W-1716 **Full Characterization and Confirmation of Diverse Oligonucleotides by Ion Pair LC-MS/MS.** Stephanie Samra[1], Stacy Tremintin[2], [1]Thermo Fisher Scientific, San Jose, CA, USA; [2]Thermo Fisher Scientific, Sunnyvale, CA, USA

P-W-1717 **Diastereomer Separation of Phosphorothioated Oligonucleotides.** Martin Enmark[1], Joergen Samuelsson[1], Maria Rova[1], Eivor Ornskov[2], Anders Karlsson[2], Torgny Fornstedt[1], [1]Karlstad University, Karlstad, SWEDEN; [2]AstraZeneca, Gothenburg, SWEDEN

P-W-1718 **Challenges for Establishing a Single Analytical Method to Support an IND Submission.** Shiladitya Sen, Cualli Hernandez, Charles River Laboratories, Ashland, OH, USA

P-W-1719 **Spent Media Analysis by HILIC LC/MS.** Anne Blackwell, Priya Jayaraman, Sandeep Kondaveeti, Agilent Technologies, Wilmington, DE, USA

P-W-1720 **Chromatography Considerations for Separation and Quantitation of N-glycans by Hydrophilic Liquid Interaction Chromatography (HILIC) Followed by Fluorescence. (FLR) Detection.** Shweta Singh, Tapan Das, Amit Katiyar, Sudhakar Voruganti, Bristol-Myers Squibb, Pennington, NJ, USA

P-W-1721 **Peptide Purification Utilizing Automated Gradient Optimization and Delay Volume Calibration for Scale Up with Open Bed Fraction Collection.** Lori Sanford[1], Regina Black[2], [1]Agilent Technologies, Deerfield, IL, USA; [2]Agilent Technologies, Little Falls, DE, USA

P-W-1722 **Simultaneous Determination of Five Aristolochic Acid Analogues by Ultra High Performance Liquid Chromatography-triple Quadrupole Mass Spectrometry.** Liang Sun[1], Yueqi Li[1], Changkun Li[1], Biao Ren[1], Lizhi Chen[1], Taohong Huang[2], [1]Shimadzu (China) Co., Beijing, CHINA; [2]Shimadzu (China) Co., Shanghai, CHINA

P-W-1723 **Ultra-high Performance Liquid Chromatography Triple Quadrupole Mass Spectrometry Method for Determination of Ibuprofen in Rat Plasma.** Siming Li[1], Jiting Yao[1], Lingling Shen[1], Qisheng Zhong[1], Jiaqi Liu[1], Dianbao Yu[1], Zhiru Li[1], Xin Deng[1], Taohong Huang[2], [1]Shimadzu (China) Co., Ltd.., Guangzhou, CHINA; [2]Shimadzu (China) Co., Ltd.., Shanghai, CHINA

P-W-1700: Biopharmaceutical and Pharmaceutical Applications (Wednesday at 10:00-11:15AM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-1724 **Stability Indicating RP-HPLC Method for Vancomycin Eye Drops.** Parvathy Victor, Robin Lee, QLD Health, Brisbane, AUSTRALIA

P-W-1725 **Repeatability of C100HT Biologics Analyzer, a High Throughput Glycan Screening.** Marcia Santos, Tingting Li, Mervin Gutierrez, Anna Luo, Clarence Lew, Robert Swart, SCIEX, Brea, CA, USA

P-W-1726 **Comparative Characterization of the FC Domain N-Glycosylation in Monoclonal Antibody and Fusion Protein Therapeutics by CGE-LIF and UPLC-FL.** Andras Guttman[1,2], Marton Szigeti[2], Robert Swart[1], [1]SCIEX, Redwood City, CA, USA; [2]Horváth Csaba Laboratory of Bioseparation Sciences, University of Debrecen, Debrecen, HUNGARY

P-W-1800: LC Column Technology (Wednesday at 10:00-11:15AM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-1801 **Shorter Columns, Faster Gradients, Better Bioanalysis?** David Mallett, Ryan Morgan, GlaxoSmithKline R&D, Stevenage, UK

P-W-1802 **Synthesis of a Hybrid Monolithic Capillary Column based on Polyhedral Oligomeric Silsesquioxane Methacryl Substituted and 1-Vinyl-3-Hexylimidazolium Chloride Ionic Liquid.** Fabiane Pires, Leandro Wang Hantao, Carla Beatriz Grespan Bottoli, University of Campinas, Campinas, BRAZIL

P-W-1803 **Applications on Newly Developed HILIC Columns with Superficially Porous Particle Technology.** Rongjie Fu[1], Mia Summers[2], Adam Bivens[2] , [1]Agilent, Shanghai, CHINA; [2]Agilent, Wilmington, DE, USA

P-W-1804 **Development of Silica-monolithic Capillaries Modified with Poly(ethylene glycol)-conjugated Fullerenes for LC Separations of Glycoproteins.** Kazuya Okada, Toyohiro Naito, Takuya Kubo, Koji Otsuka, Kyoto University, Kyoto, JAPAN

P-W-1805 **Monoliths in Determination of Immune System Activation Markers and Vitamins in Various Biological Fluids: Ten Years Long Experience in Clinical Research.** Lenka Javorska[1,2], Dagmar Solichova[2], Bohuslav Melichar[3], Lubos Sobotka[1,2], Petr Solich[1], Lenka Kujovska Krcmova[1,2], [1]Charles University, Hradec Kralove, CZECH REPUBLIC; [2]University Hospital, Hradec Kralove, CZECH REPUBLIC; [3]Palacky University Medical School, Olomouc, CZECH REPUBLIC

P-W-1806 **Parallel Analysis of a Single Sample on Several Monolithic Capillary Columns or 3D Printed Device with an Integrated Electrochemical Detection.** Martina Komendova[1], Suhas Nawada[2], Radovan Metelka[3], Peter Schoenmakers[2], Jiri Urban[1], [1]Masaryk University, Brno, CZECH REPUBLIC; [2]University of Amsterdam, Amsterdam, NETHERLANDS; [3]University of Pardubice, Pardubice, CZECH REPUBLIC

P-W-1807 **Rapid Analysis of Low Molecular Weight to High Molecular Weight Polymers by Novel GPC Columns.** Junya Kato[1], Kondo Hideyuki[1], Naoko Maruoka[1], Eiji Kagawa[1], Ronald Benson[2], Leah Sullivan[2], [1]Showa Denko K.K., Kawasaki, JAPAN; [2]Showa Denko America, New York, NY, USA

P-W-1808 **Investigation and Application of Octadecylsilane Modified Core-shell Particles for RP-HPLC.** Daniel C. Ramb, Tim Unterschemmann, Hans Rainer Wollseifen, Martin Rödel, MACHEREY-NAGEL GmbH & Co. KG, Dueren, GERMANY

P-W-1809 **High Matrix Content? Not a Problem when Analyzing Cosmetics Utilizing Monolithic Silica Columns.** Anita Piper, Stephan Altmaier, Michael Schulz, Merck KGaA, Darmstadt, GERMANY

P-W-1810 **Evaluating Mass Overload on Superficially Porous Particles.** Ed Franklin, Justin Steimling, Ty Kahler, Susan Steinike, Paul Connolly, Restek, Bellefonte, PA, USA

P-W-1811 **Column Performance: Comparison of the Superficially Porous Particle (SPP) to the Fully Porous Particle (FPP).** Sharon Lupo, Shun-Hsin Liang, Ty Kahler, Paul Connolly, Susan Steinike, Restek, Bellefonte, PA, USA

P-W-1812 **Column Packing Strategies to Maximize Protein RPLC Separation Performance and to Achieve Robust Column Lifetimes.** Maureen DeLoffi[1], Gary Izzo[1], Jennifer Nguyen[1], Matthew Lauber[1], Pat Curtis[2], [1]Waters Corporation, Milford, MA, USA; [2] Waters Corporation, Wexford, IRELAND

P-W-1813 **Preparation of Partially Sub-1 µm Inorganic-organic Hybrid Silica Monolith Materials as Highly Efficient Stationary Phases in Reverse Phase Liquid Chromatography.** Faiz Ali[1], Cheong Won Jo[2], [1]University of Poonch Rawlakot, Rawlakot, PAKISTAN; [2]INHA University, Incheon, SOUTH KOREA

P-W-1814 **New Wide Pore Monolithic Silica of Various Functionalization: Protein A, Epoxy, C18, C8 and C4, in HPLC for Large Molecule Separations.** Egidijus Machtejevas, Benjamin Peters, Merck KGaA, Darmstadt, GERMANY

P-W-1815 **Characterization of the Molar Mass Profile of an Fc-fusion Protein.** Michael Bruce, Derek Silva, Kristina Cunningham, MilliporeSigma, Bedford, MA, USA

P-W-1816 **Multiplicative On-column Solute Focusing using Spatially Dependent Temperature Programming for Capillary HPLC.** Michael Rerick[1], Stephen Groskreutz[2], Stephen Weber[1], [1]University of Pittsburgh, Pittsburgh, PA, USA; [2]Eli Lilly, Indianapolis, IN, USA

POSTER SESSION 6 - Wednesday @ 2:50 - 4:30 PM
Location: Exhibition Hall C

(Located below Lobby Level – take down escalators to Exhibition Level)

Posters	Session Topics
P-W-1900	Chiral Separations
P-W-2000	Quantitative Hyphenated Mass Spectrometry Techniques
P-W-2100	Natural Products

P-W-1900: Chiral Separations (Wednesday at 2:50-4:30 PM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-1901 **The Use of Circular Dichroism Detection in HPLC to Determine Enantiomeric Ratios without Peak Resolution.** DJ Tognarelli, John Burchell, Tom DePhillipo, JASCO Inc., Easton, MD, USA

P-W-1902 **Improved Chiral MS Analysis with Superficially Porous Chiral Columns.** Anne Mack, Mia Summers, William Long, Agilent Technologies, Wilmington, DE, USA

P-W-1903 **Investigation of 42 Chiral Amino Acids Produced by Intestinal Microbiota in Biological Samples by High-throughput Comprehensive LC-MS/MS.** Akihiro Kunisawa[1], Takanari Hattori[2], Shuichi Kawana[2], Shinichi Kawano[2], Yoshihiro Hayakawa[2], Junko Iida[2], Eiichiro Fukusaki[1], Mitsuharu Matsumoto[3], [1]Osaka University, Osaka, JAPAN; [2]Shimadzu Corporation, Kyoto, JAPAN; [3]Kyodo Milk Industry Co. Ltd., Tokyo, JAPAN

P-W-1904 **Chiral Separation Ability of a New Type of Polysaccharide based Immobilized Columns (CHIRALPAK® IH).** Kenichi Yoshida[1], Tatsuo Kishimoto[1], Ryota Hamasaki[1], Atsushi Ohnishi[1], Stephen Swartz[2], [1]DAICEL Corporation, Niigata, JAPAN; [2]Chiral Technologies, Inc., West Chester, PA, USA

P-W-1905 **New Axially Chiral Derivatizing Agent for Simultaneous Separation and Sensitive Detection of Amino Acid Enantiomers using LC-MS/MS.** Masashi Harada, Sachise Karakawa, Kazutaka Shimbo, Naoyuki Yamada, Hiroshi Miyano, Ajinomoto Co., Inc., Kawasaki, JAPAN

