51st INTERNATIONAL SYMPOSIUM ON HIGH-PERFORMANCE LIQUID PHASE SEPARATIONS AND RELATED TECHNIQUES

FINAL PROGRAM

CHAIRS
Michael Lämmerhofer · Eberhard-Karls-University Tübingen
Oliver J. Schmitz · University of Duisburg-Essen
Leading the way for every HPLC workflow. Together!

Together with our customers, we at Agilent lead the way for every HPLC workflow. Our InfinityLab LC instruments, columns, and supplies are known for delivering rugged quality and robust analytical results. However, our commitment to our customers goes beyond that. We have designed every component of the Agilent InfinityLab LC family to work seamlessly together, empowering you to continuously improve your workflow. This synergy ensures efficiency gains that enable you to accomplish more while reducing operational costs.

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Dear colleagues, dear friends,

On behalf of the scientific and organizing committees it is our great pleasure to welcome you to the International Symposium on High-Performance Liquid Phase Separations and Related Techniques (HPLC 2023) in Duesseldorf, Germany.

The HPLC symposium series is known as the world leading conference on liquid phase separations and related technologies. Its program covers all aspects of separation sciences in liquid and supercritical fluid phases as well as hyphenation with advanced detection technologies in particular mass spectrometry. The program will span from fundamentals and theory of chromatographic separations and detection principles, over methodological and technological advances including separation materials, column technologies and instruments, to applications in various fields and quality assurance aspects. The symposium will feature workshops and tutorials, plenary and keynote lectures from the leading scientists in the field. The majority of lectures were selected from submitted abstracts to make sure that participants can share and discuss their newest results with the audience. Besides, HPLC 2023 will have a big exhibition and vendor seminars in which attendees can see the latest innovations from the leading vendors in the field.

It is the fourth time that the HPLC symposium series take place in Germany, after Baden-Baden in 1983, Hamburg in 1993, and Dresden in 2009. Düsseldorf (equivalent to Duesseldorf), the capital city of the region North Rhine-Westphalia, is located at the river Rhine.

Duesseldorf is an important and vibrant city at the heart of Europe. It is famous for its attractions such as the Altstadt – as the historic part of the city – or its classy shopping mile – Königsallee –, the Rhine embankment promenade, which is perfect for biking and strolling, or the architecturally and gastronomically appealing MedienHafen (Media Harbour) with its quality museums, theatres, concerts, cabarets, the opera house, and annual event highlights.

We thank all who contributed to the organization, we are grateful to our sponsors and exhibitors for financial support, and all attendees for coming. We wish you a stimulating and rewarding conference, good discussions and an enjoyable time in Duesseldorf.

Experience Science. Discover Duesseldorf.
COMMITTEES OF HPLC 2023 DUESSELDORF

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Atilla Felinger  University of Pecs (Hungary)
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Susan Olesik  Ohio State University (USA)
Koji Otsuka  Kyoto University (Japan)
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HISTORY OF THE HPLC CONFERENCE SERIES AND FUTURE MEETINGS

Since its first edition in 1973 in Interlaken, Switzerland, the HPLC Symposium Series has established itself as the world’s most important conference series in separation sciences.

The conference provides an international forum for the discussion of advances in the field of liquid phase and related technologies; it has a strong methodological and technological focus. The topics of these conferences comprises fundamentals of separation science, especially liquid chromatography (HPLC, UHPLC) and supercritical fluid chromatography, their coupling with mass spectrometry, multidimensional separations, sample preparation and their applications in various fields. In addition, capillary separations, microfluidic, nanofluidic and chip separations, diagnostic systems and other leading technologies are also discussed.

The meetings are held alternately in Europe (odd years) and the United States (even years). In the odd years the meetings are held in Europe, and since 2008 an additional meeting has been organised in Asia/Pacific.

### Table: History of the HPLC Conference Series

<table>
<thead>
<tr>
<th>Year</th>
<th>No.</th>
<th>Location</th>
<th>Chair(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>1st</td>
<td>Interlaken, Switzerland</td>
<td>Willy Simon</td>
</tr>
<tr>
<td>1975</td>
<td>2nd</td>
<td>Wilmington, USA</td>
<td>Jack J. Kirkland</td>
</tr>
<tr>
<td>1977</td>
<td>3rd</td>
<td>Salzburg, Austria</td>
<td>Joseph F.K. Huber</td>
</tr>
<tr>
<td>1979</td>
<td>4th</td>
<td>Boston, USA</td>
<td>Barry L. Karger</td>
</tr>
<tr>
<td>1981</td>
<td>5th</td>
<td>Avignon, France</td>
<td>Georges Guiochon</td>
</tr>
<tr>
<td>1982</td>
<td>6th</td>
<td>Cherry Hill, USA</td>
<td>Robert Bardford</td>
</tr>
<tr>
<td>1983</td>
<td>7th</td>
<td>Baden-Baden, Germany</td>
<td>Klaus Peter Hupe</td>
</tr>
<tr>
<td>1984</td>
<td>8th</td>
<td>New York City, USA</td>
<td>Csaba Horváth</td>
</tr>
<tr>
<td>1985</td>
<td>9th</td>
<td>Edinburgh, UK</td>
<td>John H. Knox</td>
</tr>
<tr>
<td>1986</td>
<td>10th</td>
<td>San Francisco, USA</td>
<td>Ronald E. Majors</td>
</tr>
<tr>
<td>1987</td>
<td>11th</td>
<td>Amsterdam, The Netherlands</td>
<td>Hans Poppe</td>
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<tr>
<td>1988</td>
<td>12th</td>
<td>Washington, USA</td>
<td>Georges Guiochon</td>
</tr>
<tr>
<td>1989</td>
<td>13th</td>
<td>Stockholm, Sweden</td>
<td>Douglas Westerlund</td>
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<tr>
<td>1990</td>
<td>14th</td>
<td>Boston, USA</td>
<td>Barry L. Karger</td>
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<tr>
<td>1991</td>
<td>15th</td>
<td>Basel, Switzerland</td>
<td>Fritz Erni</td>
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<tr>
<td>1992</td>
<td>16th</td>
<td>Baltimore, USA</td>
<td>Fred E. Regnier</td>
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<tr>
<td>1993</td>
<td>17th</td>
<td>Hamburg, Germany</td>
<td>Klaus K. Unger</td>
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<tr>
<td>1994</td>
<td>18th</td>
<td>Minneapolis, USA</td>
<td>Larry D. Bowers and Peter W. Carr</td>
</tr>
<tr>
<td>1995</td>
<td>19th</td>
<td>Innsbruck, Austria</td>
<td>Wolfgang Lindner</td>
</tr>
<tr>
<td>1996</td>
<td>20th</td>
<td>San Francisco, USA</td>
<td>William S. Hancock</td>
</tr>
<tr>
<td>1997</td>
<td>21st</td>
<td>Birmingham, UK</td>
<td>Anthony F. Fell</td>
</tr>
<tr>
<td>1998</td>
<td>22nd</td>
<td>St. Louis, USA</td>
<td>Daniel W. Armstrong</td>
</tr>
<tr>
<td>1999</td>
<td>23rd</td>
<td>Granada, Spain</td>
<td>Emilio Gelpi</td>
</tr>
<tr>
<td>2000</td>
<td>24th</td>
<td>Seattle, USA</td>
<td>Edward S. Yeung</td>
</tr>
<tr>
<td>2001</td>
<td>25th</td>
<td>Maastricht, The Netherlands</td>
<td>Hans Poppe and Henk Lingeman</td>
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<tr>
<td>2001</td>
<td>-</td>
<td>Kyoto, Japan</td>
<td>Nobuo Tanaka and Shigeru Terabe</td>
</tr>
<tr>
<td>2002</td>
<td>26th</td>
<td>Montreal, Canada</td>
<td>Irving W. Wainer</td>
</tr>
<tr>
<td>2003</td>
<td>27th</td>
<td>Nice, France</td>
<td>Antoine M. Siouffi</td>
</tr>
<tr>
<td>2004</td>
<td>28th</td>
<td>Philadelphia, USA</td>
<td>Mark R. Schure</td>
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<tr>
<td>2005</td>
<td>29th</td>
<td>Stockholm, Sweden</td>
<td>Douglas Westerlund</td>
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<tr>
<td>2006</td>
<td>30th</td>
<td>San Francisco, USA</td>
<td>John H. Frenz</td>
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<tr>
<td>2007</td>
<td>31st</td>
<td>Gent, Belgium</td>
<td>Jacques Crommen and Pat Sandra</td>
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<tr>
<td>2008</td>
<td>32nd</td>
<td>Baltimore, USA</td>
<td>Georges Guiochon and Steven Jacobson</td>
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<tr>
<td>2008</td>
<td>33rd</td>
<td>Kyoto, Japan</td>
<td>Koji Otsuka and Nobuo Tanaka</td>
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<tr>
<td>2009</td>
<td>34th</td>
<td>Dresden, Germany</td>
<td>Christian Huber</td>
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<tr>
<td>2010</td>
<td>35th</td>
<td>Boston, USA</td>
<td>Steven A. Cohen</td>
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<tr>
<td>2011</td>
<td>36th</td>
<td>Budapest, Hungary</td>
<td>Attila Felinger</td>
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<tr>
<td>2011</td>
<td>37th</td>
<td>Dalian, China</td>
<td>Yukui Zhang and Peter Schoenmakers</td>
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<tr>
<td>2012</td>
<td>38th</td>
<td>Anaheim, USA</td>
<td>Frantisek Svec</td>
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<tr>
<td>2013</td>
<td>39th</td>
<td>Amsterdam, The Netherlands</td>
<td>Peter Schoenmakers</td>
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<tr>
<td>2014</td>
<td>40th</td>
<td>Hobart, Australia</td>
<td>Paul Haddad</td>
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<tr>
<td>2014</td>
<td>41st</td>
<td>New Orleans, USA</td>
<td>J. Michael Ramsey</td>
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<tr>
<td>2015</td>
<td>42nd</td>
<td>Geneva, Switzerland</td>
<td>Gérard Hopfgartner</td>
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<tr>
<td>2015</td>
<td>43rd</td>
<td>Beijing, China</td>
<td>Guibin Jiang</td>
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<tr>
<td>2016</td>
<td>44th</td>
<td>San Francisco, USA</td>
<td>Robert T. Kennedy</td>
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<tr>
<td>2017</td>
<td>45th</td>
<td>Prague, Czech Republic</td>
<td>Michal Holíčapek and František Foret</td>
</tr>
<tr>
<td>2017</td>
<td>46th</td>
<td>Jeju Island, Korea</td>
<td>Doo Soo Chung</td>
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<tr>
<td>2018</td>
<td>47th</td>
<td>Washington, DC, USA</td>
<td>Norman Dovichi</td>
</tr>
<tr>
<td>2019</td>
<td>48th</td>
<td>Milan, Italy</td>
<td>Alberto Cavazzini and Massimo Morbidelli</td>
</tr>
<tr>
<td>2019</td>
<td>49th</td>
<td>Kyoto, Japan</td>
<td>Koji Otsuka</td>
</tr>
<tr>
<td>2020</td>
<td>-</td>
<td>San Diego, USA</td>
<td>Mary J. Wirth (postponed due to COVID pandemic)</td>
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<tr>
<td>2022</td>
<td>50th</td>
<td>San Diego, USA</td>
<td>Frantisek Svec</td>
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<tr>
<td>2023</td>
<td>51st</td>
<td>Düsseldorf, Germany</td>
<td>Michael Lämmerhofer and Oliver J. Schmitz</td>
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<tr>
<td>2023</td>
<td>52nd</td>
<td>Denver, USA</td>
<td>Susan Oleśik</td>
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<tr>
<td>2024</td>
<td>53rd</td>
<td>Dalian, China</td>
<td>Guowang Xu</td>
</tr>
<tr>
<td>2025</td>
<td>54th</td>
<td>Bruges, Belgium</td>
<td>Gert Desmet, Ken Broeckhoven, Deirdre Cabooter, Sebastiaan Eeltink, Frederic Lynen</td>
</tr>
</tbody>
</table>
SOCIAL EVENTS

**SUNDAY, JUNE 18, 2023**
from 04:30 p.m. – 05:10 p.m.
OPENING CEREMONY
Congress Center Duesseldorf (CCD), Room 1/Auditorium

**SUNDAY, JUNE 18, 2023**
from 07:00 p.m. – 09:00 p.m.
WELCOME RECEPTION IN THE EXHIBITION
Congress Center Duesseldorf (CCD), Exhibition Area
Exclusively sponsored by Waters

**WEDNESDAY, JUNE 21, 2023**
from 07:00 p.m. – 11:30 p.m.
CONFERENCE DINNER
Classic Remise Duesseldorf
Harffstr. 110a, 40591 Duesseldorf, Germany
https://remise.de/duesseldorf
Exclusively sponsored by Agilent Technologies
Registration required as part of the online registration process.

If you are registered for the conference dinner you will receive a voucher together with your other documents at the registration desk. Please show this voucher at the entrance of Classic Remise. Thank you!

How to reach the venue
By car
The Classic Remise Duesseldorf is about 1.5 kilometers away from the Duesseldorf-Wersten highway exit. Free parking (150 parking spaces) is available for visitors. Alternatively, you can park in the Provinzial Parking Garage at Kölner Landstraße 9, 40591 Duesseldorf.

By public transport from Duesseldorf main station
S-Bahn
Duesseldorf main station: S-Bahn No. 6, platform 11, direction Cologne Nippes (approx. 7 minutes)
Get off at Eller Süd (3rd stop), go down the stairs, direction Karlsruher Straße/Marburger Straße, walk left until you reach the street, bus stop is on your right – Bus 732 direction Oberbilkner Markt – Exit Dillenburger Weg (Classic Remise can be seen).

Subway
Duesseldorf main station: subway U79, U77 or U74 direction Holthausen, Benrath, (approx. 7-10 minutes)
Get off at Provinzialplatz, turn left towards Harffstraße/Kölner Landstraße (approx. 8-10 minutes on foot) or Bus 723 direction Eller Mitte, Bus stop Provinzialplatz (on Kölner Landstraße near Harffstraße).
Get off at the Ohligser Straße stop.

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Thank you for joining us in making a difference for our planet. Enjoy the dinner and the rest of the conference!
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**THURSDAY, JUNE 22, 2023**
from 04:30 p.m. – 05:30 p.m.
FAREWELL DRINK
Congress Center Duesseldorf (CCD)

HPLC 2023 in Duesseldorf has reached its end and it is time to celebrate the time we have spent together. Let’s have one great memory of our experience.
Enjoy a cold drink and share your final thoughts, ideas and knowledge for the last time before your return to your friends, family and loved ones.
All participants and accompanying persons are kindly welcome.
We wish you a safe journey home!

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SPECIAL EVENTS

MONDAY, JUNE 19, 2023  from 06:15 p.m. – 08:15 p.m.

SEPARATION SCIENCE SLAM incl. Apéro
Congress Center Duesseldorf (CCD) · Room 3

Science slam is a science competition and another way of communicating research. It is not a scientific presentation. It is about young scientists bringing their own research closer to the HPLC 2023 audience in an entertaining and understandable way, clearly outlining the relevance of their research or offering a personal approach to their project.

The Science Slammers have 10 minutes time to impress the participants of HPLC 2023 by free speech, animated PowerPoint presentations, illustrative images, a poem, a rap, a cabaret ……

The goal is to win the favor of the audience and jury! Not necessarily the most humorous contribution will win. To bring contents and amusement into a harmonious relationship, that is the goal of this modern science communication.

At the end of the session, three winners will be announced by the Jury:
Gold Winner (1,500 €)
Silver Winner (1,000 €)
Bronze Winner (500 €)

The Separation Science Slam will be concluded with a nice Apéro at the end of the session.

Please note: Registration required as part of the online registration process.

Sponsored by KNAUER and the Analytical Scientist

TUESDAY, JUNE 20, 2023  from 06:15 p.m. – 08:15 p.m.

HPLC TUBE incl. Apéro
Congress Center Duesseldorf (CCD) · Room 3

The HPLC Tube is a scientific competition for the best video in which the presenting scientists show the impact of their research on our society.

For this competition, participants had to submit 3-minute videos on the topic “How is your chromatography making a difference in the world” before HPLC 2023.

At the end of the session, three winners will be announced by the Jury:
Gold Winner (1,500 €)
Silver Winner (1,000 €)
Bronze Winner (500 €)

The HPLC Tube will be concluded with a nice Apéro at the end of the session.

Please note: Registration required as part of the online registration process.

Exclusively sponsored by Thermo Fisher Scientific
Best Poster Award (BPA)

The Best Poster Award is sponsored by Agilent Technologies.

Agilent
Trusted Answers

Presentation of scientific work on a poster is an essential part of the scientific program of the HPLC Symposium Series. A poster is an efficient way to disseminate, share, and discuss the results of liquid phase separation research, progress in new instrumentation and separation method development, applications in life science research, (bio)pharmaceutical product R&D, for the safety and authenticity of consumer goods, in forensics, and environmental monitoring and protection with one’s peers.

The HPLC symposium series invites academic, institutional, and industrial researchers to share and discuss the results of their work with delegates. The Best Poster Award (BPA) provides a stimulus and incentive for all scientists to attend the HPLC Symposium and present their research results on a poster.

But primarily and for all, the HPLC Symposium Series intends to foster young scientists and encourage them to take the opportunity to present their work at the symposium as a starter in their international scientific career.

All participating posters will be reviewed by an international panel of scientific peers, headed by Dr. Gerard Rozing as chairperson. The reviewers will be evaluating all participating posters using the following criteria:

- Novelty, originality, and creativity of the work
- The scope of the work, the quality of the experimental design, and practical execution
- The presentation of the poster, especially the author’s presence, and explanation during the designated poster session
- Impact of the work

In the first round of evaluation, reviewers will nominate one poster presentation in the set they judge for a second-round review. The review will be during the designated poster session. The authors of the nominated posters will present a flash oral of their work (3 min + time for 1-2 questions) on Thursday morning. The awardees will be announced and called to the podium in an honorary session on the last day of the symposium. All nominees not awarded will receive an honorary mention certificate for their achievement in the second review round.

The award will consist of a certificate and a monetary gift sponsored by Agilent Technologies. The following Awards are available:

- Best Poster Award (1,500 €)
- 2nd place (1,250 €)
- 3rd place (750 €)
- Seven runners-up (500 €)

Chromatographic Society Martin Medal

In 1978 Professor Archer J.P. Martin gave permission for his name to be associated with the ‘Martin Medal’. This is awarded to scientists who have made outstanding contributions to the advancement of separation science.

Winner of the Martin Medal 2023:
Prof. Janusz Pawliszyn, University of Waterloo, Canada

Chromatographic Society Jubilee Medal

Created in 1982 to mark the 25th anniversary of the Society, the ‘Jubilee Medal’ is awarded to up-and-coming separation scientists, those who have made major use of separation science in their own field or to scientists who have made important contributions to a particular area of separation science.

Winner of the Silver Jubilee Medal 2023:
Prof. Dwight R. Stoll, Gustavus Adolphus College, USA
and Dr. Martin Gilar, Waters

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Awards

Csaba Horváth Young Scientist Award

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 2024 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, June 22.