P-W-1906 **Evaluation of the Edman Degradation Product of Vancomycin as a New Chiral Selector with HPLC.** Garrett Hellinghausen[1], Diego A. Lopez[2], J.T. Lee[2], Daniel W. Armstrong[1,2], [1]University of Texas at Arlington, Arlington, TX, USA; [2]AZYP, LLC, Arlington, TX, USA

P-W-1907 **High Chiral Separation Ability of New Polysaccharide Based Immobilized Columns "CHIRALPAK IH/IH-3".** Kenichi Yoshida, Tatsuo Kishimoto, Ryota Hamasaki, Atsushi Ohnishi, Daicel Corporation, Niigata, JAPAN

P-W-1908 **Development of a Novel Immobilized-type Polysaccharide Chiral Stationary Phase for Enantiomeric Separations.** Masahide Kobayashi[1], Toshikazu Adachi[1], Takehiro Iwadate[1], Tsuyoshi Watabe[1], Noritaka Kuroda[1], Jeffrey Kakaley[2], [1]YMC Co., Ltd., Kyoto, JAPAN; [2]YMC America Inc., Allentown, PA, USA

P-W-1909 **Effective Enantiomeric Separation of over 100 Pesticides using Core-shell Chiral Stationary Phases.** Diego Lopez[1], JT Lee[1], Garrett Hellinghausen[2], Daniel W. Armstrong[2], [1]AZYP LLC, Arlington, TX, USA; [2]University of Texas, Arlington, TX, USA

P-W-1900: Chiral Separations (Wednesday at 2:50-4:30 PM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-1910 **Enantioselective and Simultaneous 2D-HPLC Determination of Citrulline and Homocitrulline in Human Clinical Samples.** Reiko Koga[1], Ena Yano[1], Tomoko Shinojima[1], Masashi Mita[2], Tomomi Ide[3], Hideyuki Yoshida[1], Hitoshi Nohta[1], Kenji Hamase[3], [1]Fukuoka University, Fukuoka, JAPAN; [2]Shiseido Co. Ltd., Tokyo, JAPAN; [3]Kyushu University, Fukuoka, JAPAN

P-W-1911 **Evaluation of beta-Cyclodextrin based Chiral Stationary Phases on Superficially & Fully Porous Particles.** Edward Jones, William Maule, Michael Ye, Cory Muraco, Alok Kumar, MilliporeSigma, Bellefonte, PA, USA

P-W-1912 **Enantiomeric Separation of Chiral Scaffolds and Cores used in Drug Discovery by SFC and HPLC.** Edward Franklin, Melissa Wilcox, Gay Lowden, Scott Anderson, Ted Szcerba, Regis Technologies Inc., Morton Grove, IL, USA

P-W-1913 **Chiral Separation and Determination of Enantiomeric Purity of Some Pharmaceutical Formulation on Coated and Immobilized Amylose- and Cellulose-Derived Chiral Stationary Phases.** Rebizi Mohamed Nadjib, Sekkoum Khaled, Belboukhari Nasser, University of Bechar, Bechar, ALGERIA

P-W-1914 **Chiral Separation of Pesticides using CHIRALPAK IG Under Polar Organic Mode and Reversed-phase High-performance Liquid Chromatography. Influence of Mobile Phase Composition and Temperature on Enantioselectivity.** Romina Echevarria, Matías Diaz, Ester Lubomirsky, Juan Padro, Cecilia Castells, Universidad Nacional de La Plata, La Plata, ARGENTINA

P-W-1915 **Direct Isocratic HPLC Enantioseparation of Fluoroquinolines Drugs using Polysaccharides Chiral Selectors.** Khaled Sekkoum, Nasser Belboukhari, Mohamed Najib Rebizi, Bioactive Molecules and Chiral Separation Laboratory UTM, Bechar, ALGERIA

P-W-2000: Quantitative Hyphenated Mass Spectrometry Techniques (Wednesday at 2:50-4:30 PM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-2001 **Convergence Chromatography-MS/MS: A Complementary Tool for the Separation and Detection of Fragrance Allergens in Fragrance Containing Consumer Product Formulations.** Michael Jones, Waters Corporation, Wilmslow, UK

P-W-2002 **Development of an LC-HRMS Assay for Putative Biomarkers of Anaphylaxis: 11β-Prostaglandin F2α (11β-PGF2α) and Leukotriene E4 (LTE4).** Ankita Gupta, Aliaksandr Napylau, Dajana Vuckovic, Concordia University, Montreal, CANADA

P-W-2003 **Altered Profiles and Metabolisms of L- and D-Amino Acids in Cultured Human Breast Cancer Cells.** Siqi Du, Yadi Wang, Choyce A. Weatherly, Nagham Alatrash, Frederick M. MacDonnell, Daniel W. Armstrong, University of Texas at Arlington, Arlington, TX, USA

P-W-2004 **Analysis of Drug and Vehicle in DBS and Plasma for Determination of Nanocarrier Stability and Drug Release in Pharmacokinetic Study.** Matej Simek[1], Martina Hermannova[1], Tereza Foglova[1], Vladimir Velebny[1], Karel Soucek[2], [1]Contipro, Dolni Dobrouc, CZECH REPUBLIC; [2]Academy of Sciences of the Czech Republic, Brno, CZECH REPUBLIC

P-W-2000: Quantitative Hyphenated Mass Spectrometry Techniques (Wednesday at 2:50-4:30 PM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-2005 **Quantification of Per- and Polyfluoroalkyl Substances and Fluorinated Alternatives in Urine and Serum by Online Solid Phase Extraction–liquid Chromatography–tandem Mass Spectrometry.** Kayoko Kato, Antonia Calafat, Centers for Disease Control and Prevention, Atlanta, GA, USA

P-W-2006 **Yes. Increasing LC-MS Sensitivity Can be That Simple.** Stephan Altmaier, Anita Piper, Michael Schulz, Merck KGaA, Darmstadt, GERMANY

P-W-2007 **Tips and Tricks for TLC-MS.** Petra Lewits, Stephan Altmaier, Michaela Oberle, Michael Schulz, Merck KGaA, Darmstadt, GERMANY

P-W-2008 **The Analysis of C3-epimers of 25-hydroxyvitamin D in Serum by LC/MS/MS.** Shun-Hsin Liang, Frances Carroll, Xiaoning Lu, Susan Steinike, Restek, Bellefonte, PA, USA

P-W-2009 **A Novel Solution for EtG/EtS Analysis in Human Urine by LC-MS/MS.** Justin Steimling, Terry Reid, Ty Kahler, Susan Steinike, Restek, Bellefonte, PA, USA

P-W-2010 **Bile Acid Profiling and Quantification in Human Plasma using LC-MS/MS.** Dan Li, Frances Carroll, Ravali Alagandula, Shun-Hsin Liang, Connor Flannery, Susan Steinike, Ty Kahler, Restek, Bellefonte, PA, USA

P-W-2011 **Protein Quantification in Limited Amounts of Yeast Digests using High-resolution Mass Spectrometry.** Vi Quach, Camille Lombard-Banek, Peter Nemes, University of Maryland, College Park, MD, USA

P-W-2012 **Simultaneous Quantitation of Three Active Ingredients and Two Excipients in Receptor Media from an in Vitro Human Skin Permeation Study of Sunscreen Products.** Jiang Wang, Yang Yang, Jinhui Zhang, Muhammad Ashraf, Celia Cruz, Sau Lee, Patrick Faustino, U.S. Food and Drug Administration, Silver Spring, MD, USA

P-W-2013 **LC/MS Method for the Analysis of Guanine Deaminase.** Justin Godinho, Benjamin Libert, Barry Boyes, Advanced Materials Technology, Wilmington, DE, USA

P-W-2014 **Sensitive Quantitation of the ADC Trastuzumab Emtansine Free Cytotoxic Drug DM1 in Plasma using MicroLC-MS.** Remco van Soest[1], Khatereh Motamedchaboki[1], Ian Moore[2], [1]SCIEX, Redwood City, CA, USA; [2]SCIEX, Concord, CANADA

P-W-2015 **CE-ESI-MS and Immunocytochemistry for Metabolite Analysis and Identification of Single Brain Cells.** Marina C. Philip, Elizabeth K. Neumann, Joseph F. Ellis, Stanislav S. Rubakhin, Jonathan V. Sweedler, University of Illinois at Urbana-Champaign, Urbana, IL, USA

P-W-2016 **High-throughput Reaction Analysis with Mass Spectrometry.** Jessica Lin, Colin Masui, Kelly Zhang, Genentech, South San Francisco, CA, USA

P-W-2017 **Ultra Rapid Determination of Carbamazepine in Human Plasma using Ultra High Performance Liquid Chromatography Coupled with Triple Quadrupole Mass Spectrometry.** Ming Xu[1], Pin Zhang[1], Yueqi Li[2], Hongyuan Hao[3], Jinting Yao[4], Taohong Huang[3], [1]Shimadzu (China) Co. Ltd., Shenyang, CHINA; [2]Shimadzu (China) Co. Ltd., Beijing, CHINA; [3]Shimadzu (China) Co. Ltd., Shanghai, CHINA; [4]Shimadzu (China) Co. Ltd., Guangzhou, CHINA

P-W-2000: Quantitative Hyphenated Mass Spectrometry Techniques (Wednesday at 2:50-4:30 PM) continued

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-2018 **Simultaneous Determination of Fourteen Ultraviolet Absorbents in Sunscreen Cosmetics by Ultra High Performance Liquid Chromatography-tandem Mass Spectrometry.** Xue Tang[1], Meijin Xiong[2], Ji Li[2], Le Yang[1], Hongyuan Hao[3], Jun Fan[3], Jinting Yao[3], Taohong Huang[3], [1]Shimadzu (China) Co. LTD., Chengdu, CHINA; [2]Chengdu Food and Drug Inspection and Testing Center, Chengdu, CHINA; [3]Shimadzu (China) Co. LTD., Shanghai, CHINA

P-W-2019 **Quantification of Warfarin in Human Plasma using Nexera MX Parallel Ultra High Pressure Liquid Chromatography-Mass Spectrometry.** Jiang Bo, HongYuan Hao, TaoHong Huang, Shimadzu (China) Co., Ltd., Shanghai, CHINA

P-W-2020 **Fragmentation Pathway of Harmful Chemicals in Soft Ionization Mode and its Application in Novel Analogue Screening.** Feng-Ming Chen, Institute of Food Safety, Chinese Academy of Inspection and Quarantine, Beijing, CHINA

P-W-2021 **Determination of Lincosamide and Macrolide Antibiotic Residues in Milk by UHPLC-MS/MS.** Dan Luo[1], Jianli Chen[1], Hongyuan Hao[2], Youbao Sun[2], Jinting Yao[3], Taohong Huang[2], [1]Shimadzu (China) Co., LTD., Wuhan, CHINA, [2]Shimadzu (China) Co., LTD., [3]Shanghai, CHINA, Shimadzu (China) Co., LTD., Guangzhou, CHINA

P-W-2100: Natural Products (Wednesday at 2:50-4:30 PM)

Exhibition Hall C (Located below Lobby Level – take down escalators to Exhibition Level)

P-W-2101 **Straightforward Process for the Identification and Isolation of Natural Products using Thin-layer and Preparative Chromatography.** Petra Lewits[1], Maximilian Sixt[2], Jochen Strube[2], Michaela Oberle[1], Michael Schulte[1], [1]Merck KGaA, Darmstadt, GERMANY; [2]Technical University Clausthal, Clausthal-Zellerfeld, GERMANY

P-W-2102 **Modern Bioautography - A Fast Analytical Tool to Discover Active Compounds in Plant Extracts used for Cosmetics.** Petra Lewits[1], Michaela Oberle[1], Janina Engemann[1], Ines Klingelhoefer[2], Gertrud Morlock[2], [1]Merck KGaA, Darmstadt, GERMANY; [2]University Giessen Institute of Nutritional Science and Interdisciplinary Research Center, Giessen, GERMANY

P-W-2103 **The Advantages of TLC as a Quick Screening and Crosscheck Method for Natural Products Using the Quantification of α- and β- Acids in Hop as an Example.** Petra Lewits, Janina Engemann, Vanessa Pilakowski, Michaela Oberle, Markus Burholt, Michael Schulz, Merck KGaA, Darmstadt, GERMANY

P-W-2104 **Method Development for the Certification Of A Ginsenoside Calibration Solution Via Liquid Chromatography with Ultraviolet/Visible Absorbance and Mass Spectrometry Detection.** Walter Wilson, Lane Sander, National Institute of Standards and Technology, Gaithersburg, MD, USA

P-W-2105 **The LC-UV Analysis of 16 Cannabinoids of Interest in Commercially Available CBD Oils.** Justin Steimling, Ashlee Reese, Ryan Micklitsch, Ty Kahler, Susan Steinike, Restek, Bellefonte, PA, USA

P-W-2106 **Separation and Purification of Withaferin A from Withania Somnifera (L) Dunal using Agilent InfinityLab Preparative Columns.** Sami Chanaa, Lakshmi Subbarao, Agilent Technologies, Wilmington, DE, USA

P-W-2107 **Mass-based Purification of Natural Product Impurities using an Agilent 1260 Infinity II Preparative LC/MSD System.** Jochen Strassner, Ron Guilliet, Joerg Hippler, Florian Rieck, Irina Spuling, Beate Stahl, Agilent Technologies, Waldbronn, GERMANY

P-W-2108 **Cannabinoid Monitoring in Dried Cannabis Flower and Edibles by HPLC-PDA.** Wilhad Reuter, Frank Kero, PerkinElmer, Shelton, CT, USA

P-W-2109 **Quantitative Determination of Terpinen-4-OL, γ-terpinene, α-terpinene in the Organic Inputs Containing Tea Tree Oil.** Song-Hee Ryu, Suyoung Ju, Hyoin Yoon, Geun-Hyoung Choi, Sung-Jin Lim, Byung-Jun Park, National Institute of Agricultural Sciences, Wanju-gun, SOUTH KOREA

P-W-2110 **Development of an LC-DAD-MS Method for Simultaneous Determination of Flavonoid Aglycones and their Metabolites.** Mirza Bojic[1], Goran Benkovic[2], Andrea Antolic[1], Zeljan Males[1], [1]University of Zagreb, Zagreb, CROATIA; [2]HALMED - Agency for Medicinal Products and Medical Devices, Zagreb, CROATIA

P-W-2111 **UHPLC-PDA Method for Standardization and Quality Control of Ptychopetalum olacoides, a Traditional Amazonian "Nerve Tonic".** Franklin Teixeira Regis[1], Breno Nunes Aguillar[1], Ana Carolina Jesus Silva[1], George Leandro Ramos Ferreira[2], Cicero Flavio Soares Aragao[2], Lilian Grace Silva Solon[1], [1]UNIFAP, Macapa, BRAZIL; [2]UFRN, Natal, BRAZIL

P-W-2112 **Combined HPLC System Analysis of Cannabinoid Potency and Terpene Analysis.** DJ Tognarelli, JASCO Inc., Easton, MD, USA

P-W-2113 **Isolation, Structural Elucidation, and Bioactivity Studies of Leaf Extract of Vernonia Amygdalina.** Muluye Melak Zenebe, Academia Sinica, Taipei, TAIWAN

P-W-2114 **Gas Chromatography-Mass Spectrometry (GC-MS) Analysis of the Chloroform Extract of Sanseviera Liberica (Gerome & Labroy) Dracaenaceae.** Omowunmi Amao, Margaret Sofidiya, University of Lagos, Surulere, NIGERIA

P-W-2115 **Analysis of Pesticide and Mycotoxin Residues in Cannabis Flower Regulated by California State using LC-MS/MS.** Avinash Dalmia[1], Erasmus Cudjoe[2], Jacob Jalali[2], Josh Ye[2], Feng Qin[2], Jingcun Wu[2], Jamie Foss[1], [1]PerkinElmer, Shelton, CT, USA; [2]PerkinElmer, Woodbridge ON, CANADA

Exhibiting Organizations at the Forefront of Separation Science

908 DEVICES **BOOTH 418**
27 Drydock Avenue, Boston MA 02210, USA
857-254-1500
www.908devices.com
908 Devices is setting off a revolution in how chemical analysis gets done. We offer point-of-need chemical and biomolecular analysis devices ranging from rugged, handheld chemical detection tools to compact, tiny footprint analyzers and fast separation devices. These purpose-built and user-centric devices serve the life science, field forensics and other applied markets. 908 Devices is headquartered in the heart of Boston where we research, design and manufacture innovative products based on high-pressure mass spectrometryTM (HPMS) and microfluidic separation technology. For more information, visit 908devices.com.

ACTIVATED RESEARCH COMPANY **BOOTH 412**
7561 Corporate Way, Eden Prairie, MN 55344, USA
612-787-2721
https://www.activatedresearch.com/
Activated Research Company (ARC®) is Making Chemical Analysis Easy™ with innovative technology to improve accuracy, save time, and reduce overall costs. Our expertise lies in catalysis and our commitment to a revolutionary customer experience. The Polyarc® System is our flagship product for GC/FID analysis, now summer is here and the Polyarc® is going to get wet! Solvere™, the new universal carbon detector for LC. Stop by our booth to learn more about the soft launch and pre-ordering Solvere™.

ADVANCED CHEMISTRY DEVELOPMENT, INC. (ACD/LABS) **BOOTH 216**
8 King Street East, Suite 107, Toronto, ON, CANADA, M5C 1B5
416-368-3435 x 236
www.acdlabs.com
Advanced Chemistry Development, Inc., (ACD/Labs) is an informatics company that develops and commercializes solutions in support of R&D. Our software platforms unify analytical and chemical information in a collaborative environment; and provide tools that enable scientists to extract, capture, and apply knowledge from analytical experiments and predicted molecular property data. We integrate with existing informatics systems and undertake custom projects including enterprise-level automation. ACD/Labs solutions are used globally in a variety of industries including pharma/biotech, chemicals, consumer goods, agrochemicals, petrochemicals, and academic/government institutions. With over two decades of success helping organizations accelerate R&D and leverage corporate intelligence, ACD/Labs provides worldwide sales and support.

ADVANCED CHROMATOGRAPHY TECHNOLOGIES LTD. **BOOTH 310**
1 Berry Street, Aberdeen, Scotland, UK AB25 1HF
44(0)1224 704554
www.ace-hplc.com
Advanced Chromatography Technologies Ltd. manufactures the ultra-robust and highly reproducible ACE range of UHPLC and HPLC columns which are ideal for MS. ACE columns include traditional and unique stationary phase chemistries in porous and solid core particles designed to maximize selectivity and resolution of closely related analytes in complex mixtures for pharmaceutical, clinical, forensic, environmental, biomolecule and water analyses. With ultra-low bleed, ACE stationary phases include 100A and 300A pore sizes in 1.7µm, 2µm, 3µm and 5µm particle sizes in column dimensions from capillary to microbore and analytical dimensions.

Exhibiting Organizations at the Forefront of Separation Science

AGILENT TECHNOLOGIES **ISLAND BOOTH 314**
2850 Centerville Road, Wilmington, DE 19808, USA
800-227-9770
www.agilent.com
Agilent is a leader in life sciences, diagnostics and applied chemical markets. The company provides laboratories worldwide with instruments, services, consumables, applications and expertise, enabling customers to gain the insights they seek. Agilent's expertise and trusted collaboration give them the highest confidence in our solutions. Agilent focuses its expertise on six key markets, where we help our customers achieve their goals: food, environmental and forensics, pharmaceutical, diagnostics, chemical and energy, and research. Read about the Agilent products and solutions that serve these markets. Discuss your laboratory needs with an Agilent expert. For more information visit www.agilent.com

AKZONOBEL/KROMASIL **BOOTH 401**
281 Fields Lane, Brewster, NY 10509, USA
845-276-8223
www.kromasil.com
AkzoNobel offers Kromasil®, high performance chromatographic media based on state-of-the-art spherical silica for UHPLC/HPLC/SFC analysis and purification using HPLC, SFC and SMB process technology. Kromasil materials' unique combination of pore volume and surface area, together with very high mechanical and chemical stability is unmatched for the separation of substances from small molecules to peptides and proteins. Kromasil is available for NP, RP, SFC and chiral applications for pharmaceutical, natural products, food, industrial and clinical markets. www.kromasil.com

AXCEND **BOOTH 409**
6550 S. Millrock Drive #200, Salt Lake City, UT 84121, USA
801-376-9088
www.axcendcorp.com
Axcend provides innovative, compact nano-flow, gradient high-performance liquid chromatography (HPLC) systems that deliver dramatic improvements in portability, ease-of-operation, rapid and convenient deployment, and coupling to other analytical systems (such as mass spectrometers). Axcend's award-winning Axcend Focus LC measures 11.8x7.9x7.9-in. (~30×20×20-cm), weighs under 15lbs. (6.8kg), operates on either battery or electrical outlet power, and features a unique and easily exchangeable cartridge system housing a 150 µm nano-flow internal diameter capillary column packed with 1.7 µm–3.0 µm fused silica particles and one or two on-column, LED UV-absorption detectors. Initial shipments of the Axcend Focus LC will begin in mid-2018.

AZYP, LLC **BOOTH 214**
700 Planetarium Place, Arlington, TX 76019, USA
817-272-1399
www.azypusa.com
AZYP, LLC is the newest and fastest growing supplier of novel chiral and achiral superficially porous particle (SPP) and fully porous particle (FPP) stationary phases for HPLC, HILIC, and SFC. Our chromatographic media is based on novel cyclic oligosaccharides and macrocyclic glycopeptides. These phases and their derivatives separate a plethora of chiral and achiral analyte types. Also, AZYP performs analytical methods of analysis for the environmental and pharmaceutical industries. We have the capability to develop new methods or use existing methods for the analysis of environmental and pharmaceutical samples.

Exhibiting Organizations at the Forefront of Separation Science

BIOTAGE, LLC **BOOTH 204**
10430 Harris Oaks Blvd., Suite C, Charlotte, NC 28269, USA
704-654-4900
www.biotage.com
Biotage is a global Life Science company that develops innovative and effective solutions for separation within organic and analytical chemistry, as well as for industrial applications. The Biotage products rationalize the workflow of customers and reduce their impact on the environment, for example by using a lower volume of solvents. Customers use Biotage products e.g. in their development of new medicines and to analyze samples from hospital patients, in forensic laboratories, or for the analysis of environmental and food samples. Biotage also offers products to remove undesired substances from, for example, pharmaceuticals during the manufacturing process. Products that rationalize the analysis of various kinds of samples – patient samples, forensic samples, environmental and food samples.