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. Halasz, 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

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Winner</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>San Francisco, USA</td>
<td>Norma Scully, University of Cork, Ireland</td>
</tr>
<tr>
<td>2007</td>
<td>Gent, Belgium</td>
<td>Caterina Temporini, University of Pavia, Italy</td>
</tr>
<tr>
<td>2008</td>
<td>Baltimore, USA</td>
<td>Jude Abia, University of Tennessee, USA</td>
</tr>
<tr>
<td>2009</td>
<td>Dresden, Germany</td>
<td>André de Villiers, Stellenbosch University, South Africa</td>
</tr>
<tr>
<td>2010</td>
<td>Boston, USA</td>
<td>Jesse Omamogho, University College Cork, Ireland</td>
</tr>
<tr>
<td>2011</td>
<td>Budapest, Hungary</td>
<td>Matthias Verstraeten, Free University of Brussels, Belgium</td>
</tr>
<tr>
<td>2012</td>
<td>Anaheim, USA</td>
<td>Stefan Bruns, Philipps-University Marburg, Germany</td>
</tr>
<tr>
<td>2013</td>
<td>Amsterdam, The Netherlands</td>
<td>James Grinias, University of North Carolina Chapel Hill, USA</td>
</tr>
<tr>
<td>2014</td>
<td>New Orleans, USA</td>
<td>William Black, University of North Carolina Chapel Hill, USA</td>
</tr>
<tr>
<td>2015</td>
<td>Geneva, Switzerland</td>
<td>Andrea Gargano, University of Amsterdam, The Netherlands</td>
</tr>
<tr>
<td>2016</td>
<td>San Francisco, USA</td>
<td>Simone Dimartino, University of Edinburgh, UK</td>
</tr>
<tr>
<td>2017</td>
<td>Prague, Czech Republic</td>
<td>Bob Pirok, University of Amsterdam, The Netherlands</td>
</tr>
<tr>
<td>2018</td>
<td>Washington, DC, USA</td>
<td>Martina Catani, Università degli Studi di Ferrara, Italy</td>
</tr>
<tr>
<td>2019</td>
<td>Milan, Italy</td>
<td>Sebastian Piendl, University of Leipzig, Germany</td>
</tr>
<tr>
<td>2022</td>
<td>San Diego, USA</td>
<td>Brady Anderson, University of Michigan, Ann Arbor, MI, USA</td>
</tr>
<tr>
<td>2023</td>
<td>San Diego, USA</td>
<td>Brady Anderson, University of Michigan, Ann Arbor, MI, USA</td>
</tr>
</tbody>
</table>

HPLC 2023 Duesseldorf Csaba Horváth Young Scientist Award Finalists

<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
<th>Date and Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belka, M.</td>
<td>University of Gdańsk, Poland</td>
<td>THURSDAY, JUNE 22, 2023; 12:10 p.m. - 12:30 p.m. / OR85</td>
<td></td>
</tr>
<tr>
<td>Felletti, S.</td>
<td>University of Ferrara, Italy</td>
<td>TUESDAY, JUNE 20, 2023; 05:00 p.m. - 05:20 p.m. / OR45</td>
<td></td>
</tr>
<tr>
<td>Huygens, B.</td>
<td>Vrije Universiteit Brussel, Belgium</td>
<td>MONDAY, JUNE 19, 2023; 05:00 p.m. - 05:20 p.m. / OR23</td>
<td></td>
</tr>
<tr>
<td>Karongo, R.</td>
<td>Invite GmbH (Bayer AG), Wuppertal, Germany</td>
<td>THURSDAY, JUNE 22, 2023; 9:50 a.m. - 10:10 a.m. / OR69</td>
<td></td>
</tr>
<tr>
<td>Krombholz, S.</td>
<td>German Sport University Cologne, Germany</td>
<td>WEDNESDAY, JUNE 21, 2023; 12:10 p.m. - 12:30 p.m. / OR56</td>
<td></td>
</tr>
<tr>
<td>Kronik, O.</td>
<td>University of Copenhagen, Denmark</td>
<td>THURSDAY, JUNE 22, 2023; 9:30 a.m. - 9:50 a.m. / OR68</td>
<td></td>
</tr>
<tr>
<td>Makey, D.</td>
<td>University of Michigan, USA</td>
<td>TUESDAY, JUNE 20, 2023; 03:10 p.m. - 03:30 p.m. / OR40</td>
<td></td>
</tr>
<tr>
<td>Montero, L.</td>
<td>CIAL (CSIC-UAM), Madrid, Spain</td>
<td>THURSDAY, JUNE 22, 2023; 10:10 a.m. - 10:30 a.m. / OR70</td>
<td></td>
</tr>
<tr>
<td>Tian, X.</td>
<td>University of Geneva, Switzerland</td>
<td>MONDAY, JUNE 19, 2023; 12:10 p.m. - 12:30 p.m. / OR09</td>
<td></td>
</tr>
<tr>
<td>Tsarenko, E.</td>
<td>Friedrich Schiller University Jena, Germany</td>
<td>WEDNESDAY, JUNE 21, 2023; 11:50 a.m. - 12:10 p.m. / OR49</td>
<td></td>
</tr>
</tbody>
</table>
AWARDS

J. F. K. Huber Lecture Award

The J. F. K. Huber Lecture Award is presented by the Austrian Society of Analytical Chemistry (ASAC).

This Award was created in 2014 to honor scientists who have made major contributions to the advancement of HPLC in theory and practice.

Prof. Joseph Franz Karl Huber (1st January 1925 – 15th August 2000) who gives this Award the name, received his doctoral degree in 1960 about a physico-chemical topic under the supervision of Prof. Erica Cremer of the University Innsbruck (Austria). 1964 Joseph Huber moved to the Free University of Amsterdam. In 1974 he moved back to Austria accepting the Chair of Analytical Chemistry at the University of Vienna where he became Emeritus in 1995. He is considered as one of the founding fathers of HPLC whereby his vision of the impact of small particles on the high efficiency of LC and of multidimensional LC marks the two corner stones of his research.

Awardee 2023 is Deirdre Cabooter (Leuven, Belgium).

The Award will be presented during the Session “Fundamentals 2” on Tuesday, June 20 from 10:30 a.m. – 11:00 a.m. in Hall Y.

Uwe D. Neue Award in Separation Science

About the Award

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 be given at the 51st International Symposium on High-Performance Liquid Phase Separations and Related Techniques (HPLC 2023).

Eligibility Criteria

The award recipient will receive a commemorative plaque, a $7,500 check and travel support. The recipient of the 2023 Uwe D. Neue Award in Separation Science is Dr. Thomas H. Walter. The award will be presented during the Opening Session on Sunday, June 18.

Dr. Walter will present a research lecture during the Session “Stationary Phase 1” on Monday, June 19 from 02:00 p.m. - 02:30 p.m. in Room 1 (Auditorium).

Awardees

Past Awardees

2014: Attila Felinger (Pécs, Hungary) at ISC 2014 Salzburg
2017: Gert Desmet (Brussels, Belgium) at HPLC 2017 Prague
2019: Fabrice Gritti (Milford, MA, USA) at HPLC 2019 Milano
2021: Michael Lämmerhofer (Tübingen, Germany) at Analytica virtual 2020
2022: Alberto Cavazzini (Ferrara, Italy) at ISC 2022 Budapest
2023: Deirdre Cabooter (Leuven, Belgium) at HPLC 2023 Dusseldorf

Past Awardees

HPLC 2013: Dr. Jack Kirkland
HPLC 2014: Dr. Gerard Rozing
HPLC 2015: Dr. Mark Schure
HPLC 2016: Dr. Lloyd Snyder
HPLC 2017: Dr. Andrew Alpert
HPLC 2018: Christopher Pohl
HPLC 2019: Dr. Christopher Welch
HPLC 2020: Dr. John Dolan
HPLC 2022: Dr. Thomas H. Walter

The award is sponsored by Waters.
GENERAL INFORMATION A-Z

APP FOR HPLC 2023
A Conference App has to been designed and will be your perfect companion during your visit of the HPLC 2023. It enables you to get the most out of the conference: create your personalized agenda, interact with participants (exchange contact details, host a meet-up...), discuss scientific & non-scientific topics in the Community-section, be informed about short-term changes, find your room with the floormap and much more.

For information on downloading the app, please see page 4.

BADGE AND CONGRESS KIT
Badge and congress kit will be delivered at HPLC 2023 registration desk.

All participants and exhibitors have to wear the name badge in the conference area completely visible at all times. In case you have lost your name badge, please report at the registration desk.

BREAKS – (COFFEE BREAKS AND LUNCH)
Coffee, tea and soft drinks as well as a lunch buffet will be served in the industrial exhibition and in the lobbies of the lecture halls during the coffee / lunch breaks.

Buffets are free for registered participants and accompanying persons. Please wear your name badge throughout the congress.

CERTIFICATE OF ATTENDANCE
A certificate of attendance will be sent out by e-mail to all participants after the conference.

CLOAKROOM
You can leave your wardrobe and if necessary your luggage in the cloakroom, which is located on the ground floor of CCD South. Please note, that the organizer assumes no liability for wardrobe, valuables and any kind of damages.

The cloakroom is open at the following times:
- Sunday, June 18: 08:00 a.m. – 09:30 p.m.
- Monday, June 19: 08:00 a.m. – 08:30 p.m.
- Tuesday, June 20: 08:00 a.m. – 08:30 p.m.
- Wednesday, June 21: 08:00 a.m. – 06:30 p.m.
- Thursday, June 22: 08:30 a.m. – 06:30 p.m.

EXHIBITION AREA
The exhibition is an important component of the conference. Take the opportunity to see the exhibitors’ newest products and speak to their representatives. Please take the time to acknowledge the exhibitors for their generous support of the program by visiting the booths located at the first floor of CCD South.

You can find the list of exhibitors on page 34.

EMERGENCY NUMBERS
Police: 110
Fire Department: 112
Medical Emergencies: 116117

ELECTRICITY
Electric current in Germany is without exception AC 230V / 50 Hz. Sockets only fit round two-pin plugs (use of adapters is necessary for all devices).

INSURANCE AND LIABILITY
The organizers do not accept liability for personal injury or loss or damage of private property of participants and accompanying persons either during or while travelling to the conference. Participants are strongly recommended to seek insurance coverage for health and accident, lost luggage and trip cancellation.

LANGUAGE
English is the official symposium language. No translation will be provided.

LOST & FOUND
A Lost & Found Counter is located at the cloakroom.

ORAL PRESENTATIONS
All presentations must be in Powerpoint 16:9 format or PDF. If your presentation contains videos, you can either embed them in the PowerPoint presentation or link them. If you are using PowerPoint 2007 or an older version, or if you are linking videos in the presentation, please provide your videos separately as individual files, otherwise they will not be visible in the presentation. The same applies to any special fonts used.

Speakers are requested to upload their presentation at the Slide Center Room (Room 9) preferably on the day before the lecture but at least 1 hour before the beginning of the session.

Say ‘hi’ to your new lab ally

Visit Us at Booth #7
#IntuitiveSimplicity

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- Fast, simple guidance at the point of need
- Boost productivity and capacity
- Drive workflow efficiencies and quality improvements

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It is not possible to bring presentations directly to the lecture hall unless you received other instructions.

At the Slide Center Room, speakers will have the possibility to:
- Review their power-point presentations
- Make last minute changes of power-point presentations
- Being supported by technical staff
- Upload power-point presentation in the dedicated session conference room

The Slide Center Room is located at Room 9 and is open at the following times:

<table>
<thead>
<tr>
<th>Day</th>
<th>Open</th>
<th>Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday, June 18</td>
<td>03:00 p.m. - 06:00 p.m.</td>
<td></td>
</tr>
<tr>
<td>Monday, June 19</td>
<td>07:45 a.m. - 06:00 p.m.</td>
<td></td>
</tr>
<tr>
<td>Tuesday, June 20</td>
<td>07:45 a.m. - 06:00 p.m.</td>
<td></td>
</tr>
<tr>
<td>Wednesday, June 21</td>
<td>07:45 a.m. - 05:30 p.m.</td>
<td></td>
</tr>
<tr>
<td>Thursday, June 22</td>
<td>08:15 a.m. - 03:00 p.m.</td>
<td></td>
</tr>
</tbody>
</table>

Speakers are recommended to arrive in the lecture hall at least 15 minutes before the start of the session to introduce themselves to the session chairs.

Speakers are strongly recommended to respect time limits for their talks.

Kindly note that session chairs are under very strict instructions to keep their sessions on schedule. Suitable devices to control the time and communicate it to the speakers are in each session hall. There are four sessions running in parallel with strict time constraints.

Time allowed for presentation (including discussion):
- Plenary Lectures (PL): 35 Minutes
- Keynote Lectures (KH): 30 Minutes
- Oral Lectures (OR): 20 Minutes
- Short Oral Lectures (SOL): 15 Minutes

**PHOTOGRAPHS TAKEN AT HPLC 2023**

Pictures taken at HPLC 2023 are used exclusively by the HPLC 2023 organizing committee and GDCh for documentation, news coverage and advertisement.

A selection of images will be available on the HPLC website ([https://www.hplc2023-duesseldorf.com](https://www.hplc2023-duesseldorf.com)) and/or will be present in the program. Updates may be found at the website ([https://www.hplc2023-duesseldorf.com](https://www.hplc2023-duesseldorf.com)) and/or will be communicated via the Whova app.

**GENERAL INFORMATION A-Z**

**POSTER SESSIONS**

Posters are located on the First Floor of Duesseldorf Convention Centre Sud, Area Rooms 5, 6, 7 and 8. The posters will be presented in two groups:

**Poster Session 1**
- Topics:
  - Biochromatography (BIOC)
  - Biopharmaceuticals (BPHA)
  - Capillary Electrophoresis and Microfluidics (CEM)
  - Chiral separation (CHIR)
  - Data Processing for Omics Technologies (DATA)
  - Drug discovery and Pharmacokinetics (DRUG)
  - Food Analysis (FOOD)
  - Forensics Analysis and Doping Control (FOR)
  - Miscellaneous (MISC)
  - Omics (Metabolomics, Lipidomics, Proteomics, Multimics) (OMIC)
  - Pharmaceutical Analysis (PHAR)

**Set up**
- Sunday, June 18: 03:00 p.m. - 07:00 p.m.
- Monday, June 19: 08:00 a.m. - 08:30 p.m.

**Poster Viewing**
- Monday, June 19: 09:40 a.m. - 10:30 a.m.
- 12:30 p.m. - 02:00 p.m.
- 03:30 p.m. - 04:30 p.m.
- Tuesday, June 20: 09:40 a.m. - 10:30 a.m.

**Removal**
- Tuesday, June 20: 10:30 a.m. - 11:30 p.m.

* Posters that are not removed at the scheduled time will be removed and disposed by the organizers!

**Poster Session 2**
- Topics:
  - Environmental Analysis (ENVI)
  - Fundamentals (FUND)
  - Ion-mobility Mass Spectrometry (IMS)
  - HPLC in chemical industry (IND)
  - New Instrumentation and Mass Spectrometric Detection Methods (INST)
  - LC-MS, SFC-MS and CE-MS (LCMS)
  - Materials and 3D-printing (MAT)
  - Multidimensional Separations (MDLC)
  - Preparative and Process Chromatography (PREP)
  - Sample Preparation (SAMP)
  - Separation Modes (HILIC, Mixed-mode, affinity, et al.) (SepM)
  - Supercritical Fluid Chromatography (SFC)
  - Stationary Phases & Column Technologies (STPH)
  - Untargeted and Targeted Analysis (UTTA)

**HPLC 2023 BEST POSTER AWARD**

Among abstracts accepted as poster, around 300 posters participate in the HPLC 2023 Best Poster Award (BPA).

All BPA posters are marked accordingly.

In the first round of evaluation, reviewers will nominate one poster presentation in the set they judge for a second-round review. The review will be during the designated poster session. The authors of the nominated posters will present a flash oral of their work (3 min + time for 1-2 questions) on Thursday morning. Please be prepared with a short powerpoint presentation if you participate in the Best Poster Award.

The awardees will be announced and called to the podium in an honorary session on the last day of the symposium. Awardees who are absent unexcused at the honorary ceremony will lose their award. All nominees not awarded will receive an honorary mention certificate for their achievement in the second review round.

**PROGRAM CHANGES**

The organizers are not liable for any changes made to the program. Updates may be found at the website ([https://www.hplc2023-duesseldorf.com](https://www.hplc2023-duesseldorf.com)) and/or will be communicated via the Whova app.

**PUBLIC TRANSPORT**

Duesseldorf has a very well-developed public transportation system. It is operated by the Rheinbahn ([www.rheinbahn.de](http://www.rheinbahn.de)) and regional transport is taken over by Verkehrsverbund Rhein-Ruhr / VRR ([www.vrr.de](http://www.vrr.de)).

As part of the online registration, participants had the opportunity to purchase a VRR-KombiTicket at a price of 17.51 € (incl. VAT). The VRR-KombiTicket is valid for the whole congress period and is good for the trip to and from the event location with VRR-transportation (2nd class), fare category D. VRR-KombiTickets are not transferable. You receive your VRR-KombiTicket as Kombi-Tickets on-site. Other tickets can be purchased online, at stops or at service points.

**REGISTRATION DESK OPENING HOURS**

<table>
<thead>
<tr>
<th>Day</th>
<th>Open</th>
<th>Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday, June 18</td>
<td>08:00 a.m. – 01:30 p.m.</td>
<td></td>
</tr>
<tr>
<td>(only Short Course Participants and Exhibitors)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunday, June 18</td>
<td>03:00 p.m. - 07:00 p.m.</td>
<td></td>
</tr>
<tr>
<td>Monday, June 19</td>
<td>08:00 a.m. - 06:00 p.m.</td>
<td></td>
</tr>
<tr>
<td>Tuesday, June 20</td>
<td>08:00 a.m. - 06:00 p.m.</td>
<td></td>
</tr>
<tr>
<td>Wednesday, June 21</td>
<td>08:00 a.m. - 06:00 p.m.</td>
<td></td>
</tr>
</tbody>
</table>

The registration desk is situated at the entrance hall of Congress Center Duesseldorf, CCD South (Stadthalle).
### GENERAL INFORMATION A-Z

#### REGISTRATION ON-SITE

On-site registration can be made only by electronic cash.

<table>
<thead>
<tr>
<th>Participant Type</th>
<th>on-site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic / Post Docs / Government</td>
<td>1,4 1.140 €</td>
</tr>
<tr>
<td>Industry</td>
<td>1,4 1.560 €</td>
</tr>
<tr>
<td>Student</td>
<td>1,5 450 €</td>
</tr>
<tr>
<td>1 Day Ticket (Mon, Tue, Wed or Thu)</td>
<td>1,6 600 €</td>
</tr>
<tr>
<td>Accompanying Person</td>
<td>1,7 320 €</td>
</tr>
<tr>
<td>Booth Staff</td>
<td>1,8 350 €</td>
</tr>
<tr>
<td>1 Day Ticket Booth Staff</td>
<td>1,9 75 €</td>
</tr>
<tr>
<td>Conference Dinner (limited capacity)</td>
<td>1,10 100 €</td>
</tr>
</tbody>
</table>

1. Not subject to German VAT in accordance with § 4 Nr. 22a UStG of the German VAT Law
2. Plus 19% German VAT
3. Including 19% German VAT
4. Included are participation in the Scientific Program, Vendor Seminars, Separation Science Slam, HPLC-Tube, Poster Sessions, Exhibition, Welcome Reception, Farewell Drink, Coffee Breaks and Lunch.
5. In order for this registration rate to be accepted, after you registered, please send us an email to tgonline@gdch.de with your proof of current full-time graduate or undergraduate student status at an academic institution, NOT applicable for Post Docs.
6. One-Day Ticket Monday includes participation in the Scientific Program, Vendor Seminars, Poster Sessions, Exhibition, Separation Science Slam, Coffee Breaks and Lunch on Monday. One-Day Ticket Tuesday includes participation in the Scientific Program, Vendor Seminars, Poster Sessions, Exhibition, HPLC-Tube, Coffee Breaks and Lunch on Tuesday. One-Day Ticket Wednesday includes participation in the Scientific Program, Vendor Seminars, Poster Sessions, Exhibition, Coffee Breaks and Lunch on Wednesday. One-Day Ticket Thursday includes participation in the Scientific Program, Exhibition, Farewell Drink, Coffee Breaks and Lunch on Thursday.
7. Accompanying persons refer to: wife/husband/partner not participating in the Scientific Program, included are Welcome Reception, Coffee Breaks, Lunch and Farewell Drink.
8. Exhibitor badges have no access to the Scientific Program. Normal registration to HPLC 2023 is required to attend the Scientific Program, included are Welcome Reception, Coffee Breaks, Lunch and Farewell Drink.
9. 1 Day-Exhibitor badges have no access to the Scientific Program. Normal registration to HPLC 2023 is required to attend the Scientific Program, included are Welcome Reception, Coffee Breaks, Lunch and Farewell Drink on the respective booked day. Welcome Reception will be given by first come first serve principle.