BIRCH BIOTECH **BOOTH 208**
701 Hemlock Road, Morgantown, PA 19543, USA
877-770-2937
www.birchbiotech.com
Founded on the premise of offering the best quality, Birch Biotech was founded in 2017. Our expanding product offering includes Pristine® high purity LC-MS and HPLC reagents. To ensure our customers are getting the best quality, each bottle is labeled with the reagent's actual lot analysis. Additionally, we will always strive to keep your budget in mind; therefore, offering you quality products at a great value. For more information, please visit our website, www.BirchBiotech.com

CHEM SERVICE, INC. **BOOTH 202**
660 Tower Lane, West Chester, PA 19380, USA
800-452-9994
www.chemservice.com
For over 55 years, Chem Service has been manufacturing the highest quality Organic and Inorganic reference standards for research and testing purposes. Chem Service offers over 14,000 analytical standards including pesticides, metabolites, Cannabis standards, PAH's, PBDE's, PCB's, phthalates, dyes, surfactants and vitamins to meet the specifications of EPA, DIN, ISO, ASTM, and many international methods. As a leader in custom synthesis and custom reference standards, Chem Service can manufacture standards to meet your strict requirements. Chem Service is an accredited ISO Guide 34, ISO 17025 and certified ISO 9001 company.

CHIRAL TECHNOLOGIES, INC. **BOOTH 222**
800 North Five Points Road, West Chester, PA 19380, USA
610-594-2100, 800-6-CHIRAL
www.chiraltech.com
Chiral Technologies, Inc. (CTI), the global leader in enantioselective chromatography, provides products and custom services for resolution of racemic compounds. CTI serves the life science industries offering the largest portfolio of chiral stationary phases and analytical and preparative chiral columns to pharmaceutical, biopharmaceutical, and agrochemical customers. CTI's High Performance Liquid Chromatography and Supercritical Fluid Chromatography columns are used by life science researchers for development efforts. The company's CSPs, including the innovative immobilized phases, play a vital role in the development and manufacture of single enantiomer products. Chiral Technologies is a subsidiary of the global technology and manufacturing company Daicel Corporation.

Exhibiting Organizations at the Forefront of Separation Science

CRYOBIOPHYSICA **BOOTH 414**
4620 North Park Ave., #1204E, Chevy Chase, MD 20815, USA
301-908-0288
www.cryobiophysica.com
CryoBioPhysica is an LC technology company that has developed the pISep pH Gradient Chromatography System. PISep chromatography combines the preparatory capacity, speed and flexibility of IEX, with the elegant sensitivity of electrophoresis. PISep significantly improves the separation of, e.g. monoclonal antibody isoforms including difficult to separate polyglycosolated, phosphorylated or polydeaminated isoforms. CryoBioPhysica has created a powerful, scalable IEX alternative to salt separations well-suited for analytical, preparative and large-scale protein purification requirements.

ES INDUSTRIES **BOOTH 311**
701 South Route 73, West Berlin, NJ 08091, USA
800-356-6140 or 856-753-8400
www.esind.com
ES Industries supplies the widest variety HPLC, SFC and Convergence Chromatography columns available including unique chiral and super base deactivated/pH stable phases. We have sub-2µm columns specifically designed for use with ultra-high pressure chromatography systems for reverse phase, HILIC, LC-MS, SFC and Convergence Chromatography applications. We offer a wide variety of SFC and Convergence Chromatography columns for analytical and preparative applications including ethyl pyridine, pyridyl amide, fluorinated, nitro, Basic DEAP and carbohydrate based chiral columns. We offer a wide variety of state of the art HILIC phases.

GENTECH SCIENTIFIC, INC. **BOOTH 224**
23 Mill St., Arcade, NY 14009, USA
585-492-1068
www.Gentechscientific.com
Since 1996, GenTech Scientific has been supplying quality refurbished GC, MS, HPLC, GC-MS, LC-MS, ICP-MS instrumentation. Our skilled technicians rigorously inspect and fully refurbish all of our products to the original equipment manufacturers (OEM) standards. GenTech Instruments come with a one year warranty and can be extended to your needs. We offer customized training, expert service, depot repair and professional installation. Rent, lease or purchase from our warehouse of instruments. We provide the options you need to equip your lab for less!

GL SCIENCES INC. **BOOTH 215**
22-1 Nishishinjuku 6-chome, Shinjuku-ku, Tokyo, 163-1130 JAPAN
81-3(5323)6620
https://www.glsciences.com/
GL Sciences Inc. was established in 1968 in Japan and is now one of the leading suppliers of HPLC consumables in Japan. GL Sciences began exporting Inertsil HPLC columns into the United States, and their primary trademarked product, Inertsil, quickly became recognized as one of the very best columns on the market. A new C18 column is introduced which is ideal for separation of basic molecules and its related substances, process impurities. This new Inertsil ODS-HL column has a superior selectivity of structural analogs and isomers delivering separation of compounds having similar m/z which is also appropriate for lipidomics.

Exhibiting Organizations at the Forefront of Separation Science

HAMILTON COMPANY **BOOTH 116**
4970 Energy Way, Reno, NV 89502, USA
800-648-5950
http://www.hamiltoncompany.com/HPLC/
Hamilton Company offers a comprehensive selection of chromatography products in the industry. Our line of HPLC, GC and TLC syringes is handcrafted with maximum attention to detail, resulting in superior accuracy, lifetime, and performance. Hamilton manufactures both silica-based and polymeric HPLC column supports, providing a wide range of retention characteristics and performance benefits. Hamilton's polymer-based HPLC columns provide maximum inertness and pH stability (pH 1-13) with the pressure stability of silica-based columns. Each product is manufactured to achieve the highest level of accuracy.

HPLC 2019-MILAN **BOOTH 513**
www.hplc2019-milan.org
HPLC 2019 will be held in Milan, Italy on 16-20 June 2019, at Milano-Bicocca University. An exciting Meeting, organized in a hospitable setting that will be conductive to business, scientific and social exchange. Both the fundamental and practical aspects of separation science will be covered, with the main focus on new highly relevant trends that are emerging in this field. In particular, younger scientists will be encouraged to make contributions in topical scientific sections. Please visit the Conference website for information and details (www.hplc2019-milan.org) or contact directly the PCO, Effetti (hplc2019@effetti.it)

HPLC 2019-KYOTO **BOOTH 511**
Kyoto University, Dept. of Material Chemistry, Nishikyo-ku, Kyoto 6158510, JAPAN
81-75-383-2447
http://hplc2019kyoto.com/
The 49th HPLC Symposium will be held on December 1 to 5, 2019 in Kyoto, Japan, which is the second meeting in Kyoto as a regular HPLC Symposium. The symposium will cover all aspects of separations by liquid chromatography and electrophoresis as well as related hyphenated techniques and detection methods. Invited lectures and oral presentations including parallel sessions, and poster presentations will be planned for each section, in addition to the plenary sessions. We hope that you will enjoy the symposium as well as the city of Kyoto which is the ancient capital of Japan.

HPLC 2020-SAN DIEGO, CA, USA **BOOTH 509**
June 20-25, 2020
www.hplc2020-usa.org
Leading the way to ensure the separation sciences remain a powerful analytical tool, HPLC 2020 welcomes you to 5 days of exciting science and innovative talks devoted to advances and emerging technologies covering all aspects of separation technologies. The HPLC conference will celebrate its 50th anniversary in 2020 and has grown to become the largest, most recognized international conference and exposition in the world of liquid phase separation science and analysis, including chromatography, electrophoresis, and mass spectrometry. Internationally acclaimed experts will present dynamic and innovative talks in the program packed with cutting-edge research, critical and emerging technologies, and novel solutions to important problems in pharmaceutical, environmental, and industrial research and development (janet@barrconferences.com).

Exhibiting Organizations at the Forefront of Separation Science

IMTAKT USA **BOOTH 317**
2892 NW Upshur Street, Suite A, Portland, OR 97210, USA
215-665-8902
http://www.imtaktusa.com/
Imtakt is a premier HPLC column manufacturer headquartered in Kyoto, Japan. More than 18 years ago Itaru Yazawa, Aki Noriuchi, and Noriuchi joined together to form Imtakt Corporation of Japan, where they have developed more than 18 novel stationary phases. Imtakt now serves every major pharmaceutical, biotech, clinical diagnostic, environmental, and food organization, offering an ever-growing library of over 900 unique applications that are publicly available to help customers find the right solutions for their specific applications. With a dedication to providing true innovation in HPLC column design, Imtakt is leading the way into the future of separation science.

JASCO **BOOTH 307**
28600 Mary's Court, Easton, MD 21601, USA
410-822-1220
https://www.jascoinc.com
This year JASCO is celebrating 60 years of excellence within the academic, pharmaceutical, forensics, biotechnology, and industrial markets worldwide. JASCO's line of chromatography instrumentation includes uHPLC, Preparative & Analytical SFC/SFE, and HPLC systems including Microbore, Semi-Preparative, and Preparative. In addition, JASCO specializes in a full line of spectroscopy instrumentation, for more information, please visit www.jascoinc.com.

KNAUER WISSENSCHAFTLICHE GERÄTE GMBH **BOOTH 313**
Hegauer Weg 38, 14163 Berlin, GERMANY
49-308097270
www.knauer.net
We separate molecules and unite people. Based in Berlin, KNAUER has been serving the sciences since 1962. We develop and manufacture scientific instruments of superior quality for liquid chromatography systems and components, including: Analytical HPLC / UHPLC, Preparative HPLC, Fast protein liquid chromatography (FPLC), Multi-Column Chromatography / SMB, Osmometry. With 135 employees, we are an established manufacturer of HPLC systems and components. Our valves, pumps, detectors, and other components are used for many separation processes outside of HPLC and are popular with customers who want custom solutions (OEM). We support technological advancement today and in the future.

LCGC **BOOTH 399**
485 Route 1 South, Bldg. F, Suite 210, Iselin, NJ 08830, USA
203-523-7067
www.chromatographyonline.com
LCGC is the largest dedicated publication in North America serving the chromatography market, enhancing productivity, efficiency, and the overall value of separation science globally. With our commitment to editorial excellence, LCGC covers all key growth segments in the industry by providing unbiased peer-reviewed content, trusted troubleshooting advice, and best practice applications solutions. Laboratory based analytical chemists and influential chromatographers can improve productivity and enhance their proficiency through LCGC's oriented information giving them a competitive advantage for the real-world analysis they face.

Exhibiting Organizations at the Forefront of Separation Science

LGC STANDARDS **BOOTH 323**
276 Abby Road, Manchester, NH 03103, USA
603-622-7660
www.lgcstandards.com
LGC Standards is a leading global manufacturer and distributor of certified reference materials and proficiency testing schemes. For over 25 years we have worked to help ensure that your results are reliable and fit-for-purpose. Our products serve the pharmaceutical, food, environmental, industrial, clinical and forensic testing industries. LGC Standards' Mikromol™ brand pharmaceutical products offer impurities, APIs and excipients. Our Dr. Ehrenstorfer™ brand encompasses thousands of reference materials for environmental, food and cannabis contaminant testing. LGC is the UK's National Measurement Laboratory and Designated Institute for chemical and bio-measurement. Our accreditations include: ISO 17034, GMP/GLP, ISO/IEC 17025 and ISO/IEC 17043.

MAC-MOD ANALYTICAL **BOOTH 319**
103 Commons Court, Chadds Ford, PA 19317, USA
610-358-9696
www.Mac-mod.com
MAC-MOD's mission statement is "Smarter Chromatography." But, you may ask, just what does "Smarter Chromatography" mean? It means that when we make a recommendation to you about an HPLC or UHPLC product, it is to partner with you to offer innovative solutions to your complex problems. We use advanced state-of-the-art analytical software to match our product portfolio with your separation needs. We leverage our 25 plus years of technical expertise and manufacturing network to help you solve your toughest application problems. We provide up-to-date and accurate technical catalogs and reports from industry leading separation scientists to keep you informed of new technologies. We value our customers, and in that statement, we strive to deliver the most innovative HPLC and UHPLC columns and accessories available to bring value to our customers. Partner with MAC-MOD to bring "Smarter Chromatography" to your laboratory.

MICROSOLV TECHNOLOGY CORPORATION **BOOTH 423**
9158 Industrial Blvd. NE, Leland, NC 28451, USA
732-380-8900
www.mtc-usa.com
Serving chemistry, medical and clinical R&D, environmental, forensic and biological laboratories worldwide. Cogent HPLC columns perform Aqueous Normal Phase (ANP) HPLC. Due to the lack of the water layers found with silica, these columns separate polar compounds with extreme precision even with gradients. Faster cycle time between injections and increased through put. RSA™ glass autosampler vials are not silanized with pristine surfaces and virtually no hydroxyl groups for lower adsorption of low abundance basic compounds when used in HILIC or ANP modes. Excellent for LCMS or pharmaceutical testing. Universal 2 Dimensional (U-2D™) racked glass inserts in a 96 well format a new way to prepare samples. Use the plate format or remove individual 350ul and place in autosampler vials.

MILLIPORE SIGMA **BOOTHS 112, 114**
400 Summit Drive, Burlington, MA 01803, USA
800-325-3010
www.milliporesigma.com
MilliporeSigma is the U.S. life science business of Merck KGaA, Germany. With 19,000 employees and 72 manufacturing sites worldwide, MilliporeSigma's portfolio spans more than 300,000 products enabling scientific discovery. Extensive expertise in separations, and reagents, enables MilliporeSigma to provide advancements in chromatography including HPLC, UHPLC, TLC, and HPTLC for basic, applied, and pharmaceutical research and manufacturing.

Exhibiting Organizations at the Forefront of Separation Science

MOLEX – POLYMICRO **BOOTH 406**
18019 N. 25th Ave., Phoenix, AZ 85023, USA
602-375-4100
www.molex.com/polymicro
Molex Polymicro products have provided SOLUTIONS for analytical instrumentation and spectroscopy applications, while also serving industrial and medical markets. We are a global leader in providing capillary tubing, optical fiber and fiber bundle technologies. Our state of the art manufacturing facility and years of experience maximize our production capacity, capabilities, and flexibility. With multiple draw towers, a unique glass laboratory, assembly expertise, dedicated test equipment and laser technology we proudly work with our customers in partnership to grow their business. The Polymicro facility is ISO 9001, 13485 and 14001 certified.

MOLNAR-INSTITUTE FOR APPLIED CHROMATOGRAPHY **BOOTH 410**
Schneegloeckchenstr.47, Berlin 10407, GERMANY
49-30421-5590
www.molnar-institute.com
Founded in 1981 and located in Berlin, Germany, Molnár-Institute develops DryLab software for high performance liquid chromatography (HPLC and UHPLC). Chromatographers performing analytical method development use DryLab to reduce retention time, increase method robustness, and conform to Quality by Design (QbD) standards. Molnár-Institute is registered UHPLC-modeling software vendor to the FDA, CDC, CFIA and other regulatory agencies. DryLab was pioneering the Analytical Quality by Design paradigm changes in 2002 by the FDA leading to a new thinking about HPLC Quality Control and Quality Assurance.

MOTT CORPORATION **BOOTH 305**
84 Spring Lane, Farmington, CT 06032, USA
860-747-6333
www.mottcorp.com
Mott is a high precision filtration and flow control company trusted by the world's best known technical & performance brands. Often, our customers have no effective options to solve their challenging problems. Our strategic vision is to deliver technological breakthroughs where none currently exist. Mott has a PerfectPeak® Brand which includes a wide range of chromatography products to optimize your HPLC/UHPLC systems. From static mixers that greatly reduce baseline noise to fixed flow splitters for accurate splits and ready-to-go, easily changeable cartridges, our goal is to help increase your instrument performance and provide you the most accurate test results possible.

NANOFILM TECHNOLOGIES INTERNATIONAL PTE LTD. **BOOTH 213**
Block 28, #02-02~06, Ayer Rajah Crescent, Ayer Rajah Industrial Estate, SINGAPORE 139959
65-6872-6890
www.nanofilm.com.sg
Nanofilm is specialized in vacuum coating services, coating system design, integration as well as mass production. Our headquarter is located in Singapore with subsidiaries in Shanghai, China, Tokyo & Osaka, Japan and Hanoi, Vietnam. Since the establishment of Nanofilm in 1999, our company has gained over 60 patents on Filtered Cathodic Vacuum Arc (FCVA) Technology and its applications. Currently, we are involved in a wide range of industries from data storage applications to cutting tools, molds, consumer electronics, automotive, HPLC components, solar panels and many more.

Exhibiting Organizations at the Forefront of Separation Science

OPTIMIZE TECHNOLOGIES, INC. **BOOTH 212**
13993 Fir Street, Oregon City, OR 97045, USA
503-557-9994
www.optimizetech.com
Founded in 1985, Optimize Technologies offers a complete line of innovative patented components, accessories and instrument replacement parts for UHPLC, HPLC and LC/MS systems. All Optimize products are designed and manufactured in Oregon. Products: EXP® (UHPLC) Fittings, Filters, Traps and Guards, OPTI-MAX® Check Valves, OPTI-SEAL® Seals, Pistons, OPTI-GUARD® Guard Columns, OPTI-PAK® Traps, OPTI-SOLV® Filters, OPTI-LYNX™ Quick-Connect solutions + OPTI-TRAPS™ for large molecules, peptides, online desalting and detergent removal. New for HPLC: Additional EXP®2 products – the next generation of UHPLC accessories (rated 20,000+ psi) featuring hand-tight holders and EXP Titanium Hybrid reusable ferrules. Introduction of the ultra affordable OPTI-LYNX®2 Filter, Trap Column and Guard Column solutions.

PHARMAFLUIDICS **BOOTH 206**
Technologiepark-Zwijnaarde 3, 9000 Gent, BELGIUM
32/9.241.56.57
www.pharmafluidics.com
PharmaFluidics is a young, dynamic and fast paced tech company based in Ghent, Belgium. As a spin-off of the Vrije Universiteit Brussels, and backed by experienced Venture Capital (Qbic, PMV, Innovation Fund/Essencia, Theodorus), PharmaFluidics has developed a series of game-changing chromatography products. With unprecedented analytical resolution performance, PharmaFluidics' micro-chip based chromatography cartridges are now being commercialized for cutting-edge bio-marker, diagnostics and drug research & development applications in the global biotech and pharma industries. The key expertise of PharmaFluidics is the design, lithographic production, and surface treatment of silicon wafers for use as separation devices in liquid chromatography.

PHENOMENEX **BOOTH 324**
411 Madrid Ave., Torrance, CA 90501, USA
310-212-0555
www.phenomenex.com
Phenomenex is a global technology leader committed to developing novel analytical chemistry solutions that solve the separation and purification challenges of researchers in industrial, government and academic laboratories. From drug discovery and pharmaceutical development to disease diagnosis, food safety to environmental analysis, Phenomenex chromatography solutions accelerate science and help researchers improve global health and well-being. Core technologies include products for liquid chromatography, gas chromatography, and sample preparation; bulk purification chromatographic media; and chromatography accessories and equipment.

POSTNOVA ANALYTICS **BOOTH 315**
230 South 500 East, Ste. 110, Salt Lake City, UT 84102, USA
801-521-2004
www.postnova.com
Postnova Analytics offers a versatile Field Flow Fractionation (FFF) platform, which includes a range of different FFF and Multi-Angle Light Scattering (MALS) detectors for advanced separation and characterization of nanoparticles, proteins, polymers and biomacromolecules. The Postnova FFF platform can also be easily coupled to Dynamic Light Scattering (DLS) for hydrodynamic size measurement, and Inductively Coupled Plasma - Mass Spectrometry (ICP-MS) for elemental analysis across the fractogram. Additionally, Size Exclusion Chromatography (SEC) can be integrated into an FFF system to enable two separation methods with a single instrument setup.

Exhibiting Organizations at the Forefront of Separation Science

PRINCETON CHROMATOGRAPHY, INC. **BOOTH 404**
259 Prospect Plains Rd., Building L, Cranbury, NJ 08512, USA
609-860-1803
www.pci-hplc.com
Founded in 1994, Princeton Chromatography, Inc. is a manufacturer of premium HPLC, UHPLC, and SFC columns. In addition to chromatography columns, we also specialize in bulk chromatographic media, column packing services, and contract SFC purifications. All products are manufactured, packed, and tested at our new expanded facility in Cranbury, NJ. Princeton Chromatography, Inc. has been a leader in the field of Supercritical Fluid Chromatography for nearly 20 years and is the birthplace of the 2-Ethylpyridine stationary phase, among many others. Please stop by and see us!

REGIS TECHNOLOGIES **BOOTH 200**
8210 Austin Avenue, Morton Grove, IL 60053, USA
847-967-6000
www.registech.com
Regis Technologies is a leading global supplier of chromatography columns and specialty reagents. They are the exclusive manufacturer of Pirkle-Type chiral stationary phases (CSPs) for analytical to preparative scale separations, including the immensely popular Whelk-O® 1 phase, and they offer free chiral screenings to identify the best column for each separation. New for 2018, Regis now offers achiral SFC columns that deliver high performance separations at an affordable price. Visit booth 200 to learn more about these columns, chiral columns for LC and SFC, innovative HPLC columns for rapid biomimetic screening of drug-membrane affinity, and their line of specialty reagents.

RESTEK CORPORATION **BOOTH 210**
110 Benner Circle, Bellefonte, PA 16823, USA
814-353-1300
www.restek.com
Chromatography is what Restek does, and chromatography is who we are. We are an independent, international, and diverse team of employee-owners not bound to a specific brand of instrument or geographic region. We live and breathe phase chemistry, peak separations, resolution, and inertness because while chromatography may be a necessary tool in your business, it is our business. And it is a business that we directly serve across 100+ countries and six continents with unrivaled Plus 1 service, applications, and expertise. From LC and GC columns to sample preparation, reference standards to accessories, Restek is your first and best choice for chromatography.

S.C.A.T. EUROPE GMBH **BOOTH 220**
Opelstrasse 3, 64546 Mörfelden, GERMANY
49 (0)6105 305586 0
www.scat-europe.com
S.C.A.T. stands for Safety Center Analyses Technologies. We provide state-of-the-art solutions for the safe handling of organic solvents in the lab. SafetySolutions enable maximum compliance in the HPLC lab and improve work performance, occupational safety and ergonomics. With simple solutions and perfect materials our products protect employees against harmful solvent vapors and keep eluents contamination free. SymLine is a complete and flexible system for collection and active storage of flammable liquid waste. All items are made of electro conductive PE-HD or PTFE to avoid risks and hazards caused by static electricity and at the same time ensure maximum chemical resistance. Made in Germany.

Exhibiting Organizations at the Forefront of Separation Science

SCIEX **BOOTH 322**
500 Old Connecticut Path, Framingham, MA 01701, USA
www.sciex.com
To optimize your research, you need front-end instruments that can manage an assortment of flow rates, sample requirements and sensitivities. SCIEX has the broadest portfolio of front-ends to ESI-MS to help you get the most out of your mass spectrometer. No one else offers the entire range from analytical flow to microflow, to nanoflow LC-MS, or even ultra-low flow CESI-MS. SCIEX capillary electrophoresis instruments were developed to address your analytical challenges today, while keeping one eye focused firmly on the demands of tomorrow. Whether your lab is performing clone selection, automated and quantitative analysis of biologics, proteomic, metabolomic or genomic research, or food and environmental testing, SCIEX is sure to have a state-of-the-art solution for you.