Cancellations and refunds
No refund will be made for cancellations.

#### SCIENTIFIC SESSIONS

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday, June 18</td>
<td>09:00 a.m. – 12:00 p.m. and 01:00 p.m. – 04:00 p.m.</td>
<td>Short Courses, Opening Ceremony, Award Presentation, Plenary Session, Welcome Reception</td>
</tr>
<tr>
<td></td>
<td>04:30 p.m. – 09:00 p.m.</td>
<td></td>
</tr>
<tr>
<td>Monday, June 19</td>
<td>08:30 a.m. – 06:05 p.m.</td>
<td>Plenary Session, Scientific Sessions, Separation Science Slam incl. Apéro</td>
</tr>
<tr>
<td></td>
<td>06:15 p.m. – 08:15 p.m.</td>
<td></td>
</tr>
<tr>
<td>Tuesday, June 20</td>
<td>08:30 a.m. – 06:05 p.m.</td>
<td>Plenary Session, Scientific Sessions, HPC-Tube incl. Apéro</td>
</tr>
<tr>
<td></td>
<td>06:15 p.m. – 08:15 p.m.</td>
<td></td>
</tr>
<tr>
<td>Wednesday, June 21</td>
<td>08:30 a.m. – 06:00 p.m.</td>
<td>Plenary Session, Scientific Sessions, Conference Dinner</td>
</tr>
<tr>
<td></td>
<td>07:00 p.m. – 11:30 p.m.</td>
<td></td>
</tr>
<tr>
<td>Thursday, June 22</td>
<td>09:00 a.m. – 03:00 p.m.</td>
<td>Scientific Sessions, Best Poster Award (BPA), Flash Orals, Plenary Session, Csaba Horváth Young Scientist Award and Best Poster Awards Presentation, Invitation to future HPLCs / Closing Farewell Drink</td>
</tr>
<tr>
<td></td>
<td>03:00 p.m. – 05:30 p.m.</td>
<td></td>
</tr>
</tbody>
</table>
GENERAL INFORMATION A-Z

SHORT COURSES AND SYMPOSIUM DATES

Short courses: Sunday June 18, from 09:00 a.m. to 12:00 p.m. and 01:00 p.m. to 04:00 p.m.

Symposium: from Sunday June 18, at 04:30 p.m. to Thursday June 22, at 05:30 p.m.

SPECIAL ISSUE PUBLICATION – ELSEVIER - JCA

Journal of Chromatography A will be publishing a Virtual Special Issue (VSI) in February 2024, of contributions presented at the HPLC 2023.

You are invited to submit your manuscript at any time before the submission deadline. The journal’s submission platform (Editorial Manager®) will be available for receiving submissions to this Special Issue. Please refer to the Guide for Authors to prepare your manuscript, and select the article type of “VSI:HPLC 2023” when submitting your manuscript online. Both the Guide for Authors and the submission portal can be found on the Journal Homepage (http://www.elsevier.com/locate/issn/0021-9673).

Submission deadline: October 31, 2023

TOURIST INFORMATION – DÜSSELDORF

Düsseldorf is a modern, vibrant German city at the heart of Europe. It ranks among the six foremost cities worldwide in terms of quality of life. Guests will be spoilt for choice with attractions such as the Altstadt – the historic part of the city – or its classy shopping mile – Königsallee –, the Rhine embankment promenade, which is perfect for biking and strolling, or the architecturally and gastronomically appealing Mediennahen (Media Harbour) and its quality museums, theatres, concerts, cabarets, the opera house and annual event highlights downtown.

The multi-lingual trained Tourist Information will be happy to help you discover Düsseldorf’s hidden and most scenic corners. Visit the Düsseldorf Tourist-Information, Rheinstraße 3, 40213 Düsseldorf or online at https://www.duesseldorf.de/int/tourism.

VENUE

The symposium will take place at the south part of Congress Center Düsseldorf (CCD), CCD South (Stadthalle).

Address: Congress Centre Düsseldorf
CCD South / Stadthalle
Rotterdammer Straße 141
40474 Düsseldorf / Germany

The CCD is located at the river Rhine north of the city center of Düsseldorf and can be easily reached by underground or bus:

Bus line 722 will take you from Düsseldorf main station to the congress center in about 30 minutes. Please exit at final stop “Stadthalle”.

For Sunday extra-scheduled buses have been requested for the route Düsseldorf main station – Congress Center Düsseldorf bus stop “Stadthalle” and return. Detailed information has not been available at the time of printing and will be published on the conference website and/or the conference app.

Take the underground U78 (from the city centre) or the U79 (from the city centre, Kaiserswerth, Wittlaer and Duisburg) to the Messe Ost/Stockumer Kirchstraße stop.

From there you can reach CCD Congress Center Düsseldorf by foot, via Stockumer Kirchstraße, in approx. 15 minutes or take the 722 bus to the final stop “Stadthalle”.

Information on timetables, train and bus lines can be obtained from the Rheinbahn (www.rheinbahn.com).

Please also see public transport plan and timetable for bus line 722, U78 and U79 from page 29 et seq.

WIFI HPLC 2023

To connect to the WIFI please use the following access data:
SSID: HPLC 2023
Password: Duesseldorf

Source: pixabay
**Messe Ost / Stockumer Kirchstr. to Düsseldorf Main Station**

<table>
<thead>
<tr>
<th>Tag</th>
<th>Linie</th>
<th>Fahrzeit</th>
<th>Haltestellen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montag - Freitag</td>
<td>U78</td>
<td>10 Min.</td>
<td>Messe Ost / Stockum. Kirchstr. - Düsseldorf Hbf</td>
</tr>
<tr>
<td>Samstag/Sonntag</td>
<td>U78</td>
<td>10 Min.</td>
<td>Messe Ost / Stockum. Kirchstr. - Düsseldorf Hbf</td>
</tr>
</tbody>
</table>

**U79 - Düsseldorf Hbf to D-uni Ost/Botanischer Garten**

<table>
<thead>
<tr>
<th>Tag</th>
<th>Linie</th>
<th>Fahrzeit</th>
<th>Haltestellen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montag - Freitag</td>
<td>U79</td>
<td>10 Min.</td>
<td>Düsseldorf Hbf - Münchener Straße</td>
</tr>
<tr>
<td>Samstag/Sonntag</td>
<td>U79</td>
<td>10 Min.</td>
<td>Düsseldorf Hbf - Münchener Straße</td>
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**U78 - Heiner-Heine-Allee to Merkur Arena**

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<th>Haltestellen</th>
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**U79 - D-Klemensplatz to Duisburg HBF**

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Referenz: Rheinbahn-App oder www.rheinbahn.de
### GENERAL INFORMATION A-Z

#### CONGRESS VENUE (STADTHALLE) TO CITY CENTRE

**Route 722** → Nordfriedhof → Victoriapl./Klever Str. → D-Vennhauser Allee

<table>
<thead>
<tr>
<th>Linienweg/Stops</th>
<th>Mon - Fri</th>
<th>Samstag/Sunday</th>
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<tr>
<td>Nordfriedhof</td>
<td>03 23 43</td>
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<td>Victoriaplat.</td>
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<td>Klever Str.</td>
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<td>D-Vennhauser Allee</td>
<td>03 23 43</td>
<td>15 35 55</td>
</tr>
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<td>D-Stadthalle</td>
<td>03 23 43</td>
<td>15 35 55</td>
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<td>15 35 55</td>
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<tr>
<td>D-Ahlfelder</td>
<td>03 23 43</td>
<td>15 35 55</td>
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For Sunday extra-scheduled buses have been requested for the route Düsseldorf main station – Congress Center Düsseldorf bus stop ‘Stadthalle’ and return. Detailed information has not been available at the time of printing and will be published on the conference website and/or the conference app.

#### CITY CENTRE TO CONGRESS VENUE (STADTHALLE)

**Route 722** → Schlesische Straße → Düsseldorf Hbf → Stadthalle

<table>
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**SHIMADZU**

**Higher Peaks – Clearly**

Experience newfound clarity with the Nexera XS inert UHPLC. Offering reliable, robust performance, the Nexera XS inert represents a new peak in the analysis of biopolymers. It features a metal-free sample flow path prepared from corrosion-resistant materials, so that results will be clear and unaffected by sample adsorption or surface corrosion. Together with a new range of consumables, Shimadzu now offers the complete solution for bioanalysis.

**Assured reliability and reproducibility**

Corrosion-resistant material ensures long-term stability and reliable data acquisition.

**Ultra High Performance Liquid Chromatograph**

**Nexera XS inert**

Bioinert flow path prevents sample loss due to adsorption.

Clear resolution without restrictions

HPLC performance for high efficiency bioanalysis.
On Tuesday, June 20, between 03:30 p.m. and 04:30 p.m., we offer a job speed dating, where companies and interested scientists can introduce themselves to each other, perhaps to make the first contact. This idea is based on the fact that companies are not only planning to hire once during the HPLC, but throughout the year. Each interested person can talk to each company representative for 5-10 minutes. This gives the companies and the scientists time to briefly introduce themselves and exchange contact details. The total duration of the speed dating would be one hour.

Interested scientists must send an email with a CV to Prof. Oliver J. Schmitz (oliver.schmitz@uni-due.de) by June 10.
### PROGRAM AT A GLANCE

#### Sunday, June 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:00 a.m. - 01:30 p.m.</td>
<td>Registration Short Course Participants and Exhibitors</td>
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<tr>
<td>09:00 a.m. - 04:00 p.m.</td>
<td>Booth 11 @ Shimadzu</td>
</tr>
<tr>
<td>09:00 a.m. - 12:00 p.m.</td>
<td>Short Course 1</td>
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<tr>
<td>09:00 a.m. - 04:00 p.m.</td>
<td>Short Course 2-7</td>
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<tr>
<td>01:00 p.m. - 04:00 p.m.</td>
<td>Short Course B-13</td>
</tr>
<tr>
<td>03:00 p.m. - 07:00 p.m.</td>
<td>Registration / Poster Set Up for Poster Session 1</td>
</tr>
<tr>
<td>04:30 p.m. - 05:15 p.m.</td>
<td>Opening Ceremony</td>
</tr>
<tr>
<td>05:15 p.m. - 05:30 p.m.</td>
<td>Plenary Session 1</td>
</tr>
<tr>
<td>05:30 p.m. - 06:10 p.m.</td>
<td>PLENARY-1 – John A. McLean</td>
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<tr>
<td>06:10 p.m. - 06:50 p.m.</td>
<td>PLENARY-2 – Jeremy Nicholson</td>
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<tr>
<td>07:00 p.m. - 09:00 p.m.</td>
<td>Welcome Reception in the Exhibition (exclusively sponsored by WATERS)</td>
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#### Monday, June 19

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<td>08:00 a.m. - 06:00 p.m.</td>
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<td>08:00 a.m. - 08:30 a.m.</td>
<td>Poster Set Up for Poster Session 1</td>
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<td>08:30 a.m. - 09:05 a.m.</td>
<td>Coffee Break / Exhibition / Poster Session 1</td>
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<td>09:05 a.m. - 09:40 a.m.</td>
<td>Plenary Session 1</td>
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<td>09:40 a.m. - 10:30 a.m.</td>
<td>Plenary Session 2 (exclusively sponsored by Thermo Fisher Scientific) - Room 3</td>
</tr>
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<td>10:30 a.m. - 12:30 p.m.</td>
<td>Lunch Break / Exhibition / Poster Session 1</td>
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<tr>
<td>12:30 p.m. - 02:00 p.m.</td>
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<td>02:00 p.m. - 03:30 p.m.</td>
<td>Plenary Session 3</td>
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<tr>
<td>03:30 p.m. - 04:30 p.m.</td>
<td>Plenary Session 4</td>
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<tr>
<td>04:30 p.m. - 06:05 p.m.</td>
<td>Plenary Session 5</td>
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<td>06:15 p.m. - 08:15 p.m.</td>
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#### Tuesday, June 20

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<td>08:00 a.m. - 09:05 a.m.</td>
<td>Plenary Session 1</td>
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<tr>
<td>09:05 a.m. - 09:40 a.m.</td>
<td>Plenary Session 2 (dedicated to Prof. Wolfgang Linzer on the occasion of his 80th birthday) - Tutorial 2</td>
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<td>09:40 a.m. - 10:30 a.m.</td>
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<td>10:30 a.m. - 11:30 p.m.</td>
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<td>Plenary Session 5</td>
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<tr>
<td>06:15 p.m. - 08:15 p.m.</td>
<td>Plenary Session 6</td>
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vwr.com/chromatography | vwr.com/ace
PROGRAM AT A GLANCE

Wednesday, June 21

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Thursday, June 22

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Leading the way for sustainable lab solutions. Together!

Agilent and My Green Lab lead the way for sustainable lab solutions, working together to promote eco-friendly practices in laboratories.

With the My Green Lab Certification, Agilent offers a range of ACT-certified instruments that help customers achieve their sustainability goals. By choosing Agilent’s ACT-certified instruments, labs can reduce their environmental impact while achieving reliable, high-quality results. These labels make it easy for labs to make informed choices and adopt sustainable practices in their daily operations.

Join us in leading the way for sustainable lab solutions. Together, we can create a greener future while achieving reliable, high-quality results.

Learn more about ACT at https://www.agilent.com/about/mygreenlab/en
SUNDAY, JUNE 18, 2023

SHORT COURSE 1  @ SHIMADZU
Speaker: Melvin Euerby
Understanding how to perform good practical RPLC
There will be a transfer from CCD South to Shimadzu and back organized by Shimadzu. Registered participants will be picked up at the CCD South (bus stop “Stadthalle”) at 09:00 a.m. The participants will be dropped off after the course at the CCD South at around 04:00 p.m. Coffee breaks and light lunch will be provided.

SHORT COURSE 2
Speakers: Dwight Stoll & Stephan Buckenmaier
Multi-Dimensional Liquid Chromatography: Principles, Practice, and Applications

SHORT COURSE 3
Speakers: Gérard Hopfgartner & Christian Huber
Hyphenation of high-performance liquid chromatography or supercritical fluid chromatography to mass spectrometry: techniques and data evaluation

SHORT COURSE 4
Speakers: Stig Pedersen-Bjergaard & Torsten C. Schmidt
Miniaturized and automated sample preparation

SHORT COURSE 5
Speakers: Thorsten Benter & Hendrik Kersten
A journey through a mass spectrometer – an interactive expedition

SHORT COURSE 6
Speaker: Oliver Fiehn
Metabolomics – from study designs to data interpretation

SHORT COURSE 7
Speaker: Gabriel Vivó-Truyols
Data processing: a chemometrics guide for chromatographers

SHORT COURSE 8
Speakers: Caroline West & Davy Guillarme
Supercritical fluid chromatography (SFC)

SHORT COURSE 9
Speakers: Tim Couson & Stephan Hann
Ion Mobility-Mass Spectrometry

SHORT COURSE 10
Speaker: Simone Dimartino
3D printing in the separation science: Researching innovative ideas with Lego Serious Play 3D models

SHORT COURSE 11
Speakers: Wolfgang Lindner & Bezhon Chankivetadze
Chiral Separations

SHORT COURSE 12
Speaker: Koen Sandra
The role of chromatography and mass spectrometry in protein biopharmaceutical analysis

SHORT COURSE 13
Speaker: Michal Holčapek
Lipidomics

MONDAY, JUNE 19, 2023

Agilent Technologies
01:00 p.m. – 01:30 p.m.  Room 12
Advancements in multidimensional LC-MS for the detailed characterization of monoclonal antibodies
Speaker: Koen Sandra

Shimadzu Europe GmbH
01:00 p.m. – 02:00 p.m.  Room 13
Bringing light into the darkness!
Presentation 1: Application of liquid chromatographic methods in (Alt-)beer analysis
Speaker: Nils Rettberg

Presentation 2: Untargeted Beer Analysis using LC-QTOF-MS – Differentiation of Beer Styles
Speaker: Koen Sandra

Soberly, the production of beer is a complex sequence of (bio-)chemical reactions, at the end of which there is hopefully a tasty and visually appealing drink. And even though, all beer is brewed using the same four classes of ingredients, contemporary beer styles show a broad range in flavor and color, suggesting differences in their chemical profiles. A wide variety of liquid chromatographic methods are used in beer analysis, ranging from comparatively simple LC-UV to (non-targeted) LC-MS applications. Within the scope of this seminar, some substance groups that are important for beer quality and sensory analysis will be considered, the analysis of which would not be possible without liquid chromatography. In view of the location of the conference, we look in particular at the Altbiere, which is unique to this part of Germany, and explore how it differs analytically from other beer.
VENDOR SEMINARS

MONDAY, JUNE 19, 2023

Waters Corporation

01:00 p.m. – 02:00 p.m.  Room 4 a/b

Introducing a new era of intuitive simplicity in HPLC
Speakers: Michael Baynham, Jason Dyke

The one thing pharmaceutical laboratories try to avoid is atypical and out-of-specification results caused by human errors. Errors of any kind can have significant consequences for pharmaceutical companies, such as increased costs associated with remedial action, reputational damage, delays in product release, and could even impact human health.

Join us as we introduce the first ever purpose-built HPLC designed to improve outcomes in QC labs. This breakthrough HPLC solution puts ease-of-use and simplicity at the heart of your experience. Discover how exclusive features help reduce the number of failed runs and deviations while saving you time, money, and stress, by intuitively preventing up to 40% of common errors. We also be reviewing system performance features and chromatographic performance.

VENDOR SEMINARS

TUESDAY, JUNE 20, 2023

Agilent Technologies

01:00 p.m. – 02:00 p.m.  Room 12

Polymer Molar Mass and Composition Elucidation Applying GPC/SEC and Multidimensional LC
Speaker: Harald Pasch

Complex polymers are multicomponent systems of macromolecules. These macromolecules are not uniform in their molecular structure but exhibit distributions in various molecular parameters including size, composition, types and numbers of functional groups, tacticity and molecular topology. To address these distributions, a number of liquid chromatographic techniques have been developed that fractionate complex polymers with regard to specific molecular parameters.

Until the end of the 1970s the major tool for fractionating complex polymers regarding molecular size was gel permeation chromatography (more accurately size exclusion chromatography, SEC) that, based on entropic interactions between the macromolecules and the stationary phase of a SEC system, separates the sample according to hydrodynamic size in solution. As the hydrodynamic size is directly related to molar mass, SEC was the primary method for molar mass analysis of polymers. In the early days of SEC, only a concentration-sensitive detector, mainly a differential refractometer (DRI) was used that measured the polymer concentration in the eluate as a function of elution volume. The correlation between elution volume and molar mass was obtained via a suitable calibration procedure. Later, molar mass sensitive detectors were developed that allowed for the direct reading of the molar mass. Information on chemical composition as a function of molar mass could be obtained by coupling SEC with information-rich detectors (FTIR, NMR, MS).

A milestone in fractionating polymers with regard to chemical composition was achieved when solvent and temperature gradient HPLC systems were developed. These techniques are based on influencing the enthalpic interactions between the macromolecules and the stationary phase by changing the composition/temperature of the mobile phase. The combination of different LC methods in two-dimensional HPLC setups was the ultimate approach for the comprehensive analysis of complex polymers. As per today, a toolbox of HPLC methods is in place that enables the fractionation of complex polymers according to all molecular parameters including tacticity and branching.

In the present talk, an overview on the different GPC/SEC and HPLC techniques is given and the coupling of different techniques is addressed. Some major applications are presented, including the analyses of thermoplastic polymers, polyolefins, bio-based and biodegradable polymers.
Efficient semi-preparative and analytical chromatography for the high throughput production of oligonucleotides

Besides being the major provider for genotyping and DNA sequencing services, Eurofins Genomics Europe Pharma and Diagnostic Products & Services Synthesis GmbH is one of the world-leading oligonucleotide manufacturers for the industrial and research sector. Several different classes of standard and highly modified oligonucleotides are produced via solid phase oligonucleotide synthesis using the phosphoramidite approach [1] in a high throughput manner with short turnaround times (TAT). The portfolio is ranging from fluorescent probes for qPCR applications over Unique Dual Index (UDI) primer sets for state-of-the-art Next Generation Sequencing (NGS) methods to custom DNAs and RNAs [2].

Since 2021, Eurofins Genomics can capitalise on next generation high throughput synthesizers, the so-called Continuous Flow Synthesizer (CFS), which allow a simultaneous production of 6 x 384 different oligonucleotides with elevated speed reaching an excellent coupling efficiency of up to 99.6%. This immensely reduces the need of purification, however the requirements for several products move towards high purity and in-depth analytics.

Especially the exact impurity profiling of active pharmaceutical ingredients (API) is mandatory while going through clinical phases. Thus, a fast and accurate procedure to purify and analyse oligonucleotides is inevitable to fulfil the needs of the vastly growing business.

Here, we present an elaborated upstream and downstream process for the high throughput production of standard and modified oligonucleotides of length up to 200 nucleotides. The focus is set on the sample purification and composition determination, however a semi-preparative application for the purification of dual-labeled oligonucleotides to obtain highly resolved analytical chromatograms for an unambiguous sample analysis via RP-U/HPLC exploiting the Thermo Scientific™ Vanquish™. Commonly, the device is used in combination with short turnaround times (TAT). The portfolio is ranging from fluorescent probes for qPCR applications over Unique Dual Index (UDI) primer sets for state-of-the-art Next Generation Sequencing (NGS) methods to custom DNAs and RNAs [2].

For the purification, we use Thermo Scientific™ Vanquish™ Fraction Collection to achieve high purity and in-depth analytics. This enables us to achieve a very high coupling efficiency of up to 99.6% that is unachievable with conventional C18 columns.

In this seminar, you will learn how to use Restek’s free Pro EZLC Chromatogram Modeler in order to develop and optimize LC methods before even setting foot in the lab.

The modeler delivers a fast, no-cost starting point for LC method developers, novice and expert, who either lack the expertise, or the time, to develop or optimize separations quickly and accurately. This novel, virtual method development software can improve turnaround time, increase throughput to existing methods, and offer an on-demand consultative user experience.

In this seminar, you will learn how to use Restek’s free Pro EZLC Chromatogram Modeler in order to develop and optimize LC-MS/MS methods before even setting foot in the lab.
In modern production of small molecule pharmaceuticals and biopharmaceuticals, Process Analytical Technology (PAT) plays an important role to monitor, develop, and optimize chemical and biological processes. As a PAT resource, Online Liquid Chromatography (Online LC) can support design, analysis, and control of processes through real-time measurement of critical process parameters (CPPs) and critical quality attributes (CQAs).

In this presentation, you will learn about a newly developed Online LC platform, which provides automated sample analysis via direct injections or retained samples from flow reactors, batch reactors, and upstream bioreactors and downstream purification devices.

### Agilent Technologies

**InfinityLab Online LC Solutions**

*Speaker: Andreas Mielcarek*

In modern production of small molecule pharmaceuticals and biopharmaceuticals, Process Analytical Technology (PAT) plays an important role to monitor, develop, and optimize chemical and biological processes. As a PAT resource, Online Liquid Chromatography (Online LC) can support design, analysis, and control of processes through real-time measurement of critical process parameters (CPPs) and critical quality attributes (CQAs).

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### Thermo Fisher Scientific

**A Multitude of Separation Techniques Hyphenated to MS for Biopharmaceutical Characterization – Case Studies from a Development Lab**

*Speakers: Dan Bach Kristensen, Christof Mitterer*

A broad range of separation techniques are now routinely combined with mass spectrometry for in-depth biopharmaceutical characterization. Simultaneously, MS software tools have evolved to support storage, processing and reporting of the expanding MS data oceans. Here recent progress, challenges, and learnings from MS-based workflows at Symphogen will be present and illustrated through case-studies.

Additionally, an overview of the technological highlights of a novel monodisperse ion-exchange technology for both strong cation and anion exchanger will be presented. Applications for high-resolution charge profiling of biopharmaceutical modalities including charge variant analysis of monoclonal antibodies and recombinant proteins, and the determination of full and empty AAV viral vectors will be described.

### Knauer

**Challenges during scale-up HPLC purification of therapeutic oligonucleotides**

*Speaker: Tobias Pöhlmann*

During the last two decades oligonucleotides have become an important tool in basic research and a potent technology for drug development. Especially silencing oligonucleotides such as siRNA and antisense DNA stepped into clinical development and the first oligonucleotide drugs have been approved by the FDA (e.g. Patisiran) in the last years. These oligonucleotide-based drugs proved their therapeutic potency and showed a fantastic toxicology profile. A major challenge during drug development is the production of GMP material, scale-up and process development. One aspect in the manufacturing process is the purification of the API and its separation from unwanted side products. Ion exchange chromatography is widely used since it is an efficient method regarding loading and separation. Furthermore, ion exchange chromatography can be scaled up and transferred from method development- to pilot- as well as commercial production equipment. Some modification that are commonly used in oligonucleotide drug development also limit the potency of that technology. Here, we present recent chromatographic developments, regarding also new resins and eluents, which enable this technology to be used for a broad spectrum of highly modified oligonucleotides.
Phenomenex

01:30 p.m. – 02:00 p.m.  Room 4 a/b

Modern Toolkits for the Characterization of Biomolecules by LC and LC-MS
Speaker: Guido Rimmel

The analysis of biomolecules is often a challenge due to their size, polarity, charge, or structural variety. We give you a brief insight into the latest generation of columns, workflows and methods for the characterization of proteins and oligonucleotides. A new titanium infused biocompatible hardware and frits minimizes unwanted secondary interactions, problematic carryover, and recovery issues between injection to detection. Different particle platforms were especially designed to maximize chromatographic performance and efficiency. Unique surface chemistries allow you to adjust the selectivity of the column according to your separation goal.

These toolkits will help to optimize your different bioanalytical workflows. An innovative pore controlled technology for silica particles improves size exclusion chromatography for a robust and reproducible aggregate and fragment analysis of mAbs and an increased column lifetime. The use of monosized non-porous polymeric particle grafted with linear polycarboxylate chains envelop and separate proteins from acidic and basic variants for a reliable charge variant analysis. A sterically hindered C18 ligand or a positively charged surface improves peak shape for basic analytes especially under MS suitable conditions for a better peptide mapping and quantification. With the optimal pore size distribution on a widepore Core-Shell particle, a better resolution of large biologics, including monoclonal antibodies and subunits can be achieved. A unique polar HILIC selectivity with an increased polar retention provides higher order separations of released and labeled glycans. And a robust organo-silica crafted Core-Shell particle allows efficient analysis of oligonucleotides under ion pairing conditions with reduced sample loss and adsorption.

This review about new trends in biochromatography will help you to update your existing workflows with latest column technologies and will give you useful tips and best practices as a start off point for new method developments.
### MONDAY, JUNE 19, 2023

#### PLENARY SESSION HYPERNATION AND DIGITAL TRANSFORMATION

**Session Chairs:** Kelly Zhang, Guowang Xu

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| 08:30 a.m. | PLENARY LECTURE  
**PLO3**  
Separations sciences coupled to mass spectrometry for multimodal analysis: challenges and opportunities  
G. Hopfgartner, Geneva/CH |
| 09:05 a.m. | PLENARY LECTURE  
**PLO4**  
Digital Transformation of the Analytical Laboratory – Big Bang or Evolution?  
J. Richert, Ludwigshafen/DE |
| 09:40 a.m. | COFFEE BREAK / EXHIBITION / POSTER SESSION 1 |

### SCIENTIFIC SESSIONS

#### MON 1.1 BIOCHROMATOGRAPHY 1

**Session Chairs:** Davy Guillarme, Kevin Pagel

<table>
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<tr>
<th>Time</th>
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| 10:30 a.m. | Analytical characterization of Lipid Nanoparticles (LNP)  
K. Zhang, South San Francisco/US |
| 11:00 a.m. | Unconventional electrophoretic techniques for analyses of proteins and DNA  
F. Foret, Brno/CZ, I. Voracova, Brno/CZ, H. Hruskova, Brno/CZ, V. Kocianova, Brno/CZ, Y. Astier, Pleasanton/US, V. Datinska, Pleasanton/US |
| 11:30 a.m. | Native size-based protein separations with mass spectrometric detection  
G. Somsen, Amsterdam/NL, I. Ventouri, Amsterdam/NL, P. Schoenmakers, Amsterdam/NL, A. Gargano, Amsterdam/NL, A. Astefanei, Amsterdam/NL, R. Haselberg, Amsterdam/NL |
| 11:50 a.m. | Exploring the robustness of size exclusion chromatographic analysis of recombinant adenov-associated viral vectors  
| 12:10 p.m. | High Throughput and Purity Exosome Isolations from Diverse Biological and Culture Media  
Using Capillary-Channeled Polymer (C-CP) Fiber Phases  
| 12:30 p.m. | LUNCH BREAK / EXHIBITION / POSTER SESSION 1 |
| 01:00 p.m. | VENDOR SEMINARS  
**Agilent Technologies**  
Advancements in multidimensional LC-MS for the detailed characterization of monoclonal antibodies  
Speaker: K. Sandra  
A Fireside Chat about the Agilent Biopharma Toolkit  
Speakers: J. Meixner, A. Otto, A. Mielcarek  
**Shimadzu Europe GmbH**  
Bringing light into the darkness!  
Presentation 1: Application of liquid chromatographic methods in (Alt-)beer analysis  
Speaker: N. Retterberg  
Presentation 2: Untargeted Beer Analysis using LC-QTOF-MS – Differentiation of Beer Styles based on Phenolic and iso-alpha-Acids  
Speaker: K. Schug  
**Waters Corporation**  
Introducing a new era of intuitive simplicity in HPLC  
Speakers: M. Baynham, J. Dyke |
| 02:00 p.m. | Room 12 (Auditorium) continued on page 57 |
MONDAY, JUNE 19, 2023

SCIENTIFIC SESSIONS

Hall Y

MON 2.1 SAMPLE PREPARATION

Session Chairs: Valérie Pichon, Tadeusz Górecki

10:30 a.m. Sample preparation technique in rapid analysis
KNO3 G. Li, Guangzhou/CN, L. Xia, Guangzhou/CN

11:00 a.m. CHROM SOC 2023 MARTIN MEDAL
KNO4 New Developments in in-vivo SPME
J. Pawliszyn, Waterloo/CA

11:30 a.m. Designing for a green analytical chemistry future
OR04 E. Psillakis, Chania/GR

11:50 a.m. Porous Nanomaterial
OR05 F. Maya, Hobart/AU

12:10 p.m. Understanding the importance of sample preparation for the analysis of biological samples
OR06 A. M. Edge, Reading/GB, C. Pipe, Reading/GB, M. Fever, Reading/GB, M. A. James, Reading/GB

12:30 p.m. – 02:00 p.m. VENDOR BREAK / EXHIBITION / POSTER SESSION 1

01:00 p.m. Agilent Technologies

Advancements in multidimensional LC-MS for the detailed characterization of monoclonal antibodies
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Waters Corporation

Introducing a new era of intuitive simplicity in HPLC
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Waters Corporation

Introducing a new era of intuitive simplicity in HPLC
Speakers: M. Baynhama, J. Dyke

Hall Y continued on page 58
**SCIENTIFIC SESSIONS**

**MONDAY, JUNE 19, 2023**

**MON 4.1 INDUSTRY SESSION 1**

**Room 3**

**10:30 a.m.**

**KN07**

Functional copolymers analysis using chromatography – sort it out

R. A. H. Peters, Waalwijk/NL

**11:00 a.m.**

**KN08**

Rapid monitoring of small molecule and polymer reactions by online UHPLC


**11:30 a.m.**

**OR10**

Finding Critical Conditions in Liquid Chromatography of Polymers


**11:50 a.m.**

**OR11**

Qualitative and Quantitative Composition Analysis of Biodegradable Polymers using Comprehensive Two-dimensional Liquid Chromatography


**12:10 p.m.**

**OR12**

Study and characterization of corrosion inhibitors used in the oil industry by liquid chromatography coupled with high resolution mass spectrometer


**12:30 p.m.**

**LUNCH BREAK / EXHIBITION / POSTER SESSION 1**

**02:00 p.m.**

**VENDOR SEMINARS**

**Agilent Technologies**

Advancements in multidimensional LC-MS for the detailed characterization of monoclonal antibodies

Speaker: K. Sandra

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Speakers: J. Meixner, A. Otto, A. Mielcarek

**Shimadzu Europe GmbH**

Bringing light into the darkness!

Presentation 1: Application of liquid chromatographic methods in (Alt-)beer analysis

Speaker: N. Retberg

Presentation 2: Untargeted Beer Analysis using LC-QTOF-MS – Differentiation of Beer Styles based on Phenolic and iso-alpha-Acids

Speaker: K. Schug

**Waters Corporation**

Introducing a new era of intuitive simplicity in HPLC

Speakers: M. Baynham, J. Dyke

**02:00 p.m.**

**MON 1.2 STATIONARY PHASE 1**

**Room 1 (Auditorium)**

**02:00 p.m.**

**KN09**

In Pursuit of the Ideal HPLC Column: Improving Reproducibility, Stability, Efficiency and Inertness

T. H. Walter, Milford/US

**02:30 p.m.**

**OR13**

Investigation of a Novel Porous Graphitic Carbon Column as Stationary Phase in Supercritical Fluid Chromatography

P. Donato, Messina/IT, F. Rigano, Messina/IT, R. La Tella, Messina/IT, C. Coppelino, Messina/IT, P. Dugo, Messina/IT, L. Mondello, Messina/IT

**02:50 p.m.**

**OR14**

Recent Developments of New Ultra Wide Pore Core-Shell Particles for Biomolecule Separations

W. Chen, Newark/US, X. Sun, Suzhou/CN, J. Mi, Suzhou/CN

**03:10 p.m.**

**OR15**

Exploring the separation potential of vortex liquid chromatography


**03:30 p.m.**

**COFFEE BREAK / EXHIBITION / POSTER SESSION 1**

**04:30 p.m.**

**KN13**

New LC characterization methods: What a (few) valve(s) can do

P. Schoenmakers, Amsterdam/NL, M. den Uijl, Amsterdam/NL, L. Niezen, Amsterdam/NL, B. Pirok, Amsterdam/NL

**05:00 p.m.**

**OR22**

In-Line Mixing Modulation (ILMM), a Simple, Novel Approach for Resolving Incompatibility in One and Multi-Dimensional Chromatography (RPLC, RPLC-HILIC, GPC-RPLC, RPLCxRPLC)

C. J. Venkatramani, South San Francisco/US, S. Tang, South San Francisco/US

**05:20 p.m.**

**SOR01**

Comprehensive two-dimensional liquid chromatography; strategies to improve poor resolution and characterization of complex food samples


**05:35 p.m.**

**SOR02**

Challenges of Automation of 1D and 2D-LC Method Development: Where are we now?


**05:50 p.m.**

**SOR03**

Size and Content Characterization of Dye-Loaded Polymeric Nanoparticles by Comprehensive 2D-LC Combining Hydrodynamic and Reverse-Phase Liquid Chromatography


**06:05 p.m.**

**SHORT BREAK**

**06:15 p.m.**

**SEPARATION SCIENCE SLAM incl. Apéro**

**08:15 p.m.**

Sponsored by KNAUER and the Analytical Scientist

**Room 3 continued on page 60**
### Scientific Sessions

#### MON 2.2 Pharmaceutical Analysis

**Hall Y**

<table>
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<tr>
<th>Time</th>
<th>Session Title</th>
<th>Chair(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>02:00 p.m.</td>
<td>The potential and challenges of poly-HIPE materials in liquid chromatography</td>
<td>G. Massolini, Pavia/IT, E. Callieri, Pavia/IT</td>
</tr>
<tr>
<td>02:30 p.m.</td>
<td>Evaluation of liquid and supercritical fluid chromatographic systems to model the skin permeability of pharmaceutical and cosmetic compounds</td>
<td>D. Mangelings, Brussels/BE, G. Ytsoon, Brussels/BE, Y. Vander Heyden, Brussels/BE</td>
</tr>
<tr>
<td>02:50 p.m.</td>
<td>The use of an inverse gradient to extend the application scope of universal detectors</td>
<td>F. Steiner, Germering/DE, T. Mullner, Germering/DE, K. S. Lovejoy, Germering/DE, M. Carvalho, Villebon sur Yvette/FR, P. Gamache, Chelmsford/US</td>
</tr>
<tr>
<td>03:10 p.m.</td>
<td>Characterization of Oligomeric Impurities by Gel Permeation Chromatography Coupled with Reversed Phase Liquid Chromatography</td>
<td>S. Tang, South San Francisco/US, C. J. Venkatramani, South San Francisco/US, Z. Penderson, South San Francisco/US</td>
</tr>
<tr>
<td>03:30 p.m.</td>
<td>Coffee Break / Exhibition / Poster Session 1</td>
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#### MON 2.3 Fundamentals 1

**Hall Y**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Chair(s)</th>
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</thead>
<tbody>
<tr>
<td>04:30 p.m.</td>
<td>The thermodynamics of liquid phase separations</td>
<td>A. Felinger, Pécs/HU</td>
</tr>
<tr>
<td>05:00 p.m.</td>
<td>Horváth finalist</td>
<td></td>
</tr>
<tr>
<td>06:05 p.m.</td>
<td>Short Break</td>
<td></td>
</tr>
<tr>
<td>06:15 p.m.</td>
<td>Separation Science Slam incl. Apero</td>
<td>Sponsored by KNAUER and the Analytical Scientist</td>
</tr>
<tr>
<td>08:15 p.m.</td>
<td></td>
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</table>
SCIENTIFIC SESSIONS  
MONDAY, JUNE 19, 2023

Room 3

MON 4.2 INDUSTRY SESSION 2
Tutorial 1
Session Chairs: Stefan Lamotte, Matthias Pursch

02:00 p.m.  
KN12  
Nitrosamines in Pharma - Orthogonal Methods for Detection of Nitrite as the Main Nitrosating Agent

02:30 p.m.  
TUTORIAL 1  
Polymer REACh: Pray or be Prepared? A Polymer Chromatography Viewpoint on What to Expect

03:30 p.m.  
COFFEE BREAK / EXHIBITION / POSTER SESSION 1

MON 4.3 INDUSTRY SESSION 3
Discussion 1
Session Chairs: Stefan Lamotte, Matthias Pursch

04:30 p.m.  
KN16  
The Role of LCMS for autonomous material discovery

05:00 p.m.  
DISCUSSION 1  
Sustainability & Green Laboratory
Panelists: Elia Psilakis, Andreas Otto, Frank Steiner, Matthias Pursch, Stefan Lamotte
Panel infrastructure manager and advocate for audience: Mimi den Uijl

06:05 p.m.  
SHORT BREAK

06:15 p.m.  
SEPARATION SCIENCE SLAM incl. Apéro

08:15 p.m.  
Sponsored by KNAUER and the Analytical Scientist

YMC EUROPE GMBH  
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SCIENTIFIC SESSIONS  
TUESDAY, JUNE 20, 2023

Room1 (Auditorium)

PLENARY SESSION STRUCTURAL CHARACTERIZATION OF BIOPOLYMERS
Session Chairs: Gérard Hopfgartner, Susan Olesik

08:30 a.m.  
PLO5  
Ion mobility mass spectrometry to infer biopolymer folding and interactions
V. Gabelica, Bordeaux/FR

09:05 a.m.  
PLO6  
Structural analysis of highly complex protein therapeutics by HPLC-MS: lessons that we have learned from an analytical chemistry perspective

09:40 a.m.  
COFFEE BREAK / EXHIBITION / POSTER SESSION 1

Room1 (Auditorium) continued on page 62

Legend: PL = Plenary Lecture, KN = Keynote Lecture, OR = Oral Lecture, SOR = Short Oral Lecture
## SCIENTIFIC SESSIONS TUESDAY, JUNE 20, 2023

### TUE 1.1 BIOCHROMATOGRAPHY 2

**Room 1 (Auditorium)**

#### TUE 1.1

**Session Chairs:** Frantisek Foret, Maria-Liisa Riekkola

**KN17**
10:30 a.m.  
**Why not using ultra-short columns for the chromatographic analysis of protein biopharmaceuticals?**  

**KN18**
11:00 a.m.  
**Immunodiffusion chromatography and asymmetrical flow field-flow fractionation – excellent tools for isolation of human biomacromolecule subpopulations allowing their further characterization**  

**OR25**
11:30 a.m.  
**Compendium of chromatographic behavior of post-translationally and chemically modified peptides in reversed-phase HPLC for proteomic applications**  

**OR26**
11:50 a.m.  
**Liquid Chromatography at the Service of Gene Therapy: Boosting the separation of Full/Empty Adeno-Associated Virus Capsids and related Viral Proteins**  

**OR27**
12:10 p.m.  
**Two quality and stability indicating imaged CIEF methods for mRNA vaccines**  

**LUNCH BREAK / EXHIBITION / POSTER SESSION 2**

**Hall Y continued on page 67**
TUESDAY, JUNE 20, 2023

**Room 2**

**TUE 3.1 OMICS 3**

Session Chairs: Oliver Fiehn, Katja Dettmer-Wilde

10:30 a.m.