SEPAX TECHNOLOGIES, INC. **BOOTH 416**
5 Innovation Way, Suite 100, Newark, DE 19711, USA
877-SEPAX-US
www.sepax-tech.com
Headquartered in Delaware, Sepax Technologies, Inc. has established itself as a leader in the biological separation industry since 2002. Sepax focuses on our customers' needs and provides solutions to their challenges in chromatographic separation. Sepax specializes in the development and manufacturing of HPLC consumables, bulk media, and equipment for chemical and biological separations. Sepax has achieved innovative industry developments in the areas of particle synthesis, surface modifications and HPLC column manufacturing. Sepax Quality Management System is ISO 9001 certified.

SHIMADZU SCIENTIFIC INSTRUMENTS, INC. **ISLAND BOOTH 118**
7102 Riverwood Drive, Columbia, MD 21046, USA
410-381-1227
www.shimadzu.com
Shimadzu has been at the forefront of HPLC/UHPLC design and manufacturing for decades, developing innovative instruments and technologies that enable chromatographers in any environment to improve productivity and achieve high-quality, reproducible data. With an outstanding reputation for long life, precision, and reliability, our systems are used by top researchers across the globe in such industries as pharmaceuticals, food science, forensics, academia, nutraceuticals, drug discovery, and environmental. Whether the need is conventional HPLC, method development, microflow LC, SFE/SFC, GPC, or UHPLC, our modular and integrated systems offer unsurpassed chromatographic efficiency, sensitivity, resolution, and stability to match specific application requirements.

SHODEX, SHOWA DENKO AMERICA, INC. **BOOTH 421**
420 Lexington Ave. #2335A, New York, NY 10170, USA
212-370-0033
www.shodexHPLC.com
Shodex is a HPLC product brand name manufactured by Showa Denko K.K. in Japan since 1973. Showa Denko K.K. is one of Japan's largest chemical companies. Our strength in polymer synthesis led to the production of many polymer-based columns. The golden fish is a symbol of fast and smooth liquid chromatography analysis. Shodex carries over 1000 different HPLC columns with a wide range of separation modes. We are known for high quality SEC and saccharide analysis columns, as well as HILIC phased columns. With additional selections of normal phase, ion exchange, ion chromatography, high temperature and multi-mode columns, we are confident we can provide the most suitable column for customers' needs.

Exhibiting Organizations at the Forefront of Separation Science

S-MATRIX CORPORATION **BOOTH 218**
1594 Myrtle Avenue, Eureka, CA 95501, USA
707-441-0404
www.s-matrix.com
S-Matrix's Fusion QbD® Software Platform integrates advanced experimental design, data analysis and modeling, and Monte-Carlo robustness simulation capabilities, and can be configured with modules for LC Method Development and Validation, Formulation and Process Development, and Respiratory Drug R&D and QC. Fusion QbD also provides full bi-directional experiment automation with the Agilent ChemStation, Thermofisher Chromeleon, and Waters Empower Chromatography Data Software, supports full 21 CFR Part 11 compliance, and contains integrated workflow and project management systems. S-Matrix also offers complete HPLC/UHPLC method development, qualification, validation, and transfer services.

SPARK HOLLAND **BOOTH 321**
Pieter de Keyserstraat 8, 7825VE, Emmen, NETHERLANDS
31-591 631700
www.sparkholland.com
Our mission is to provide the analytical laboratory with innovative sample introduction, extraction and separation technology, enabling seamless integration of automated front-end sample preparation into analytical systems such as HPLC, MS, GC and NMR.

THERMO FISHER SCIENTIFIC **ISLAND BOOTH 108**
355 River Oaks Pkwy., San Jose, CA 95134, USA
800-556-2323
www.thermofisher.com
Thermo Scientific instruments, equipment, software, services and consumables empower scientists to solve for complex analytical challenges in pharmaceutical, biotechnology, academic, government, environmental and industrial research, as well as the clinical laboratory. Our products address a range of needs from sample, material characterization and chemical analysis to clinical diagnoses and biological-based therapeutics manufacturing.

TOSOH BIOSCIENCE LLC **BOOTH 211**
3604 Horizon Drive, Suite 100, King of Prussia, PA 19406, USA
484-805-1219
www.tosohbioscience.com
Tosoh Bioscience LLC is a major supplier of chromatography products worldwide, particularly to the pharmaceutical, biotechnology, and chemical industries. Whether your needs are basic biological research, drug discovery, medicinal chemistry, agriculture, manufacturing, or other industrial applications, we have the optimal solution. We are a global leader in the manufacturing and sales of high quality, innovative pre-packed U/HPLC columns and bulk resins with the TSKgel® and TOYOPEARL®brand names. As experts in GPC, Tosoh Bioscience LLC offers dedicated systems for GPC analysis, the EcoSEC® GPC System and the EcoSEC High Temperature GPC System. Stop by booth #211 to learn about our newest innovations in all of our product lines.

USP **BOOTH 301**
12601 Twinbrook Parkway, Rockville, MD 20852, USA
301-881-0666
www.usp.org
USP is an independent non-profit organization that collaborates with the world's top health and science experts to develop high-quality standards that set the bar for manufacturing and distributing safe and effective medicines, supplements and food around the globe. Two billion people world-wide have access to quality medicines, dietary supplements and food as a result of USP's standards, advocacy and education.

Exhibiting Organizations at the Forefront of Separation Science

VICI **BOOTH 309**
P.O. Box 55603, Houston, TX 77055, USA
800-367-8424
www.vici.com
For 50 years, Valco Instruments Co. Inc. (VICI) has been a leading designer and manufacturer of components for precision analytical, biomedical, and biocompatible instrumentation. Companies under the VICI umbrella serve five continents with a diverse product line that includes liquid and gas valves, sample injectors and selectors, pneumatic and electric actuators, temperature controllers, gas generators, gas purifiers, and GC detectors.

WATERS CORPORATION **BOOTHS 300, 302**
34 Maple Street, Milford, MA 01757, USA
508-478-2000
www.waters.com
Waters Corporation creates business advantages for laboratory-dependent organizations by delivering scientific innovation to enable customers to make significant advancements. Waters helps customers make profound discoveries, optimize laboratory operations, deliver product performance, and ensure regulatory compliance with a connected portfolio of separations and analytical science, laboratory informatics, mass spectrometry, as well as thermal analysis.

WYATT TECHNOLOGY **BOOTH 303**
6330 Hollister Avenue, Santa Barbara, CA 93117, USA
805-681-9009
www.wyatt.com
Wyatt Technology® is the recognized leader in light scattering instrumentation and software for determining absolute molar mass, size, charge and interactions of macromolecules and nanoparticles in solution. Wyatt provides in-line multi-angle static light scattering SEC-MALS; field flow fractionation (separation with no stationary phase)-FFF-MALS; composition gradients for interaction analysis – CG-MALS; high-throughput dynamic light scattering-DLS; high-sensitivity electrophoretic mobility-MP-PALS; differential refractometry, and differential viscosity. Wyatt's training, service and support are widely considered the industry benchmark of excellence.

YMC AMERICA, INC. **BOOTH 299**
941 Marcon Blvd., Suite 201, Allentown, PA 18109, USA
610-266-8650
www.ymcamerica.com
YMC America, Inc. is the exclusive sales and support channel for separations leader YMC Co., Ltd., whose products include stationary phase chemistries primarily used for high and low pressure separation science. Spherical silica, hybrid silica, and polymer-based particles from 1.9 to 150 micron are available in packed columns or bulk chemical packaging formats. YMC America maintains offices, application support laboratories, and a warehouse in Allentown, Pennsylvania (USA). YMC products are available on a world-wide basis.

HPLC 2018 Author Index

L = lecture P = poster

C

D

E

F

G

H

I

L

M

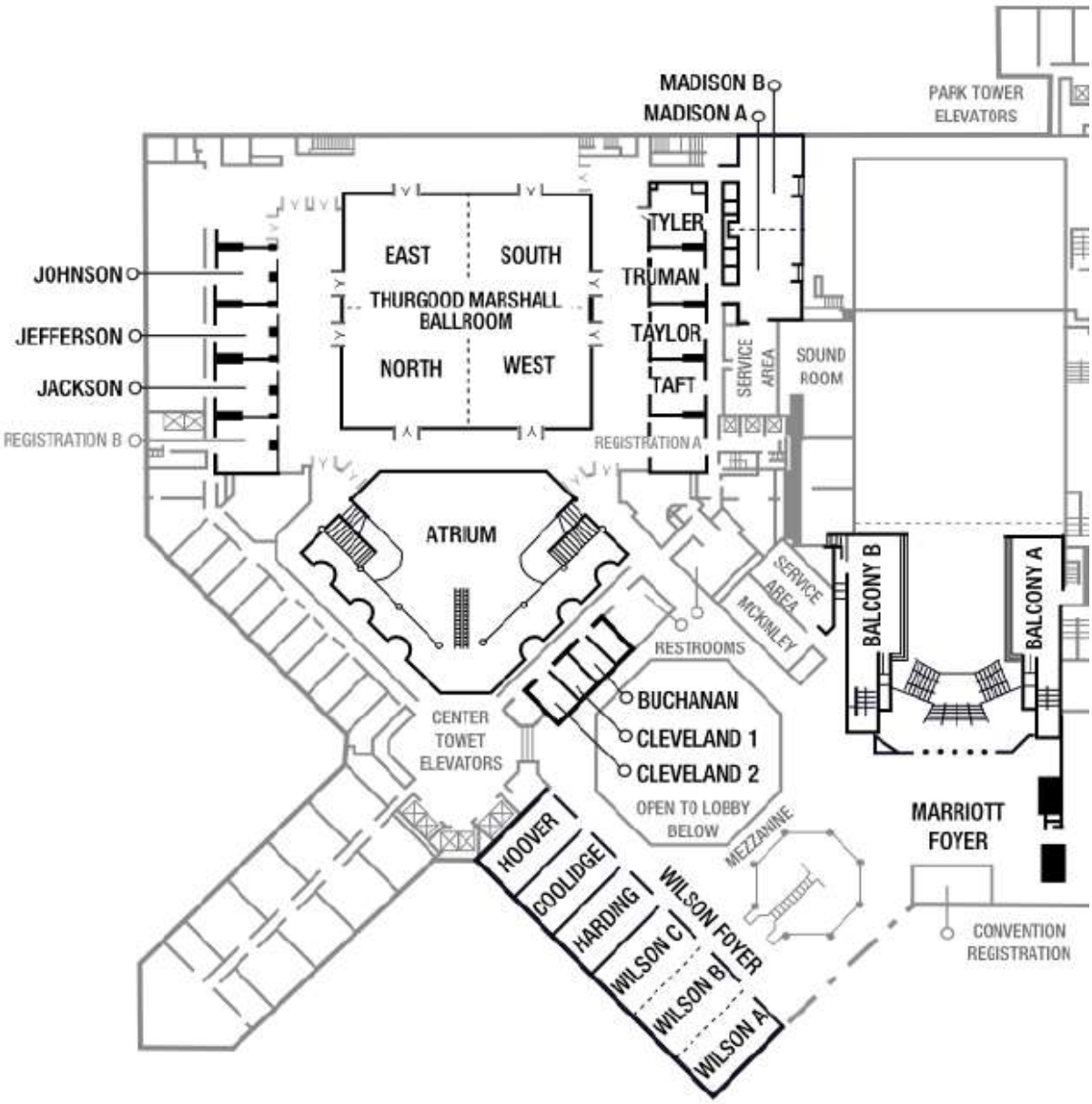
N

O

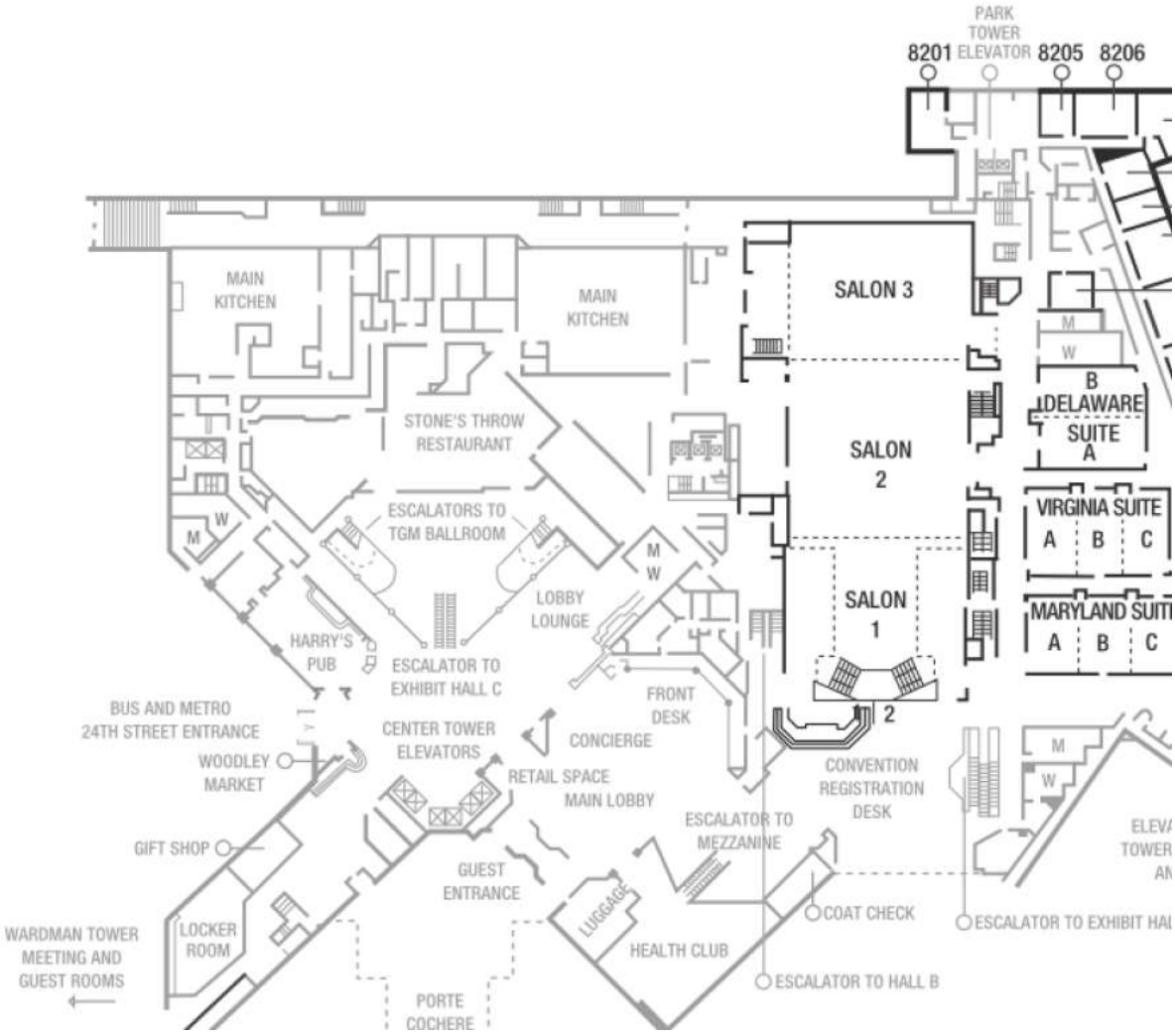
T

Z

MEZZANINE LEVEL



LOBBY LEVEL


PARK TOWER ELEVATOR
8201
8205
8206
MAIN KITCHEN
MAIN KITCHEN
SALON 3
SALON 2
SALON 1
M
W
B
DELAWARE SUITE A
VIRGINIA SUITE
A B C
MARYLAND SUITE
A B C
STONE'S THROW RESTAURANT
ESCALATORS TO TGM BALLROOM
LOBBY LOUNGE
HARRY'S PUB
ESCALATOR TO EXHIBIT HALL C
FRONT DESK
BUS AND METRO 24TH STREET ENTRANCE
CENTER TOWER ELEVATORS
CONCIERGE
WOODLEY MARKET
RETAIL SPACE MAIN LOBBY
CONVENTION REGISTRATION DESK
GIFT SHOP
ESCALATOR TO MEZZANINE
GUEST ENTRANCE
LUGGAGE
COAT CHECK
ESCALATOR TO EXHIBIT HALL
WARDMAN TOWER MEETING AND GUEST ROOMS
LOCKER ROOM
HEALTH CLUB
ESCALATOR TO HALL B
PORTE COCHERE

NOTES

NOTES

NOTES

MilliporeSigma

SEPARATION SOLUTIONS

for each step of your workflow

Stop by the MilliporeSigma
Booth #112-114
and register for our workshop.

Title: Perfect Fit in Pharmaceutical Drug Development – Best Solutions for Small and Large Molecules

Speakers: Jason Wrigley & Petra Lewits

Date: Monday July 30th

Time: 12:25- 1:25

SigmaAldrich.com/hplc

2018-12726 06/2018

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

Science Never Quits.

ACQUITY UPLC H-CLASS PLUS
Transform standard procedures
into ultimate performance

ACQUITY UPLC H-CLASS PLUS Bio
Purpose built to
characterize the complex

ACQUITY UPLC I-CLASS PLUS
What separates you
from everyone else

Acquity UPLC® H-Class PLUS | Acquity UPLC® I-Class PLUS

There has never been a better time to experience ACQUITY UPLC.

www.waters.com/PLUS

Realize True Performance: **www.waters.com/sub2**

Waters

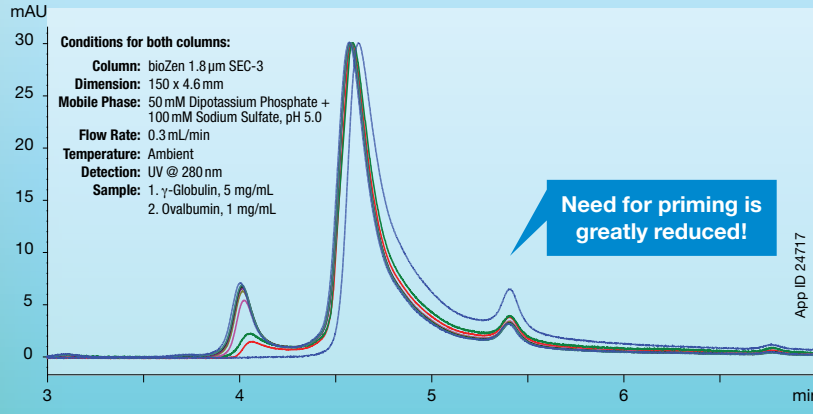
THE SCIENCE OF WHAT'S POSSIBLE.™

Unparalleled UHPLC/HPLC Inertness for Biologics

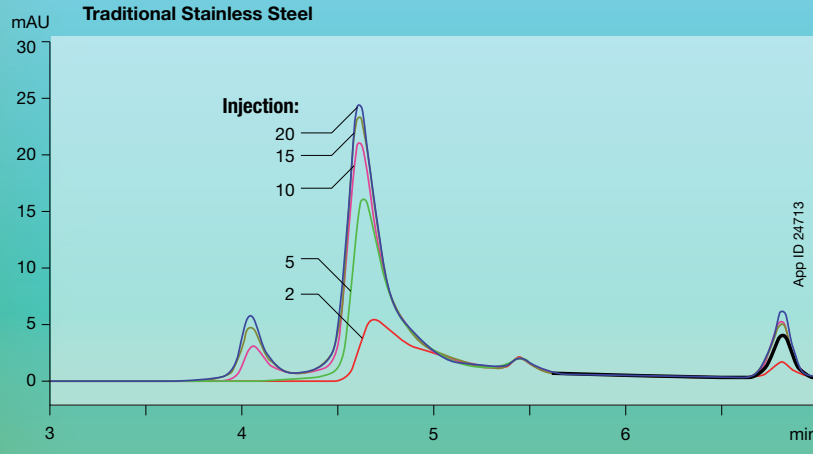
Visit Us! Booth #324

Overlaid Successive Injections – Protein Priming Comparison

bioZen Titanium BioTi™ Hardware



Traditional Stainless Steel



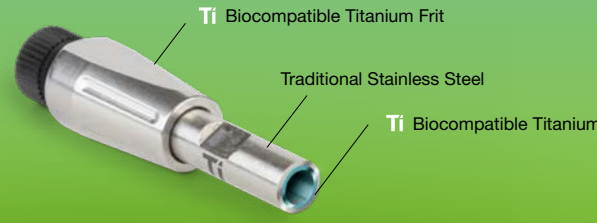
bioZen™ the bio series

Biocompatible LC Columns for:

- Peptide Mapping
- Aggregate Analysis
- Glycan Analysis
- Peptide Quantitation
- Drug Antibody Ratio
- Intact Mass
- Intact and Fragment Analysis

Learn More: Orthogonal LC and LC-MS Methods for the Characterization of Size, Charge Variants, and Glycoforms in Therapeutic Proteins

Time: Wednesday, August 1 • 12:25pm - 1:25pm



PA60330418_W

phenomenex® ...breaking with tradition℠

www.phenomenex.com/muchozen

THE PREMIER GLOBAL INFORMATION SOURCE FOR CHROMATOGRAPHERS

LCGC's website is your source for unbiased, peer-reviewed technical information in the chromatography field and the separation sciences. Explore practical, nuts-and-bolts information that helps scientists and lab managers utilize chromatographic techniques and instrumentation, thereby making laboratories more productive and businesses around the world more successful.

LC GC

A Trusted Resource for Separation Scientists.

UBM

www.chromatographyonline.com

George Manga/Getty Images

the Analytical Scientist™

Register now at

www.theanalyticalscientist.com/register

It is quick and easy and completely FREE

As a fully registered user you will benefit from:

- Unlimited access to ALL articles
- Full access to digital and archived copies of every issue of The Analytical Scientist
- Print (and PDF) copies delivered direct to you
- Email news alerts
- Networking opportunities
- Detailed Application Notes and Product Profiles

There are many good reasons to register to The Analytical Scientist. Here are just a few:

- From environmental testing to the -omics, pharma to food, The Analytical Scientist focuses on the people, technology and innovations shaping measurement science.
- We cover analytical science by telling stories – delving into the hopes, fears, motivations and aspirations of the key figures in the field.
- Analytical science is no longer a series of individual techniques, but a group of integrated and complementary methods – we encourage cross-pollination of ideas through an accessible, solutions-based approach.