**KN21**

Quantitative metabolomics – the power of isotopically labelled biomass
G. Köllensperger, Vienna/AT, V. Fitz, Vienna/AT, L. Panzenboeck, Vienna/AT, C. Brenner, Vienna/AT, B. Stelzer, Vienna/AT, H. Schoeny, Vienna/AT

11:00 a.m.

**KN22**

Potential of various chromatographic modes for comprehensive coverage of human lipidome

11:30 a.m.

**OR31**

Application of solid phase microextraction to graft quality assessment in peri-transplant period

11:50 a.m.

**OR32**

Deciphering the structural diversity of phospholipids by multidimensional separation techniques

12:10 p.m.

**OR33**

Targeted Lipidomics Workflow for Large-Scale Population and Application to SARS-CoV-2 Infection

12:30 p.m.

LUNCH BREAK / EXHIBITION / POSTER SESSION 2

**VENDOR SEMINARS**

01:00 p.m.

Polymer Molar Mass and Composition Elucidation Applying GPC/SEC and Multidimensional LC
Speaker: H. Pasch

01:00 p.m.

Thermo Fisher Scientific

01:00 p.m.

TOSOH

01:00 p.m.

Restek Corporation

01:30 p.m.

Developing LC-MS/MS Methods Using a Virtual Liquid Chromatography Method Development Tool
Speaker: C. Lamboley

Room 2 continued on page 68

**Room 3**

**TUE 4.1 CHIRAL SEPARATIONS**

(Dedicated to Prof. Wolfgang Lindner on the occasion of his 80th birthday)

Session Chairs: Gabriela Massolini, Kenji Hamase

10:30 a.m.

**KN23**

Modern chiral chromatography, from the fundamentals to separation to innovative applications. Do we always need the two enantiomers to assess enantioselectivity?
A. Cavazzini, Ferrara/IT, M. Catani, Ferrara/IT, S. Felletti, Ferrara/IT, C. De Luca, Ferrara/IT, G. Mazzocchetti, Roma/IT, F. Gasparini, Roma/IT

11:00 a.m.

**KN24**

Recent trends in development and application of polysaccharide-based chiral stationary phases for liquid phase separation of enantiomers
B. Chankvetadze, Tbilisi/GE

11:30 a.m.

**OR34**

Cyclodextrin-Mediated Capillary Electrophoresis Enantioseparation of Daclatasvir and Elucidation of Complex Structures by NMR Spectroscopy and Molecular Modeling

11:50 a.m.

**Tutorial2**

Ion mobility – mass spectrometry
E. Baker, Chapel Hill/US

12:30 p.m.

LUNCH BREAK / EXHIBITION / POSTER SESSION 2

**VENDOR SEMINARS**

01:00 p.m.

Polymer Molar Mass and Composition Elucidation Applying GPC/SEC and Multidimensional LC
Speaker: H. Pasch

01:00 p.m.

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01:30 p.m.

Developing LC-MS/MS Methods Using a Virtual Liquid Chromatography Method Development Tool
Speaker: C. Lamboley

Room 3 continued on page 69
TUESDAY, JUNE 20, 2023

SCIENTIFIC SESSIONS

Room 1 (Auditorium)

TUE 1.2  MULTIDIMENSIONAL LC 2

Session Chairs: Oliver J. Schmitz, Bob Pirok

02:00 p.m.  CHROMSOC SILVER JUBILEE MEDAL 2023

KN25  Strategies and Tools to Simplify and Support Method Development in Two-Dimensional Liquid Chromatography – A progress report
D. R. Stoll, Saint Peter/US

02:30 p.m.  Towards Greener Future for HPLC

OR35  Automated method development tools to explore the limits of online comprehensive 2D-LC combining HILIC and RP-LC
A. de Villiers, Stellenbosch/ZA, M. Muller, Stellenbosch/ZA

03:00 p.m.  Bringing comprehensive 2DLC closer to LC-HRMS: How parallel gradient methods can be used to analyze complex protein digest

03:30 p.m.  COFFEE BREAK / EXHIBITION / POSTER SESSION 2

TUE 1.3  COLUMN TECHNOLOGIES

Session Chairs: Bezhan Chankvetadze, Thomas Walter

04:30 p.m.  Biosilica a new generation material for separation techniques

05:00 p.m.  Horváth finalist

OR45  Impact of particle geometry on kinetic performance of zwitterionic teicoplanin-based particles under HILIC conditions
S. Felletti, Ferrara/IT, C. De Luca, Ferrara/IT, G. Mazzoccoli, Roma/IT, F. Gasparini, Roma/IT, M. Catani, Ferrara/IT, A. Cavazini, Ferrara/IT

05:30 p.m.  The benefit of low adsorption HPLC hardware for the analysis of challenging solutes big and small
G. Vansleukenacker, Kortrijk/BE, L. Verscheure, Kortrijk/BE, P. Sandra, Kortrijk/BE, K. Sandra, Kortrijk/BE

06:00 p.m.  SHORT BREAK

06:15 p.m.  Exclusively sponsored by Thermo Fisher Scientific

Room 3

TUESDAY, JUNE 20, 2023

SCIENTIFIC SESSIONS

Hall Y

TUE 2.2  CAPILLARY ELECTROPHORESIS AND MICROFLUIDICS

Session Chairs: Petra Dittrich, Gerd Sonba

02:00 p.m.  HPLC-enabled integrated chemical circuits. The heart of future self-driving chemistry labs?

KN26  Bi-directional integration of LC-MS with simultaneous IRMS and HRMS detection: A powerful new tool for process investigations
M. A. Jochmann, Essen/DE

02:30 p.m.  Free solution capillary electrophoresis separation for characterization of protein-DNA supercomplexes

03:00 p.m.  Horváth finalist

OR40  Toward High-Throughput Separations: Coupling Droplet Microfluidics, Liquid Chromatography, and Ion Mobility-Mass Spectrometry for High-Throughput Experimentation

03:30 p.m.  COFFEE BREAK / EXHIBITION / POSTER SESSION 2

TUE 2.3  INSTRUMENTATION

Session Chairs: Frank Steiner, Detlev Belder

04:30 p.m.  LC with simultaneous IRMS and HRMS detection: A powerful new tool for process investigations

KN30  Instrumentation for Portable Capillary LC Analysis
J. Grinias, Glassboro/US

05:00 p.m.  Column Selection for Portable Capillary LC Analysis

OR46  A novel tube plasma ionization source to overcome the determination of growth promoters in biological matrices by LC-MS

05:35 p.m.  Development of Efficient Coupling of Capillary Electrophoresis and Surface-Enhanced Raman Spectroscopy (CE-SERS)

SOR15  Toward High-Throughput Separations: Coupling Droplet Microfluidics, Liquid Chromatography, and Ion Mobility-Mass Spectrometry for High-Throughput Experimentation

06:05 p.m.  SHORT BREAK

06:15 p.m.  HPLC Tube incl. Apéro

08:15 p.m.  Exclusively sponsored by Thermo Fisher Scientific
SCIENTIFIC SESSIONS TUESDAY, JUNE 20, 2023

Room 2

TUE 3.2 BIOPHARMACEUTICALS
Session Chairs: Mario Thevis, Anna Capriotti

02:00 p.m. 
KN27 
Studying structurefunction relationships of therapeutic antibodies using LC and MS 

02:30 p.m. 
OR41 
Evaluation of Ion Exchange Functionalised Monodisperse Particles for Charge Based Separation of Complex Biopharmaceuticals 

02:50 p.m. 
OR42 
Capillary electrophoresis mass spectrometry made easier, faster, and more powerful 
D. D. Y. Chen, Vancouver/CA

03:10 p.m. 
OR43 
Catching Moving 1D-Targets in Purity Analyses of Biopharmaceuticals Using 2D-LC-MS 
S. Buckenmaier, Waldbronn/DE, D. Stoll, Saint Peter/US, P. Petersson, Kastrup/DK

03:30 p.m. 
COFFEE BREAK / EXHIBITION / POSTER SESSION 2

TUE 3.3 UNTARGETED ANALYSIS
Session Chairs: Ian Wilson, Kevin Schug

04:30 p.m. 
KN31 
Flow FFF and mass spectrometry for lipid analysis in bio-nanoparticles 

05:00 p.m. 
OR47 
2LabsToGo system with breakthrough analytical strategy 
G. Morlock, Giesen/DE

05:20 p.m. 
SOR16 
Use of untargeted metabolomic to identify salivary biomarkers of Sjögren’s syndrome 

05:35 p.m. 
SOR17 
Untargeted metabolomic data processing using regions of interest and multivariate curve resolution approaches to unveil the health-to-disease transition 

05:50 p.m. 
SOR18 
Software automation tools on High-Throughput analytical and purification capabilities at Janssen Research and Development, Toledo 

06:05 p.m. 
SHORT BREAK

06:15 p.m. 
HPLC Tube incl. Apéro 
Exclusively sponsored by Thermo Fisher Scientific

SCIENTIFIC SESSIONS TUESDAY, JUNE 20, 2023

Room 3

TUE 4.2 COLUMN TECHNOLOGIES 1
Session Chair: Frantisek Svec

02:00 p.m. 
KN28 
Unique LC separation using specific interaction 
T. Kubo, Kyoto/IP, K. Otsuka, Kyoto/IP

02:30 p.m. 
OR44 
Design of experiments-based optimization of microflow LC-MS method applicable in proteomics analysis 
J. Urban, Brno/CZ, J. Valasek, Brno/CZ, A. Bednarik, Brno/CZ, M. Nechvatalova, Brno/CZ

02:50 p.m. 
CHROMSOC SILVER JUBILEE MEDAL 2023 Tutorial3 
Chromatographic methods for analysis of therapeutic oligonucleotides and mRNA 
M. Gilar, Milford/US

03:30 p.m. 
COFFEE BREAK / EXHIBITION / POSTER SESSION 2

TUE 4.3 DATA ANALYSIS 
Discussion Session 2
Session Chair: Simone Dimartino

04:30 p.m. 
KN32 
On the use of Bayesian statistics for automated (big) data analysis in HPLC: a paradigm shift? 
G. Vivo-Truyols, Ciutadella de Menorca/ES

DISCUSSION 2 
Session Chair: Isabelle Francois

05:00 p.m. 
DISCUSSION 2 
LC×LC-MS vs. LC-IM-MS: Which method is the best suited for which questions? 
Panelists: Dwight Stoll, André de Villiers, Paola Dugo, Erin Baker, Tim Causon and Gérard Hopfgartner 
Panel infrastructure manager and advocate for audience: Mimi den Uijl

06:05 p.m. 
SHORT BREAK

06:15 p.m. 
HPLC Tube incl. Apéro 
Exclusively sponsored by Thermo Fisher Scientific

Legend: PL = Plenary Lecture, KN = Keynote Lecture, OR = Oral Lecture, SOR = Short Oral Lecture
WEDNESDAY, JUNE 21, 2023

PLENARY SESSION HIGH-THROUGHPUT ANALYSIS
Session Chair: Gert Desmet

08:30 a.m.
PL07
High Throughput Single Cell Proteomics of Organ-derived Cell Populations by Nanoflow Dual Trap Single Column Liquid Chromatography

09:05 a.m.
PL08
High density droplet arrays for high throughput analysis
P. S. Dittrich, Basel/CH

09:40 a.m.
COFFEE BREAK / EXHIBITION / POSTER SESSION 2
Coffee Break sponsored by MOLNÁR-INSTITUTE

WED 1.1 WILEY-VCH JOURNAL OF SEPARATION SCIENCE SESSION
Session Chairs: Michael Lämmerhofer, Wolfgang Lindner

10:30 a.m.
KN33
Porous polymer monoliths: A “Swiss army knife” in chromatography. Part 2
F. Svec, Hradec Kralove/CZ

11:00 a.m.
KN34
Method development for hydrophobic interaction chromatography targeting high-resolution profiling of biotherapeutics
S. Eeltink, Brussels/BE, R. Ewonde Ewonde, Brussels/BE

11:30 a.m.
OR48
When the going gets tough: Towards the separation of stereo isomers applying chiral stationary phases
S. Lamotte, Ludwigshafen/DE, W. X. Zhu, Shanghai/CN

11:50 a.m.
OR49
The potential of monolithic silica in pharmaceutical analysis: from drugs to polymer-based formulations

12:10 p.m.
OR50
Purely theoretical development of the effect of diffusional bridging in multicapillary arrays
F. Parmentier, Saint Fons/FR

12:30 p.m. LUNCH BREAK / EXHIBITION / POSTER SESSION 2
SCIENTIFIC SESSIONS

WEDNESDAY, JUNE 21, 2023

Hall Y

WED 2.1 ION MOBILITY SPECTROMETRY 1

Session Chairs: Stephan Hann, Valerie Gabelica

10:30 a.m. Utilizing Multidimensional Measurements to Assess Chemical Exposure and Lipidomic Alterations


11:00 a.m. Glycan Analysis using Liquid Chromatography and Ion Mobility-Mass Spectrometry


11:30 a.m. Ion mobility-mass spectrometry solutions for metabolomics and studies of small molecule chemistry


11:50 a.m. Ion mobility in gas and liquid phase: How much orthogonality do we get in CE-IM-MS?


12:10 p.m. Liquid Chromatography and Differential Mobility Spectrometry – Mass Spectrometry Workflow for Glycoprotein characterization using Electron Capture and Collision Induced fragmentation

C. Jacquet, Geneva/CH, G. Hopfgartner, Geneva/CH

12:30 p.m. LUNCH BREAK / EXHIBITION / POSTER SESSION 2

VENDOR SEMINARS

01:00 p.m. Unleashing the Full Potential of Biomolecule Characterization: Purification and Analysis Strategies

Merck KGaA

01:15 p.m. Agilent Technologies

InfinityLab Online LC Solutions

Keep Pace with Your Processes

Speaker: A. Mielcarek

01:30 p.m. Thermo Fisher Scientific

A Multitude of Separation Techniques Hyphenated to MS for Biopharmaceutical Characterization – Case Studies from a Development Lab

Speakers: D. B. Kristensen, Ch. Mitterer

01:45 p.m. Knauf

Challenges during scale-up HPLC purification of therapeutic oligonucleotides

Speaker: T. Pöhlmann

02:00 p.m. Modern Toolkits for the Characterization of Biomolecules by LC and LC-MS

Phenomenex

Speaker: G. Rimmel

Hall Y continued on page 76

WED 3.1 LC-MS AND SFC-MS

Session Chairs: John McLean, Uwe Karst

10:30 a.m. (R)Evolution of Hyphenations, Through Open Access RP-HPLC-MS, Open Access UHPLC-MS and 2D-LC-IMS-MS in Academia

G. J. Langley, Southampton/GB

11:00 a.m. Method Development Strategies for On-Line Supercritical Fluid Extraction – Supercritical Fluid Chromatography – Mass Spectrometry


11:30 a.m. Nano supercritical fluid chromatography on micro pillar arrow column – electron ionisation mass spectrometry: the pros and the cons


11:50 a.m. Determining Stereospecificity and Double Bond Positions of Triglycerides in Food Samples using Supercritical Fluid Chromatography Photoionization Mass Spectrometry


12:10 p.m. Modern Toolkits

OR56 A combined top-down and bottom-up LC-HRMS/MS method for the quantification of human growth hormone in plasma


12:30 p.m. LUNCH BREAK / EXHIBITION / POSTER SESSION 2

VENDOR SEMINARS

01:00 p.m. Unleashing the Full Potential of Biomolecule Characterization: Purification and Analysis Strategies

Merck KGaA

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Phenomenex

Speaker: G. Rimmel

Room 2 continued on page 77
### WEDNESDAY, JUNE 21, 2023

#### SCIENTIFIC SESSIONS

**Room 3**

**WED 4.1 FOOD ANALYSIS**

**Session Chairs:** Jiang Guibin, Lucie Nováková

10:30 a.m. **KN39**

**Recent advances in the application of foodomics to Alzheimer's disease**


11:00 a.m. **KN40**

**Comprehensive Two-dimensional Liquid Chromatography Coupled to Mass Spectrometry for Food Analysis**

P. Dugo, Messina/IT, K. Arena, Messina/IT, F. Cacciola, Messina/IT, L. Mondello, Messina/IT

11:30 a.m. **OR57**

**FoodOmicsGR RI: Greek National Research Infrastructure for the Comprehensive Characterisation of Foods**

G. Theodoridis, Thessaloniki/GR

12:30 p.m. **LUNCH BREAK / EXHIBITION / POSTER SESSION 2**

#### VENDOR SEMINARS

**Room 3**

**Merck KGaA**

01:00 p.m. **Room 3**

**Unleashing the Full Potential of Biomolecule Characterization: Purification and Analysis Strategies**

 Speakers: F. Michel, M. Schulte, C. Muraco, P. Potier, E. Machtejevas

**Agilent Technologies**

01:50 p.m. **Room 3**

**InfinityLab Online LC Solutions**

 Speaker: A. Mielcarek

**Thermo Fischer Scientific**

02:30 p.m. **Room 3**

**A Multitude of Separation Techniques Hyphenated to MS for Biopharmaceutical Characterization – Case Studies from a Development Lab**

 Speakers: D. B. Kristensen, Ch. Mitterer

**Knauer**

03:10 p.m. **Room 3**

**Challenges during scale-up HPLC purification of therapeutic oligonucleotides**

 Speaker: T. Pöhlmann

**Phenomenex**

03:30 p.m. **Room 3**

**Modern Toolkits for the Characterization of Biomolecules by LC and LC-MS**

 Speaker: G. Rimmel

Room 3 continued on page 78

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**Room 1 (Auditorium)**

**WED 1.2 SEPARATION MODES 1**

**Session Chairs:** Paolo Dugo, Fabrice Gritti

02:00 p.m. **KN41**

**Managing sample introduction problems in hydrophilic interaction liquid chromatography**


02:30 p.m. **OR58**

**Novel Test Schemes of Hydrophilic Interaction Liquid Chromatography (HILIC) Columns for their Characterization**

T. Ikegami, Kyoto/IP

02:50 p.m. **OR59**

**Comparison between reversed-phase and mixed-mode stationary phases for challenging peptide purification at preparative scale**

C. De Luca, Ferrara/IT, G. Lievore, Ferrara/IT, S. Felletti, Ferrara/IT, M. Catani, Ferrara/IT, D. Bozza, Ferrara/IT, M. Macis, Rovigo/IT, A. Ricci, Rovigo/IT, W. Cabri, Bologna/IT, A. Cavazzini, Ferrara/IT

03:10 p.m. **OR60**

**Column design, quantitative assessment of the 3D pore space, and performance characterization of polymer monolithic capillary columns targeting high-resolution peptide profiling**

Z. Zhou, Brussels/BE, S. Eeltink, Brussels/BE, G. Desmet, Brussels/BE

03:30 p.m. **COFFEE BREAK / EXHIBITION / POSTER SESSION 2**

**WED 1.3 SEPARATION MODES 2**

**Session Chairs:** Caroline West, David McCalley

04:30 p.m. **KN45**

**Increasing Performance in Temperature Responsive Liquid Chromatography (TRLC)**

F. Lynen, Ghent/BE

05:00 p.m. **SOR19**

**Zwitterionic Hydrophilic Interaction Liquid Chromatography - Aspects of Bond Chemistry, Particle Morphology, Selectivity, and Separation Kinetics**


05:15 p.m. **SOR20**

**Toward Green and Sustainable Hydrophilic Interaction Liquid Chromatography**

D. Bell, Bellefonte/US, J. Pschierer, Bad Homburg/DE, S. Ruiz Perez, Bad Homburg/DE

05:45 p.m. **SOR21**

**The Possibilities of chiral separation of carboranes – new isosteres of a phenyl ring for drug development**

R. Kuceva, Hradec Králové/CZ, O. Horáček, Hradec Králové/CZ, B. Grüner, Řež/CZ

07:00 p.m. **CONFERENCE DINNER IN THE CLASSIC REMISE**

Exclusively sponsored by Agilent Technologies

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Legend: PL = Plenary Lecture, KN = Keynote Lecture, OR = Oral Lecture, SOR = Short Oral Lecture
**WEDNESDAY, JUNE 21, 2023**

### SCIENTIFIC SESSIONS

#### WED 2.2 DRUG DISCOVERY PHARMACOKINETICS

**Hall Y**

**02:00 p.m.**

**KN42**

**Characterizing Laboratory Grown Organs with Liquid Chromatography and Mass Spectrometry**
S. R. Wilson, Oslo/NO; N. Kogler, Oslo/NO; F. S. Skottsvoll, Oslo/NO; H. Raberg-Larsen, Oslo/NO; S. Krauss, Oslo/NO; A. Alzenhastad, Oslo/NO; S. Pedersen-Bjerregaard, Oslo/NO; J. P. Kutter, Copenhagen/DK

#### WED 2.3 HYPENATED TECHNOLOGIES

**Hall Y**

**04:30 p.m.**

**KN46**

**Combining elemental and molecular mass spectrometry to reveal metal-biomolecule interactions**
S. Hann, Vienna/AT; A. Petje, Vienna/AT; E. Oburger, Tullin/AT; M. Puschenreiter, Tullin/AT; S. Kumari, Vienna/AT; L. Fischer, Vienna/AT; C. Tauson, Vienna/AT

**05:00 p.m.**

**SOR23**

**Exact glycan structure identification by high-resolution fingerprinting and de novo sequencing via ion mobility-mass spectrometry**
J. Sastre-Torralba, Utrecht/NL; G. Vos, Utrecht/NL; K. Hooijschuur, Utrecht/NL; S. Vogelaar, Utrecht/NL; Z. Jandric, Vienna/AT; E. Oburger, Tulln/AT; M. J. Booms, Utrecht/NL

**05:15 p.m.**

**SOR24**

**Real-time analysis of isotopic small organic compounds from thermal food processing emissions resolved by Ion Mobility Spectrometry**
L. Weidner, München/DE; M. Rychlik, München/DE; P. Schmitt-Kopplin, München/DE

**05:30 p.m.**

**SOR25**

**Offline Two-Dimensional Liquid Chromatography Tandem Mass Spectrometry for Deeper Characterization of Low Abundance Metabolites**

**05:45 p.m.**

**SOR26**

**Capillary Zone Electrophoresis – Mass Spectrometry for Intact Protein Analysis in Biological Matrices**
K. Maraková, Bratislava/SK; M. Opetová, Bratislava/SK; R. Tomášovský, Bratislava/SK

**07:00 p.m.**

**CONFERENCE DINNER IN THE CLASSIC REMISE**

**11:30 p.m.**

**Exclusively sponsored by Agilent Technologies**

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**科学会议**

#### 星期三, 六月 21, 2023

### 科学会议

#### 星期二

**WED 3.2 药物发现与药动学**

**Room 2**

**02:00 p.m.**

**KN43**

**Supercritical fluid chromatography is not (only) normal-phase chromatography**
C. West, Orléans/FR

**02:30 p.m.**

**OR64**

**Novel Insights in the Effective Diffusion in Supercritical Fluid Chromatography**
K. Broeckhoven, Brussels/BE; T. Januarius, Brussels/BE; S. Deridder, Brussels/BE; G. Desmet, Brussels/BE

**02:50 p.m.**

**OR65**

**Challenges in the long-term use of SFC columns**
L. Nováková, Hradec Králové/CZ; K. Plachká, Hradec Králové/CZ; V. Pilárová, Hradec Králové/CZ; T. Gazaraňová, Hradec Králové/CZ; J. Škop, Hradec Králové/CZ; J. C. Garrigues, Toulouse/FR; F. Švec, Hradec Králové/CZ

**03:10 p.m.**

**OR66**

**Analysis of plastic waste pyrolysis oils via two-dimensional supercritical fluid chromatography and gas chromatography – vacuum ultraviolet spectroscopy/mass spectrometry**

**03:30 p.m.**

**Coffee Break / Exhibition / Poster Session 2**

---

**科学会议**

#### 星期三

**WED 3.3 环境与分析**

**Room 2**

**04:30 p.m.**

**KN47**

**Identify new pollutants by using Integrated Toxicology Analyzer (ITA)**
G. Jiang, Beijing/CN

**05:00 p.m.**

**SOR27**

**Evaluation and comparison of two-dimensional liquid chromatography approaches for the analysis of organic micropollutants in environmental samples**
S. Chapell, Leuven/BE; A. Barros de Souza, Waldbronn/DE; R. Reis, Leuven/BE; M. Pardon, Leuven/BE; D. Cabooter, Leuven/BE

**05:15 p.m.**

**SOR28**

**Mass Spectrometry Techniques for Multi-Dimensional Characterization of Environmental Nanoparticles**
Q. Liu, Beijing/CN; G. Jiang, Beijing/CN

**05:30 p.m.**

**SOR29**

**Workflow for selection of the optimal internal standard for Suspect screening of organic micropollutants in environmental samples**
K. Klippen, Vejen/DK; P. Mortseng, Vejen/DK; S. Tisler, Frederiksberg/DK; J. Christensen, Frederiksberg/DK

**05:45 p.m.**

**SOR30**

**Application of Effect-directed Analysis for the Identification of Potential AhR Agonists in E-waste**
G. Qu, Beijing/CN; G. Jiang, Beijing/CN; X. Yang, Beijing/CN; Y. Liu, Beijing/CN

**07:00 p.m.**

**CONFERENCE DINNER IN THE CLASSIC REMISE**

**11:30 p.m.**

**Exclusively sponsored by Agilent Technologies**

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**科学会议**
### WEDNESDAY, JUNE 21, 2023

**Room 3**

#### WED 4.2 NEW TECHNOLOGIES

**Session Chair: Gongke Li**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>02:00 p.m.</td>
<td>KN44</td>
<td>Green and selective sample preparation methods</td>
<td>V. Pichon, Paris/F, N. Delaunay, Paris/F, A. Combès, Paris/F</td>
</tr>
<tr>
<td>02:30 p.m.</td>
<td>OR67</td>
<td>Low cost multiwavelength absorbance detector based upon pulsed DUV LEDs</td>
<td>B. Paul, Hobart/AU, I. Mikhail, Hobart/AU, L. Lebano, Hobart/AU, M. Hemida, Hobart/AU, J. Parry, Hobart/AU, P. Hortin, Hobart/AU, V. Gupta, Hobart/AU, M. Macka, Hobart/AU</td>
</tr>
<tr>
<td>02:50 p.m.</td>
<td>Tutorial5</td>
<td>Approaching the digital transformation of the lab-of-the-future – How to implement new automation strategies</td>
<td>T. Teutenberg, Duisburg/DE</td>
</tr>
</tbody>
</table>

**03:30 p.m.** | **COFFEE BREAK / EXHIBITION / POSTER SESSION 2**

#### WED 4.3 ION MOBILITY SPECTROMETRY 2

**Session Chair: Erin Baker**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>04:30 p.m.</td>
<td>KN48</td>
<td>Ion mobility spectrometry: Merging separations with imaging mass spectrometry</td>
<td>U. Karst, Münster/DE</td>
</tr>
<tr>
<td>05:00 p.m.</td>
<td>SOR31</td>
<td>In-line sample trap columns for capillary electrophoresis-ion mobility-mass spectrometry analysis of glycans</td>
<td>K. Hoebisch, Utrecht/NL, X. Liu, Utrecht/NL, A. Grootendorst, Utrecht/NL, I. Pieterman, Utrecht/NL, G. J. Boons, Utrecht/NL, J. Sastre Toraño, Utrecht/NL</td>
</tr>
<tr>
<td>05:15 p.m.</td>
<td>Tutorial6</td>
<td>How to use gradients in (ultra-) high-performance LC</td>
<td>P. J. Schoenmakers, Amsterdam/NL, M. den Uijl, Amsterdam/NL</td>
</tr>
<tr>
<td>07:00 p.m.</td>
<td>CONFERENCE DINNER IN THE CLASSIC REMISE</td>
<td></td>
<td>Exclusively sponsored by Agilent Technologies</td>
</tr>
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</table>

**11:30 p.m.** | **CONFERENCE DINNER IN THE CLASSIC REMISE**

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### THURSDAY, JUNE 22, 2023

**Room 1 (Auditorium)**

#### THU 1.1 MULTIDIMENSIONAL LC 3

**Session Chairs: Stephan Buckenmaier, Andrea Gargano**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30 a.m.</td>
<td>OR68</td>
<td>Instrumental and theoretical advancements in pulsed elution LC×LC: Optimization and application on wastewater effluent samples</td>
<td>O. M. Kronik, Frederiksberg/DK, J. H. Christensen, Frederiksberg/DK, N. J. Nielsen, Frederiksberg/DK</td>
</tr>
<tr>
<td>10:10 a.m.</td>
<td>OR69</td>
<td>Chemical Characterization and Bioactivity Study of Black Currant Fruits, Juice and By-Products, a Multidisciplinary Strategy</td>
<td>R. Karongo, Leverkusen/DE, J. Horak, Munich/DE, T. Hetzel, Wuppertal/DE, M. Gao, Wuppertal/DE, M. Lämmerhofer, Tuebingen/DE</td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td>COFFEE BREAK AND EXHIBITION</td>
<td></td>
<td></td>
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</tbody>
</table>

#### THU 1.2 BIOSEPARATION

**Session Chairs: Andre de Villiers, Sebastiaan Eetink**

<table>
<thead>
<tr>
<th>Time</th>
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</tr>
</thead>
<tbody>
<tr>
<td>11:00 a.m.</td>
<td>KN52</td>
<td>Digitalized quality control for the next generation of therapeutic oligonucleotides</td>
<td>T. Fornstedt, Karlstad/SE, M. Enmark, Karlstad/SE, J. Samuelsson, Karlstad/SE</td>
</tr>
<tr>
<td>12:10 p.m.</td>
<td>OR79</td>
<td>Production of SDV monolithic columns for the purification of messenger RNA</td>
<td>I. Berg, A. A. Moisiuc, SI, T. Drožina, A. A. Moisiuc, SI, P. Lapajne, A. A. Moisiuc, SI, U. Černigoj, A. A. Moisiuc, SI, A. Štrancar, A. A. Moisiuc, SI</td>
</tr>
</tbody>
</table>

**12:30 p.m.** | **LUNCH BREAK AND EXHIBITION**

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Legend: PL = Plenary Lecture, KN = Keynote Lecture, OR = Oral Lecture, SOR = Short Oral Lecture
### SCIENTIFIC SESSIONS

**THURSDAY, JUNE 22, 2023**

**Hall Y**

#### THU 2.1 BIOANALYSIS 1

Session Chairs: Georgios Theodoridis, Hailin Wang

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 a.m.</td>
<td>A marriage made in heaven – UHPLC/Ion Mobility/MS and the analysis of complex mixtures</td>
<td>I. D. Wilson, London/GB, R. S. Plumb, Miflord/US</td>
</tr>
<tr>
<td>09:30 a.m.</td>
<td>High performance analysis of N-glycans released from Alglucosidase Alfa</td>
<td>G. Nys, Geel/BE, R. Moons, Geel/BE, H. de Busser, Geel/BE</td>
</tr>
<tr>
<td>09:50 a.m.</td>
<td>Immunoprecipitation-nanoflow liquid chromatography-tandem mass spectrometry allows sub pg/mL oxytocin quantification in plasma of women in third stage labour</td>
<td>S. Bitt tabindex, Beere/BE, T-H. Nguyen, Parkville/AU, M. P. McIntosh, Parkville/AU, C. Kirkpatrick, Parkville/AU, P. Lambert, Parkville/AU, B. Remmerie, Beere/BE, L. Dillen, Beere/BE</td>
</tr>
<tr>
<td>10:10 a.m.</td>
<td>Oat sterols are secreted from Non-Alcoholic Fatty Liver Disease (NAFLD) induced organoids</td>
<td>H. Roberg-Larsen, Oslo/NO, K. Kømurcu, Oslo/NO, I. Wilhelmsen, Oslo/NO, A. Aizensthadt, Oslo/NO, H. Garayba, Oslo/NO, M. Johnsen, Oslo/NO, A. Hansen, Oslo/NO, J. Thorne, Leeds/GB, S. Krauss, Oslo/NO, S. Wilson, Oslo/NO</td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td>COFFEE BREAK AND EXHIBITION</td>
<td></td>
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</table>

#### THU 2.2 BIOANALYSIS 2

Session Chairs: Tetyana Tishakova, Heiko Hayen

<table>
<thead>
<tr>
<th>Time</th>
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</tr>
</thead>
<tbody>
<tr>
<td>11:00 a.m.</td>
<td>Development of generic methods for electromembrane extraction</td>
<td>S. Pedersen-Bjergaard, Oslo/NO</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>Isomer-specific analysis of alkaloid plant toxins in food products by LC-MS/MS: The crucial role of the eluent pH</td>
<td>C. Czerwenka, Wien/AT, E. Dorn, Wien/AT</td>
</tr>
<tr>
<td>11:50 a.m.</td>
<td>Using Organ-on-a-Chip for Predicting the Metabolism of the Selective Androgen Receptor Modulator RAD140 in Comparison to Established In Vitro Approaches</td>
<td>W. Wagener, Cologne/DE, N. Naumann, Cologne/DE, N. Lecziewska, Poznaj/PL, C. Götgen, Cologne/DE, S. Guddat, Cologne/DE, M. Thevis, Cologne/DE</td>
</tr>
<tr>
<td>12:10 p.m.</td>
<td>Fully automated and integrated 96-channel proteomics sample preparation platform applied for high-throughput drug target identification</td>
<td>R. Tian, Shenzhen/CN</td>
</tr>
<tr>
<td>12:30 p.m.</td>
<td>LUNCH BREAK AND EXHIBITION</td>
<td></td>
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</tbody>
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Continuation in Room 1 (Auditorium) on page 83

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**THU 3.1 PREPARATIVE LC AND PROCESS ANALYSIS**

Session Chairs: Frederick Lymen, Torgny Forsskott

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>09:00 a.m.</td>
<td>Sustainable API/Excipient Purification by Supercritical Fluid Chromatography (SFC): from discover labs to large scale manufacturing</td>
<td>I. François, Sint-Lievens-Houtem/BE</td>
</tr>
<tr>
<td>09:50 a.m.</td>
<td>Direct application of undiluted human plasma and other complex biological fluids to poly-methacrylate-based monoliths and subsequent isolation of biologically active therapeutic proteins and other biopolymers</td>
<td>D. Josić, Providence/US, M. Begić, Pula/HR, J. Simovic Medica, Pula/HR, P. Grbić, Pula/HR, M. Filipović, Pula/HR</td>
</tr>
<tr>
<td>10:10 a.m.</td>
<td>Advancing resolution in preparative liquid chromatography to support Drug Discovery</td>
<td>J. L. Dores-Sousa, Beere/BE, M. Carpenter, Beere/BE, I. Maas, Beere/BE, K. Raemakers, Beere/BE, D. Corens, Beere/BE</td>
</tr>
</tbody>
</table>

#### THU 3.2 MATERIALS/3D PRINTING

Session Chairs: Steven Wilson, Fernando Maya

<table>
<thead>
<tr>
<th>Time</th>
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</tr>
</thead>
<tbody>
<tr>
<td>11:30 a.m.</td>
<td>Lab on Chip and 3D printing: is it a real marriage in heaven?</td>
<td>T. Teutenberg, Duisburg/DE, M. KlaBen, Duisburg/DE, T. Weres, Duisburg/DE, I. Henning, Duisburg/DE</td>
</tr>
<tr>
<td>11:50 a.m.</td>
<td>3D Printed Gel Electrophoresis Coupling with ICP-MS for Metallomics Research</td>
<td>L. Hu, Beijing/CN, D. Wang, Beijing/CN, Y. Li, Hangzhou/CN, B. He, Beijing/CN, G. Jiang, Beijing/CN</td>
</tr>
</tbody>
</table>

#### Room 2

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<thead>
<tr>
<th>Time</th>
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<th>Authors/Institutions</th>
</tr>
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</table>

12:30 p.m. LUNCH BREAK AND EXHIBITION

Continuation in Room 1 (Auditorium) on page 83
### THURSDAY, JUNE 22, 2023

#### Room 3

**THU 4.1**  **BEST POSTER AWARD (BPA) – FLASH ORALS**

- **09:00 a.m.**  Poster Flash Presentations 1
- **10:30 a.m.**  Coffee Break and Exhibition

**THU 4.2**  **BEST POSTER AWARD (BPA) – FLASH ORALS**

- **11:00 a.m.**  Poster Flash Presentations 2
- **11:50 a.m.**  Tutorial 7
  - Miniaturation of sampling and sample preparation devices
  - J. Pawliszyn, Waterloo/CA

**12:30 p.m.**  Lunch Break and Exhibition

Continuation in Room 1 (Auditorium) on page 83

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### Room 1 (Auditorium)

**CLOSING PLENARY SESSION FUTURE OF HPLC**

**Session Chairs:** Alberto Cavazzini, Attila Felinger

**01:30 p.m.**  **PL09**  **PLENARY LECTURE**
  - Fundamental Studies of Enhanced-Fluidity Liquid Chromatography – Electrospray Ionization Mass Spectrometry of Complex Biological Systems
  - S. Olesik, Columbus/US, N. Mohammadian Tabrizi, Columbus/US

**02:00 p.m.**  **PL10**  **PLENARY LECTURE**
  - New Methods Contributing to Metabolomics Analyses of Single Cells
  - G. Xu, Dalian/CN, D. Feng, Dalian/CN, H. Li, Dalian/CN, T. Xu, Dalian/CN, P. Dou, Dalian/CN, X. Lu, Dalian/CN, X. Hu, Dalian/CN, C. Hu, Dalian/CN, X. Shi, Dalian/CN, X. L, Dalian/CN

**02:30 p.m.**  **PL11**  **PLENARY LECTURE**
  - A Journey Through the Chromatographic Universe Using Kinetic Plots
  - G. Desmet, Brussels/BE

**03:00 p.m.**  **CSABA HORVÁTH YOUNG SCIENTIST AWARD and BEST POSTER AWARDS PRESENTATION**

**03:30 p.m.**  Invitation to future HPLCs
  - S. Olesik, G. Xu, G. Desmet

**04:00 p.m.**  Closing

**04:30 p.m.**  Farewell Drink
POSTER SESSION 1

Further information on the poster sessions can be found on page 24

Session 1: Monday, June 19, 09:40 a.m. – Tuesday, June 20, 10:30 a.m.