Celebrating measurement science and building a community for analytical scientists everywhere

Register now at **www.theanalyticalscientist.com/register**

CHROMATOGRAPHY TODAY

ONLINE and in **PRINT**, **CHROMATOGRAPHY TODAY** is read by qualified professionals involved in Separation Science.

Featuring in depth articles exploring the latest techniques within chromatography as well as industry news, product launches, case studies, training courses and exhibition updates.

For prices on advertising or to request a copy, please contact: sales@intlabmate.com

www.chromatographytoday.com

OVER 30,000 READERS

International LABMATE

A MULTI-CHANNEL AUDIENCE FOR MANUFACTURERS & SUPPLIERS TARGETING THE LABORATORY INDUSTRY ACROSS EUROPE & THE MIDDLE EAST

Market leading journals keeping you informed of all the latest products, technical articles and news. All available in print, online and now via our mobile app.

For prices on advertising or to request a copy, please contact: sales@intlabmate.com

www.labmate-online.com

OVER 72,000 READERS

Printed Journals

Technical Articles, Industry News, New Products and Show Reviews.

e-Bulletins

New products and Industry News directly to your inbox.

Website

Journal content plus directories, videos and e-learning.

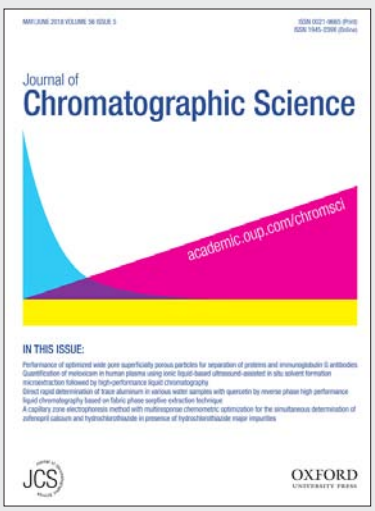
e-Journals

The publication available to read on your laptop or mobile device.

Sign up for email alerts from these top Oxford Journals

Journal of Chromatographic Science

academic.oup.com/chromsci



The Journal of Chromatographic Science (JCS) is an international scientific journal presenting the latest information concerning the practice and theory of chromatography. The Journal focuses on research papers describing practical and preparative applications and analytical methods relevant to a broad range of laboratory work.

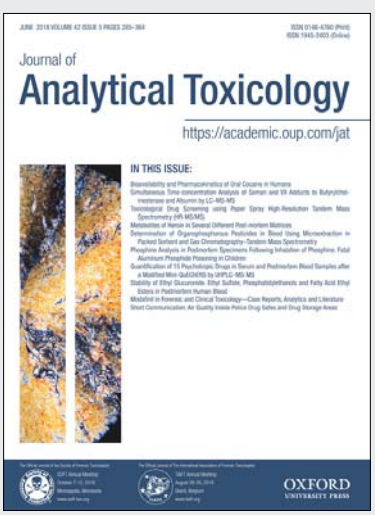
2016 IMPACT FACTOR .0984

FULL TEXT DOWNLOADS 623,003

CITATIONS IN 2016 2,729

Journal of Analytical Toxicology

academic.oup.com/jat



The Journal of Analytical Toxicology (JAT) is an international toxicology journal devoted to the timely dissemination of scientific communications concerning potentially toxic substances and drug identification, isolation, and quantitation.

2016 IMPACT FACTOR 2.409

FULL TEXT DOWNLOADS 1,012,510

CITATIONS IN 2016 3,546

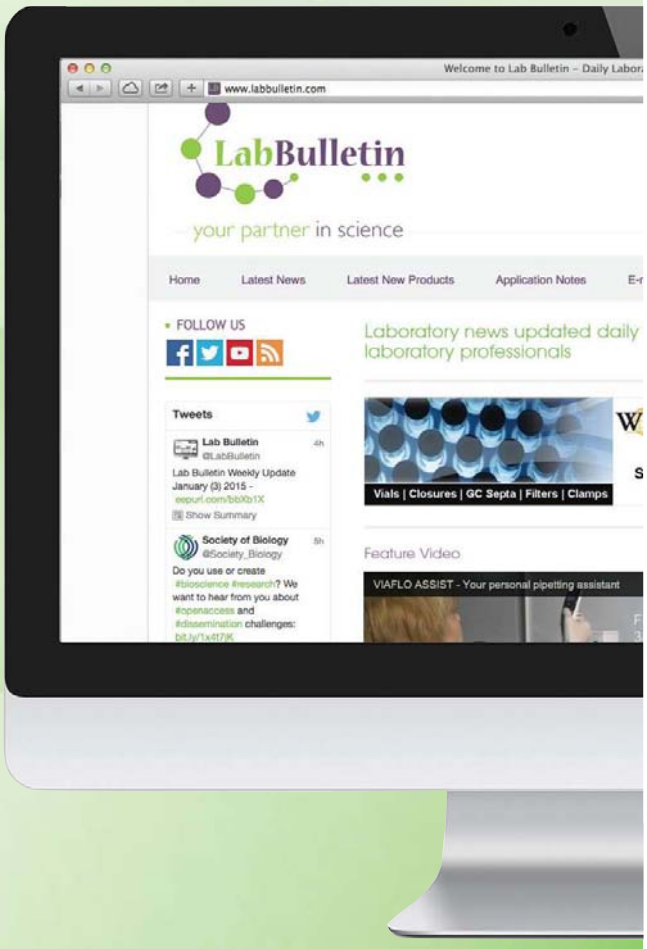
LabBulletin

your partner in science

Over 37,000 subscribers worldwide!

Visit Lab Bulletin for the latest product and industry news

Lab Bulletin's main aim is to inform scientists of the latest scientific products, events and laboratory news along with updates on what's happening in the market in order to make more informed choices when purchasing products.



Are you Launching New Products at HPLC?

Lab Bulletin has a number of options available that can help your company reach our online community of over 37,000 readers from Banner advertisements, Video presentations, e-Blasts and Newsletter promotions.

Contact the Sales Team at Lab Bulletin to find out more

t: +44 (0)1438 871968 | e: sales@labbulletin.com

www.labbulletin.com

HPLC 2018

media partner

ONLINE LEARNING

ANALYTICAL TRAINING SOLUTIONS

Premier Training for Analytical Scientists

Looking for an online resource for HPLC, LC-MS, GC, GC-MS or CE/CE-MS fundamentals, method development and troubleshooting? Need an easily accessible portal for chromatographic best practices? Then look no further - visit Analytical Training Solutions...

www.sepscience.com/analytical-training-solutions

In collaboration with thought leaders; Dr John Dolan, Tom Jupille, Dr Matthew Klee and Dr Cari Sanger, Separation Science has developed a comprehensive learning portal covering basic, intermediate and advanced online courses to help improve your understanding of these analytical chemistry techniques. Produced in voice-over PowerPoint video format, these courses are broken down into a series of manageable modules designed to be both taken from start to finish, and as individual modules for refresher purposes. Courses vary in length from 10-20 hrs, and include...

- The Fundamentals of HPLC
- HPLC & UHPLC Troubleshooting
- Advanced HPLC Method Development
- Principles of HPLC Validation
- Practical HPLC for Biopharmaceuticals
- LC-MS/MS for Chromatographers
- Introduction to GC
- Intermediate GC
- GC-MS for Operators and Method Developers
- Introduction to CE / CE Method Development

All courses are individually priced at US$ 98 - discounts are available for multiple users and multiple courses.

brought to you by

SeparationScience ChromatographyForum

Università degli Studi di Ferrara

POLITECNICO MILANO 1863

UNIVERSITÀ DEGLI STUDI DI MILANO BICOCCA

HPLC 2019

MILAN ITALY 16-20 JUNE 2019

48TH International Symposium on High-Performance Liquid Phase Separations and Related Techniques

University of Milano-Bicocca, Milan

Chairs

ALBERTO CAVAZZINI
University of Ferrara

MASSIMO MORBIDELLI
Polytechnic of Milan

Organizing Committee

LAURA CIPOLLA
University of Milano-Bicocca

JOIN US IN MILAN IN 2019

www.hplc2019-milan.org

ORGANIZING SECRETARIAT **Effetti srl** *Via Giorgini, 16 - 20151 Milan (I)* *www.effetti.it*

HPLC2019 Kyoto

The 49th International Symposium on High Performance Liquid Phase Separations and Related Techniques

December 1–5, 2019

Kyoto University at Katsura, Kyoto, Japan

http://hplc2019kyoto.com/

SCOPE

The HPLC Symposium series is the premier meeting for high performance liquid phase separations and related techniques. The 49th HPLC Symposium will be held in Kyoto, Japan, December 1 to 5, 2019, which is the second meeting in Kyoto as a regular HPLC Symposium.

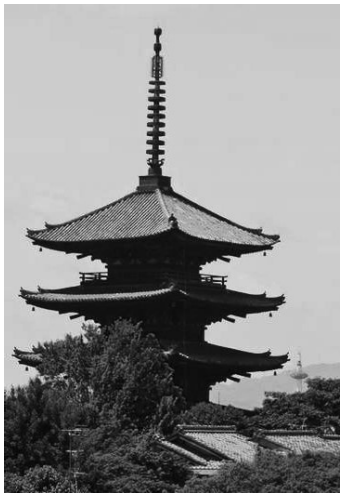
The symposium will cover all aspects of separations by liquid chromatography and electrophoresis as well as related hyphenated techniques and detection methods.

Invited lectures and oral presentations including parallel sessions, and poster presentations will be planned for each section, in addition to the plenary sessions.

Virtual proceedings will be published as a special issue of an international chromatographic journal.

ABSTRACT SUBMISSION

Authors wishing to present papers in oral and poster sessions are encouraged to submit the abstracts in English thorough web. Further detailed information will be announced at the website.



SYMPOSIUM CHAIRS

Koji Otsuka, Chair, *Kyoto University*
Kenji Hamase, Co-chair, *Kyushu University*
Yasushi Ishihama, Vice-chair, *Kyoto University*

SOCIAL PROGRAM

Welcome Reception: December 1, 2019
Symposium Banquet: December 3, 2019

Affordable excursions will be planned for delegates to visit gardens, temples, shrines, and museums.
Early December is a nice time for shopping and seeing fall foliage around Kyoto.

SYMPOSIUM VENUE

Funai Auditorium & Katsura Hall
Kyoto University at Katsura
Katsura, Nishikyo-ku
Kyoto, Japan

INFORMATION

http://hplc2019kyoto.com/

Prof. Koji Otsuka
Chair, HPLC2019 Kyoto
Graduate School of Engineering, Kyoto University
Katsura, Nishikyo-ku, Kyoto 615-8510, Japan
E-mail: otsuka@hplc2019kyoto.com

SYMPOSIUM CHAIR
Professor Mary Wirth

CONTACT
Ms. Janet Cunningham
Symposium/Exhibit Manager
Barr Enterprises
www.LinkedIn.com/in/BarrEnterprises
janet@barrconferences.com

HPLC2020

WWW.HPLC2020-USA.ORG

50th International Symposium on High Performance Liquid Phase Separations and Related Techniques

dedicated to all aspects of liquid-phase separation science and analysis, including chromatography, mass spectrometry, and electrophoresis

NEW SCIENCE
Extensive technical program with leading companies and researchers

NEW TECHNOLOGY
Instrument showcase and presentations by vendors

APPLICATIONS
How to use modern HPLC to solve problems in your research

EDUCATION
Short courses and tutorials to learn about fundamentals and latest trends

NETWORK
Informal meetings with colleagues

June 20-25, 2020 • Town and Country • San Diego, CA, USA