Biochromatography (BIOC) 84
Biopharmaceuticals (BPHA) 87
Capillary Electrophoresis and Microfluidics (CEMI) 89
Chiral separation (CHIR) 90
Data Processing for Omics Technologies (DATA) 91
Drug discovery and Pharmacokinetics (DRUG) 91
Food Analysis (FOOD) 92
Forensics Analysis and Doping Control (FOR) 95
Miscellaneous (MISC) 95
Omnis (Metabolomics, Lipidomics, Proteomics, Multiomics) (OMIC) 96
Pharmaceutical Analysis (PHAR) 99

BIOCHROMATOGRAPHY (BIOC)

P-BIOC01 Innovative separation platform via spongy monoliths for proteins, EVs, and viruses

P-BIOC02 (BPA) Biosimilar and Originator: A challenge for the analysis of monoclonal antibodies

P-BIOC03 Accelerating chromatographic isolation and concentration of impurities with the twin-column continuous technique N-Rich
S. Cleres, Zürich/CH, G. Lievore, Zürich/CH, R. Weldon, Zürich/CH, S. Vogg, Zürich/CH, L. Aumann, Zürich/CH, T. Müller-Späth, Zürich/CH

P-BIOC04 Comparative Identification of Heavily Glycated Proteins at the Molecular Level by Hydrophilic Interaction Chromatography (HILIC) and Native Size-exclusion Chromatography (SEC) – Mass Spectrometry
Z. Zhai, Amsterdam/NL, A. Gargano, Amsterdam/NL

P-BIOC05 Acrylamide Monoliths for Hydrophilic Interaction Liquid Chromatography – Mass Spectrometry of Monoclonal Antibodies

P-BIOC06 (BPA) Fast and high recovery analytical characterization of mRNAs using weak anion exchange and ion pairing reversed phase chromatography

P-BIOC07 (BPA) Be More Sensitive About Sensitivity: Advances in Column Technology for Improved Detection of Biotherapeutic Impurities

P-BIOC08 Oxidative release of O-glycans under neutral conditions for analysis of glycoconjugates having base sensitive substituents

P-BIOC10 Investigation into the effect of column chemistry on the separation of mRNA digests

Legend: (BPA) = Best Poster Award (Poster participates in the Best Poster Award)
POSTER SESSION 1

P-BIOC11 ▲ ▲ Development of a polymer monolith column targeting operation in the microflow range for robust, high efficiency, and high-throughput liquid chromatography – mass spectrometry peptide mapping of biologics
S. Perchepied, Brussels/BE, S. Eeltink, Brussels/BE

P-BIOC12 ▲ ▲ Unlocking the power of ultra-short columns to speed up oligonucleotide separations

P-BIOC13 ▲ ▲ Development of single and multidimensional liquid chromatography-mass spectrometry techniques for the characterization of synthetic oligonucleotides

P-BIOC15 ▲ ▲ Semi-preparative reversed-phase liquid chromatographic purification of oligonucleotides

P-BIOC16 ▲ High-throughput analysis of synthetic oligonucleotides with UHPLC-MS and an optimized chromatography data system
M. De Pra, Germering/DE, D. Köhler, Germering/DE, H. Yang, San Jose/US

P-BIOC17 ▲ Subclassification of extracellular vesicles by a spongoly-like polymer material

P-BIOC18 ▲ Implementing chromatographic methods for evaluation of large-scale monolithic columns for AAV capsids separation

P-BIOC19 ▲ Separation and analysis of adeno-associated virus samples using a 3 μm monodisperse strong anion exchange chromatography column

P-BIOC20 ▲ Pressure effect on chromatographic characteristics for small to middle size proteins under reversed-phase condition

P-BIOC21 ▲ FC gamma IIIA affinity chromatography of FC-N-glycan-remodeled monoclonal antibodies
A. Krumm, Griesheim/DE, A. Persson, Lund/SE

P-BIOC22 ▲ On-line Trypsin Digestion of Proteins Followed by Separation in Mixed-Mode Chromatography
Z. Kadlecová, Prague/CZ, M. Gilar, Milford/US, K. Kalikova, Prague/CZ

P-BIOC23 ▲ Towards comprehensive SAX × RP 2D-LC-MS/MS host cell protein profiling in biopharmaceutical manufacturing
M. Mozgovic, Brussels/BE, S. Eeltink, Brussels/BE

P-BIOC24 ▲ Hydrophilic Interaction Liquid Chromatography for Oligonucleotides Analysis

P-BIOC25 ▲ Novel Approaches for Critical Quality Attribute Determination for Therapeutic Antibodies, Antibody-Drug Conjugates, and Oligonucleotides
A. Egberts, Amsterdam/NL, C. Muraco, Belleville/US, B. Peters, Darmstadt/DE

P-BIOC26 ▲ Modernizing oligonucleotide purification—advancing siRNA therapeutic ion pairing reversed phase (IPRP) capabilities beyond analytical scale

P-BIOC27 ▲ A tandem PCR-HPLC method for purifying milligram quantities of homogenous single-stranded DNA of up to 1 kilobase length

P-BIOC28 ▲ Comparison of elution conditions and emerging columns on the resolving power and detection sensitivity of oligonucleotides by ion-pairing reversed-phase liquid chromatography mass spectrometry

P-BIOC29 ▲ Influence of bioinert (U)HPLC hardware on the analysis of four different biomolecules

P-BIOC30 ▲ Analysis of non-denatured and denatured siRNA with anion exchange chromatography

P-BIOC31 ▲ Improved Hydrophilic Interaction Liquid Chromatography for LC/MS Analysis of Released N-Glycans

P-BIOC32 ▲ HPLC-CAD analysis of RNA loaded nanoparticle templates to determine quality, purity and quantity of lipidic components

P-BIOC33 ▲ Characterization of monoclonal antibodies in cell-free culture supernatant via FcR affinity chromatography using two dimensional liquid chromatography coupled with high resolution mass spectrometry

P-BIOC34 ▲ Time kinetics of α-2, 3-sialyltransferase, sialidase and trans-sialidase activity of a microbial GT10 family Sialyltransferase

P-BIOC35 ▲ Tips & Tricks for Optimizing Intact Monoclonal Antibody Characterization
M. Shen, Santa Clara/US, A. Tripodi, Church Stretton/GB, A. Coffey, Church Stretton/GB

P-BIOC36 ▲ HPLC and LC/MS Method Development and Performance Monitoring of Oligonucleotides with Oligo Standard
P. F. Potier, Haverhill/GB, A. Fridström, Solna/SE, A. B. Kumar, Round Rock/US

P-BIOC38 ▲ Role of plasmid DNA isoforms during anion exchange chromatography

P-BIOC39 ▲ Efficient Method Development of Small Interfering RNA by Reversed-Phase Ion-Pair Chromatography

BIOPHARMACEUTICALS (BPHA)

P-BPHA01 ▲ Myth busting “you cannot sequence oligonucleotide over 30nt in length by LCMS” Learn how to routinely sequence 100nt oligonucleotides
A. B. Schwahn, Basel/CH, K. Cook, Hemel Hempstead/GB

P-BPHA02 ▲ LC/UV/HRMS-based Impurity Profiling and Structure Elucidation of Phosphoramidite Raw Materials used for Oligonucleotide Synthesis

P-BPHA03 ▲ Adeno-Associated Virus Capsid Proteins Peptide Mapping by Analytical & Micro Flow Reversed Phase Chromatography Coupled to High Resolution Mass Spectrometry
P-BPHA04  Simultaneous analysis of poloxamer 188 and polysorbate 80 in biopharmaceutical formulations using charged aerosol detector and single quadrupole mass spectrometer
X. Li, Shanghai/CHN; S. White, Lexington/US; M. De Pra, Germering/DE; Y. Cui, Shanghai/CHN; M. Du, Lexington/US

P-BPHA05  Multi-attribute method (MAM) to support biosimilarity assessment and the benefit of high-throughput and low flow analytical methods for biotechnological characterization
S. Millán-Martín, Dublin/IE; C. Jakes, Dublin/IE; E. Strasser, Dublin/IE; S. Carillo, Dublin/IE; J. Bones, Dublin/IE

P-BPHA07  Monitoring and Characterization of Host Cell Proteins (HCPs) present in Viral Vector Gene Therapy samples using Downstream Processing utilizing LC-MS/MS
J. Smith, Dublin/IE; F. Guapo, Dublin/IE; L. Strasser, Dublin/IE; J. Bones, Dublin/IE

P-BPHA08  HPLC and cylindrical PAGE purification of RNA aptamers with single capsule technology
C. Liu, Fukuoka/JP; Z. Huang, Albany/US

P-BPHA10  Fast quantification of nonionic surfactant polysorbate 80 in monoclonal antibody formulations by HPLC-ELS20
S. Altmaier, Darmstadt/DE; U. Sreenivasan, Round Rock/US

P-BPHA11  Confident determination in an automatic setup of concentration, HMW and purity prior to fast screening of peptides and proteins in functional and biological assays
A. Westall, Malvern/UK

P-BPHA12  Intact mass analysis of monoclonal antibody charge variants by multi heart-cut 2D-LC/MS/MS coupling ion-exchange and reversed-phase chromatography
S. Fabel, Germering/DE; M. Grübner, Germering/DE; A. Schwan, Reinchach/CH; M. De Pra, Germering/DE

P-BPHA13  Efficient Method Development of Oligonucleotides by Reversed-Phase Ion-Pair Reversed-phase Chromatography
S. Obika, Osaka/JP; S. Fujisaki, Kyoto/JP

P-BPHA14  Novel Mixed Mode Cation Exchange Resin for the Purification of ADCs, Bispecific Antibodies and Glycoproteins
M. Schulte, Darmstadt/DE; C. Holzgreve, Darmstadt/DE; R. Skudas, Darmstadt/DE

P-BPHA15  A versatile reversed phase platform for short, intermediate, and long nucleic acid analysis
S. Lin, Sunnyvale/US; K. Ma, Sunnyvale/US; S. Becker, Sunnyvale/US; K. Cook, Sunnyvale/US

P-BPHA16  Automated Preparation and Quality Test for Antibody

P-BPHA17  Monitoring changes over time of amino acids in cell culture supernatants by high-speed amino acid analysis
K. Koterasawa, Kyoto/JP; K. Matsumoto, Kyoto/JP

P-BPHA18  Mixed-mode high performance liquid chromatography of proteins and oligonucleotides by phenyl-modified silica particles with additional ion-exchange sites
M. Maalouf, Tubingen/DE; M. Wolter, Tubingen/DE; C. Knappe, Tubingen/DE; M. Janek, Tubingen/DE

P-BPHA19  Improved monoclonal antibody analysis through the combination of capillary zone electrophoresis with light-emitting diode-induced fluorescence detection – design of experiments-based detector optimization and comparison to UV detection
H. Zagst, Braunschweig/DE; W. Hartung, Braunschweig/DE; H. Wätzig, Braunschweig/DE

P-BPHA20  Efficient and sensitive peptide mapping approach by μPAC columns with ultralow sample loading

P-CEMI01  Assessment of the Surface-Charge Density of Industrial Polymer Nanoparticles by Capillary Electrophoresis
J. D. Krujivjik, Amsterdam/NL; B. van Zanten, Amsterdam/NL; T. Bos, Amsterdam/NL; T. Broojmans, Waalwijk/NL; R. A. H. Peters, Waalwijk/NL; G. W. Sonksen, Amsterdam/NL

P-CEMI02  Carbon dots as mediators of aptamer selection against illicit drug targets by way of capillary electrophoresis with laser-induced fluorescence detection
C. L. Colyer, Winston Salem/US; D. Roy, Durham/US

P-CEMI03  Exploiting wall taper to induce vortices and reduce dispersion in plastic liquid chromatography columns
I. Bihi, Brussels/BE; P. Gein, Brussels/BE; W. De Malsche, Brussels/BE

P-CEMI04  Platform methods in capillary zone electrophoresis: an interlaboratory study of various monoclonal antibodies, instruments and ε-aminocaproic acid lots
R. Wiesner, Braunschweig/DE; H. Zagst, Braunschweig/DE; W. Lan, New Brunswick/US; H. Wätzig, Braunschweig/DE; C. Sänger-van de Griend, Baarn/NL

P-CEMI05  Application of CE-MS for the simultaneous analysis of boswellic acids and non-steroidal anti-inflammatory drugs
D. Kosolapov, Hradec Králové/CZ; F. Bařinka, Hradec Králové/CZ; L. Nováková, Hradec Králové/CZ; P. Jáš, Hradec Králové/CZ

P-CEMI06  Online fluorescent imaging method for accuracy improvement of quantitative capillary electrophoresis

P-CEMI07  Using MEEKC for Lipophilicity determination of very hydrophobic pharmaceutical drugs
R. Minkner, Braunschweig/DE; H. Wätzig, Braunschweig/DE

P-CEMI08  Mobility shift affinity capillary electrophoresis using a collagen suspension: Method development for the study of protein binding properties
S. Hartung, Braunschweig/DE; C. Scheller, Braunschweig/DE; T. Brzezicka, Brno/CZ; H. Wätzig, Braunschweig/DE

P-CEMI09  A Scale of Internal Standards for pH and pKa Determination by Capillary Electrophoresis in Methanol-Water LC Mobile Phases
A. Albishi, Barcelona/ES; J. M. Cabot, Barcelona/ES; E. Fuguet, Barcelona/ES; M. Rosés, Barcelona/ES
POSTER SESSION 1

P-CM10 [BPA]
Capillary Zone Electrophoresis for Quantitative Native and Forced Degraded Collagens: Method Development and Validation
M. Olabi, Braunschweig/DE, H. Watzig, Braunschweig/DE

P-CM11 [BPA]
Sensitive determination of creatine, 2-aminoxyric acid, acetyl-carnitine and amino acids in human plasma by counter-current electrophoresis in PAMAPTPAC coated capillary
P. Tuma, Prague/CZ, D. Koval, Prague/CZ

P-CM12 [BPA]
The use of ionic liquids for the extraction and separation of biogenic amines by the MEKC method from pediatric urine samples.
N. Kaczmareczky, Gdansk/PL, P. Kowalski, Gdansk/PL, A. Roszkowska, Gdansk/PL, T. Baczek, Gdansk/PL, I. Olejdzka, Gdansk/PL

P-CM13 [BPA]
3D-printed device for blood DNA fractionation
H. Hružíková, Brno/CZ, R. Řemínek, Brno/CZ, F. Foret, Brno/CZ

P-CM14 [BPA]
Exploring Coating Agents for Capillary Electrophoresis of Liposomes with Laser-Induced Fluorescence Detection
A. Tomníkova, Prague/CZ, T. Křížek, Prague/CZ, V. Dördovič, Prague/CZ

CHIRAL SEPARATION (CHIR)

P-CHIR01 [BPA]
Assessments and Comparisons of Chiral Chromatography with Fully Porous Particles and 2.7-μm Superficially Porous Particles in HPLC and SFC
E. Franklin, Morton Grove/US

P-CHIR02
Beyond Column Screening: Chiral Method Development for Small Molecules Utilizing Design-of-Experiments Principles
H. Paing, Boston/US

P-CHIR03
Heterogeneity of adsorption mechanisms for the description of enantioselective retention behavior in normal-phase liquid chromatography

P-CHIR04 [BPA]
Screening Chiral Stationary Phases in Multiple Separation Modes to Identify a Method for the Enantiomeric Separation of Modafinil
Z. Baja, Torrance/US, P. Koerner, Torrance/US

P-CHIR05
Characteristics of chiral stationary phases utilizing superficially porous silica particles for the HPLC enantiopereation of unusual amino acid analogs

P-CHIR06 [BPA]
HPLC study of the separation characteristics of polysaccharide-based chiral stationary phases with particular emphasis on the hysteretic behavior
I. Ilisz, Szeged/HU, G. Németh, Szeged/HU, R. Berkecz, Szeged/HU, T. M. Le, Szeged/HU, Z. Szakonyi, Szeged/HU, A. Peter, Szeged/HU

P-CHIR07 [BPA]
Reversals of Enantiomer Elution Order on Polysaccharide-based Chiral Stationary Phases in Polar Organic Solvent Chromatography
P. Vavkátová, Prague/CZ, A. Kubicková, Prague/CZ, A. Kaliková, Prague/CZ

P-CHIR08 [BPA]
Ultra-fast enantioselective LC-IM-MS separation of derivatized amino acids using a tandem-column approach

P-CHIR09 [BPA]
Development of a Three-dimensional HPLC System for the Determination of Hydroxy Amino Acid Enantiomers in the Plasma of Patients with Renal Disorder

DATA PROCESSING FOR OMICS TECHNOLOGIES (DATA)

P-DATA01
A machine learning prediction model for liquid chromatography retention times in the dynamics strategy for metabolite analysis

P-DATA02
Mass spectrometry imaging based multimodel technique to visualize biomarker distributions
Z. Cai, Hong Kong/CR, C. Zhao, Shen Zhen/CR, J. Dong, Xiamen/CR

P-DATA03 [BPA]
Deep Learning for Peptide Retention Time Prediction in Gradient Elution
K. Hružíková, Brno/CZ, M. Nechvatálová, Brno/CZ, J. Valašek, Brno/CZ, J. Urban, Brno/CZ

P-DATA04 [BPA]
qBinning: Parameter-free Binning Algorithm for Feature Detection in Non-Target-Screening with HPLC-HRMS estimating Data Quality

DRUG DISCOVERY AND PHARMACOKINETICS (DRUG)

P-DRUG02 [BPA]
UHPLC-MS in the investigation of anthracycline cardiotoxicity and in the development of novel cardioprotective agents

Legend: [BPA] = Best Poster Award (Poster participates in the Best Poster Award)
POSTER SESSION 1

P-DRUG03 Determination of lipopeptides stability in biological matrices
A. Myšková, Prague/CZ, D. Šylíková, Prague/CZ, V. Strnadová, Prague/CZ, B. Neprašová, Prague/CZ, L. Maletínská, Prague/CZ

P-DRUG04 High-sensitivity assay of biological components (thyroid hormone) in serum by online SPE-UHPLC-MS/MS
T. Takeuchi, Tokyo/JP, T. Ikeda, Tokyo/JP

P-DRUG05 Online-solid phase extraction coupled to LC-UV-MS/MS for characterization of pharmacokinetic properties of CYP4F-selective inhibitors

FOOD ANALYSIS (FOOD)

P-FOOD01 Selective Detection HPLC Assays Via In-Column Derivatisation

P-FOOD02 Comparison of detection methods for determination of mycotoxins in cannabis and cannabis derived products – how to make a wise choice

P-FOOD03 Profiling of oligosaccharides and polysaccharides in alcholic beverages using quadrupole LC-MS

P-FOOD04 Supplementation of model bread dough with phenolic acids

P-FOOD05 Safety evaluation of valorised banana crop by-products using a modified QuEChERS approach combined with liquid chromatography-tandem mass spectrometry

P-FOOD06 LC-MS/MS Method Development for Sulfite in Food and Beverage
N. Maeshima, Kanagawa/JP, M. Kobayashi, Kanagawa/JP

P-FOOD07 Assessing updated USP<621> and its application to HPLC assay method in Korean Health functional food

P-FOOD08 Simultaneous Analysis of Beer Components (Xanthohumol, Isoxanthohumol, Humulinones, iso-α-Acids, α-Acids, and β-Acids)
M. Hayakawa, Kanagawa/JP, H. Terada, Kyoto/JP

P-FOOD09 Carcins and picrocrocin chromatographic profile as novel standardization criteria of Crocus sativus extracts

P-FOOD10 Analysis of vitamins in sports and energy drinks using Epic Polar and Epic C18 columns.

P-FOOD11 Carbohydrate analysis in food using a new Anion Exchange Column SweetSep AEX200
POSTER SESSION 1

P-FOOD12 Analysis of free sterols by liquid chromatography/time-of-flight mass spectrometry for assessment of authenticity in olive oil

P-FOOD13 Lipidomics Analysis for the differentiation of Parmigiano Reggiano and Grana Padano by LC-IM-qTOF-MS
S. W. Meckelmann, Essen/DE, P. Wittenhofer, Essen/DE, L. Montero, Essen/DE

P-FOOD14 (BPA) Evaluation of Three Drying Methods on the Active Components of Cinnamomum osmophloeum and Cinnamomum cassia Branches
Y. W. Chang, Taipei/TW, Y.-C. Hsin, New Taipei City/TW, Y.-S. Chang, New Taipei City/TW

P-FOOD15 (BPA) Simultaneous Analysis of Organophosphate Flame Retardants in Soybean Oil Using QuECHERS and LC-MS/MS

P-FOOD16 (BPA) Simultaneous determination of 11 organophosphate flame retardants in milk using the QuECHERS with LC-MS/MS

P-FOOD17 Generic HILIC-LC-HRMS screening method for polar bioactive substances
J. Lauer, Wageningen/NL, A. Arizabalaga Larranaga, Wageningen/NL, K. Wubs, Wageningen/NL, E. de Vries, Wageningen/NL, T. Boeve, Wageningen/NL

P-FOOD18 (BPA) Investigation on New Aetiology of Balkan Endemic Nephropathy by Aristolochic Acids C-K. Au, Hong Kong/HK, W. Chan, Hong Kong/HK

P-FOOD19 (BPA) Fabrication of a Simple and Efficient Reactor for Online Derivatization of Aristolochic Acids to Facilitate the Detection by Liquid Chromatography Coupled Fluorescence Detection
M.-L. Chin, Hong Kong/HK, W. Chan, Hong Kong/HK

P-FOOD20 (BPA) LC-MS/MS as a tool for colourants determination in spices
A. Kharoshka, Prague/CZ, J. Konvalinkova, Prague/CZ, M. Kub, Prague/CZ, V. Schulzova, Prague/CZ

P-FOOD21 Determination of 510 Pesticide Residues in Agricultural Products by LC-MS/MS and GC-MS/MS

P-FOOD22 Analysis of PFAS from food samples
H. R. Wollseifen, Duren/DE, L. Emmerich, Duren/DE

P-FOOD23 Fast and simple High Performance LC-UV assay for the determination of cannabinoids in hemp products
F. Klumpers, Duren/DE, T. Kretschmer, Duren/DE, H. R. Wollseifen, Duren/DE

P-FOOD24 Analysis of Organic Acids in Beer by Ion-Exclusion Chromatography and Post-Column pH-Buffering Conductivity Detection

P-FOOD25 Determination of Aflatoxins in Various Food Matrices by Fluorescence HPLC Analysis
A. Garcia Sega, Shelton/US

P-FOOD26 The Determination of Cannabinoids Content within Gummy Based Confectionary
R. Ludwig, Duisburg/DE, A. Jen, Milton Keynes/GB, G. J. Schad, Duisburg/DE

P-FOOD27 Analysis of Sugars in Soft Drinks by Hydrophilic Interaction Chromatography (HLIC) with Refractive Index Detection, Using Epic Amino HD column and Ethanol based Mobile Phase.
T. Hey, Shelton/US, S. Shulga-Morskoy, Shelton/US

P-FOOD28 Analysis of Withanolides in Withania Somnifera (Ashwagandha) root and its herbal formulated products by HPLC
J. Foss, Shelton/US, G. Leach, Seer Green/GB, S. Yadav, Mumbai/IN

FORENSICS ANALYSIS AND DOPING CONTROL (FOR)

P-FOR01 (BPA) Identification and Synthesis of selected in vitro generated metabolites of the novel selective androgen receptor modulator (SARM)-2f

P-FOR02 Investigations into the concentrations of doping substances in human seminal fluid using liquid chromatography-mass spectrometry

P-FOR04 The Development of a Virtual Liquid Chromatography Method Development Tool

P-FOR05 Development of a rapid LC-MS/MS method for explosive substances in complex matrices
K. T. Ng, London/GB, M. Beardah, Salisbury/GB, L. Barron, London/GB

P-FOR06 SNP-based ID-Typing of Human Urine and Dried Blood Spot Samples for the Detection of Doping Control Sample Manipulations

P-FOR07 Probing for pesticidal drugs (2-10 kDa) in doping control urine samples
A. Thomas, Cologne/DE, K. Walpurgis, Cologne/DE, M. Thevis, Cologne/DE

P-FOR08 Analysis of selective androgen receptor modulators in dietary supplements
A. Nemeskalova, Prague/CZ, J. Konvalinkova, Prague/CZ, M. Kuchar, Prague/CZ, D. Sykora, Prague/CZ

P-FOR09 Foodborne Doping Substances – Chromatographic-mass spectrometric approaches to distinguish intentional from inadvertent doping

P-FOR10 A Multivariate Data Analysis Approach for Investigation of In Vitro Derived Metabolites of ACP-105 in Comparison with Human In Vivo Metabolites

MISCELLANEOUS (MISC)

P-MISC01 Automated data processing of Raman spectra from online coupled size exclusion chromatography to Raman spectroscopy for protein analysis

P-MISC04 Colourful Dye Research on Farming and Weaving Pictures of Palace Lantern Embroidery from Palace Museum
L. Wei, Beijing/CHN, Y. Lei, Beijing/CHN

P-MISC06 Rediscover chromatography data – Enabling data-science through creation of a chromatography results database
S. Pfeffer, Waldbronn/DE, L. Berstier, Waldbronn/DE

P-MISC07 Tips, tricks and troubleshooting for improved chromatographic performance
POSTER SESSION 1

P-MISC08
Native Datalake: enabling a Data Pipeline for Data Analysis with small to medium Native datasets
R. Marchand, Milford/US, N. Landers, Milford/US, R. Chapman, Milford/US

P-MISC09
Selective Fluorescence Detection of Proteins Using Molecularly Imprinted Hydrogels with Aggregation-Induced Emission

P-MISC11
Towards greener workflows with clever method development
S. K. Ruiz Perez, Bad Homburg/DE, E. Ceccon, Cernusco sul Navigli/IT, D. Bell, Bellefonte/US, P. Connolly, Bellefonte/US

P-MISC13
New method for screening of angiotensin–converting enzyme inhibitors from natural extracts by thin-layer chromatography-bioassay
O. Galarce-Bustos, Concepcion/CL, B. Fernández, Concepcion/CL

P-MISC14
Intestinal permeability of a Mixture of Flavones in Caco2 Cells by HPLC Quantification

OMICS (METABOLOMICS, LIPIDOMICS, PROTEOMICS, MULTIMICS)

P-OMIC02
Ultrahigh resolution MS profiling of plasma N-glycans in large Type 2 diabetes cohorts.

P-OMIC04
The application of metabolic phenotyping to stratify the systemic response of the lipids following heterogeneous traumatic insults

P-OMIC06
Determination of glucose regulatory peptides secreted by stem cell-derived islet organoids with liquid chromatography-tandem mass spectrometry
C. Olsen, Oslo/NO, C. Wang, Oslo/NO, S. Abapidour, Oslo/NO, A. S. Hansen, Oslo/NO, E. Lundanes, Oslo/NO, F. S. Skottvoll, Oslo/NO, M. Busek, Oslo/NO, A. Aizenschtadt, Oslo/NO, S. Krauss, Oslo/NO, H. Scholz, Oslo/NO, S. R. Wilson, Oslo/NO

P-OMIC07
Pre-analytical pitfalls in lipid-centered clinical LC-MS studies
A. Sens, Frankfurt/Main/DE, S. Rischke, Frankfurt/Main/DE, R. Gurke, Frankfurt/Main/DE, L. Hahnefeld, Frankfurt/Main/DE

P-OMIC08
Novel Approaches in Metabolomics to Assess the Effects of Leachables and the Quality of Single-Use Systems in Cell Therapy Manufacturing
N. Dornival-Garcia, Dublin/IE, J. Bones, Dublin/IE

P-OMIC09
Exploration of the influence of peptides on cell membrane phospholipids of plant-pathogenic bacteria by RPLC-MS/MS

P-OMIC11
Ion exchange chromatography: top-down sample preparation for infrared spectroscopy of intact blood plasma glycoproteins
L. Voronina, Garching/DE, F. Fleischmann, Garching/DE, M. Zigmun, Garching/DE

P-OMIC12
Metabolic features of perfluorooctanoic acid-treated 3D L02 cells using metabolomics analysis
R. Zhang, Guangzhou/CN, L. Tu, Guangzhou/CN, Y. Zou, Guangzhou/CN, J. Sun, Zhuhai/CN, B. Chen, Zhuhai/CN, T. Luan, Guangzhou/CN

P-OMIC13
Lipidomic Composition Profiling of Selected Cold-Pressed Fruit Seeds Oils by LC-QTOF

P-OMIC14
Omics technologies to investigate the neuroprotective capacity of a Citrus sinensis (sweet orange) extract on a Caenorhabditis elegans Alzheimer’s model

P-OMIC15
Structural analysis and signatures of a naked mole-rat blood plasma N-glycome
S. Hahazin, Zagreb/HR, E. St. John Smith, Cambridge/GB, G. Lauc, Zagreb/HR, M. Novokmet, Zagreb/HR

P-OMIC16
Lipidomic analysis of feces, saliva, and serum from lung cancer patients by nonflow UHPLC-ESI-MS/MS

P-OMIC17
Investigating the Relationship between Hormonal Contraception and Depression: A Proteomic Study

P-OMIC18
High-throughput analysis with improved proteome coverage using new designed micro pipette array column

P-OMIC19
High-Throughput Ultra-Low Flow LCMS platform for low sample amount proteome profiling

P-OMIC20
SweetSep a New Column for the Compositional Analysis of Glycans using HPAEC-PAD/MS

P-OMIC21
Column selection for improvement of the UHPLC lipidomic analysis
V. Vrkslov, Prague/CZ, K. Prazáková, Prague/CZ, Š. Strnad, Prague/CZ, D. Sykora, Prague/CZ, J. Čváčka, Prague/CZ

P-OMIC22
Analysis of urine samples of patients with akkaputoria by targeted and untargeted high performance liquid chromatography-tandem mass spectrometry

P-OMIC23
Analysis of Tryptophan Metabolites in Macrophages Upon Bacterial Pathogen Infection

P-OMIC24
Miniaturized sample preparation for determination of retinol in COVID-19 patients using pipette-tip microextraction

P-OMIC25
Application of monolithic and core-shell columns in clinical research and practice
D. Turovohá, Hradec Králové/CZ, Ch. Suovanen, Hradec Králové/CZ, K. Matoušová, Hradec Králové/CZ, K. Mrštín, Hradec Králové/CZ, L. Kújsková Křimová, Hradec Králové/CZ

P-OMIC26
LC/MS metabolic analysis of polar and middle-polar metabolites in biological samples
Z. Neuerova, Hradec Králové/CZ, E. Cifková, Hradec Králové/CZ, M. Lisa, Hradec Králové/CZ

P-OMIC27
Clinical Metabolomics for Large Cohort Studies – Is Absolute Quantitation feasible?

P-OMIC28
Towards greener workflows with clever method development
S. K. Ruiz Perez, Bad Homburg/DE, E. Ceccon, Cernusco sul Navigli/IT, D. Bell, Bellefonte/US, P. Connolly, Bellefonte/US

P-OMIC29
HIgh-Throughput Ultra-Low Flow LCMS platform for low sample amount proteome profiling

Legend: (BPA) = Best Poster Award (Poster participates in the Best Poster Award)
P-OMIC30 (BPA) Uncovering Lipid Perturbations in Caenorhabditis elegans Exposed to Harmame using Lipidomics Profiling


P-OMIC32 The importance of the Elution Solvent on the Glycopleptide Enrichment by Solid Phase Extraction in Hydrophilic Interaction Liquid Chromatography Mode K. Molinár, Prague/CZ, M. Chobotová, Prague/CZ, P. Kozlík, Prague/CZ


P-OMIC36 (BPA) 4-fluoro-1-methylpyridinium p-toluene sulfonate (FMP-TS) as a new derivatization reagent for vitamin D3 metabolites using LC-MS/MS B. Le Bizerc, Nantes/FR, G. Dervilly, Nantes/FR, M. Garcia-Campaña, Granada/ES, M. Hernández-Mesa, Granada/ES


P-OMIC40 Fast assessment of nutraceutical bioavailability and metabolite profiles in the enterohepatic microenvironment by targeted metabolomics S.-J. Hsu, Taipei/TW, S.-M. Lin, Chiayi/TW, C.-K. Lee, Taipei/TW

P-OMIC41 Challenges in Metabolite Identification for Data-independent Acquisition-based SWATH-MS Lipidomics Research A. Brun, Tübingen/DE, M. Lämmerhofer, Tübingen/DE


P-OMIC46 Development and validation of a HILIC-MSMS method for the quantitative analysis of 13 amino acids in dried urine spots D. B. Bezpou, Thessaloniki/GR, T. Melopoulos, Thessaloniki/GR, H. Gika, Thessaloniki/GR, G. Theodoridis, Thessaloniki/GR


P-OMIC51 Multi-dimensional MS methodology for Petroleumomics study, ionization, derivatization, IMS, UHMRMS, and data processing Y. Han, Beijing/CHJ, J. Liu, Beijing/CHJ, W. H. Hu, Beijing/CHJ, H. Nie, Beijing/CHJ

P-OMIC52 The application of stable isotope based metabolic flux analysis in the field of environmental chemistry T. Luan, Guangzhou/CHN, R. Zhang, Guangzhou/CHN, B. Chen, Guangzhou/CHN, H. Zhang, Guangzhou/CHN
**POSTER SESSION 1**

P-PHAR09 Finding better column selectivity choices – Using Analytical Design Space Modeling to systematically study and compare selectivities of separation systems across 25 UHPLC-columns
A. Zoeldhegyi, Berlin/DE, R. Kormany, Budapest/HU, I. Molnar, Berlin/DE

P-PHAR10 Kdo substitution and endotoxin quantification using the novel chemical Kdo-OMβ-LC endotoxin content assay
A. Hoffmann, Sion/CH, M. Zellinger, La Chaux-de-fonds/CH, B. Buczella, Visp/CH, K. Pacios, Sion/CH, F. Kalman, Sion/CH

P-PHAR11 First Steps towards the Development of a Bioanalytical Quantification Method for metformate and its metabolites by Capillary Blood using Volumetric Absorptive Microsampling (VAMS) and on-line Solid Phase Extraction (SPE) LC-MS
P. Opitz, Münster/DE, J. Fabian, Münster/DE, G. Hempel, Münster/DE

P-PHAR12 Continuous monitoring of the performance of chromatographic assay methods
J. M. Rousell, Macon/FR, M. Righezza, Plan de Cuques/FR

P-PHAR13 Post-column derivatization of active pharmaceutical ingredient using high performance liquid chromatography with fluorescence detection

P-PHAR14 Analysis of Flavonoids in Georgian Saperavi Wine lees by HPLC/DAD Method

P-PHAR15 HPLC Analysis of Glycosaminoglycan Disaccharides
A. Zappe, Berlin/DE, K. Pagel, Berlin/DE

P-PHAR16 How to increase the cost effectiveness for the UHPLC Separation of challenging and matrix-rich pharmaceutical formulations
P. Lewis, Darmstadt/DE, A. Piper, Darmstadt/DE, B. Peters, Darmstadt/DE

P-PHAR17 Needle Wash Mechanism and its Impact on HILIC Analysis

P-PHAR18 Characterization of degradation products of ektromycin by mass spectrometry: Development and validation of a stability-indicating reversed-phase HPLC method
I. Kovacic, Zagreb/HR, M. Ljetic, Zagreb/HR, D. Adamicic Klarc, Zagreb/HR, A. Mornar, Zagreb/HR

P-PHAR19 Dissolution of biologically active components from herbal capsules used in the treatment of inflammatory bowel diseases under standard and biorelevant test conditions
S. Zubcic, Zagreb/HR, I. Kovacic, Zagreb/HR, I. Klarić, Brcko/BA, A. Mornar, Zagreb/HR, S. Tomic, Zagreb/HR

P-PHAR20 Exploring critical parameters for the retention and detection of molecules in Supercritical Fluid Chromatography with the support of Data Science and AI tools
A. Buica, Gothenburg/SE, K. Ohlen, Gothenburg/SE, V. Spelling, Gothenburg/SE, C. Bauer, Gothenburg/SE, K. Kamińska, Gothenburg/SE, A. Soderström, Gothenburg/SE, H. Leek, Gothenburg/SE

P-PHAR21 Determination of fluconazole in small blood volumes from children using volumetric absorptive microsampling (VAMS) and isotropic HPLC-UV
F. Zimbamm, Münster/DE

P-PHAR22 Combining knowledge-based prediction of degradation products and LC/hRMS/MS: How can we support development of a stability indicating HPLC method?

P-PHAR23 sgRNA sequencing by targeted digestion and iPRP-LC-MS Analysis

P-PHAR24 Utilization of EC-MS for online monitoring of API oxidation degradation products
F. Vymyslicky, Prague/CZ, T. Krizek, Prague/CZ, J. Hert, Prague/CZ

P-PHAR25 UHPLC method development using 3D in-silico modelling
C. Castel, Macclesfield/GB

P-PHAR26 Application of multiple detectors for analysis of samples containing highly different concentrated compounds in pharmaceutical development

P-PHAR27 Modeling Software for Retention Prediction in Gradient Reverse Phase Liquid Chromatography (RPLC) – A Diagnostic Tool

P-PHAR28 Batch Characterization of modified celluloses for pharmaceutical formulation by Size Exclusion Chromatography / InfraRed detection and Machine Learning

P-PHAR29 Chromatographic retention prediction in RPLC by machine learning

P-PHAR30 Comparison of Dried Plasma Spots (DPS) and Volumetric Absorptive Microsampling (VAMS) for the Quantification of Piperacillin using HPLC-UV
L. M. Koltermann, Münster/DE, P. Opitz, Münster/DE, G. Hempel, Münster/DE

P-PHAR31 Development of an HPLC Method with Post-Column Photolysis and Derivatization for the Determination of N-nitrosodimethylamine (NDMA) in Metformin HCl

P-PHAR32 Development of a HILIC-QqQ-MS Method for Testing the Mechanism of Action of Nucleoside Analog Drugs

P-PHAR33 Development and validation of a high-performance liquid chromatography method for the analysis of Tetrathriin and Hydramethylnol in Polyethylene glycol 400

P-PHAR34 Development of a simple method to determine the concentrations of Telcoplanin in a drop of blood using DBS.
O. Ramadan, Münster/DE, G. Hempel, Münster/DE

P-PHAR35 Chromatographic evaluation of oxidative stress induction by oxime reactivators of acetylcholinesterase in vitro using HepG2 cell line
N. Váňová, Hradec Královec/CZ, L. Mučková, Hradec Králove/CZ, L. Lochman, Hradec Králove/CZ, F. Svec, Hradec Králove/CZ

P-PHAR36 FPSE HPLC PDA quantification of febuxostat and montelukast in human plasma

P-PHAR37 Software-supported HPLC Method Development to Baseline Separate Regionosters of Sugammadex-related Impurities
POSTER SESSION 1

P-PHAR38 Analysis of Amino Acids Using Automatic Pretreatment Function
B. Bollig, Duisburg/DE, V. Kraft, Duisburg/DE, G. J. Schad, Duisburg/DE, P. Jochems, Duisburg/DE

P-PHAR39 (BPA) HPLC analysis of catecholamines using derivatization
D. Heblík, Hradec Králové/CZ, P. Kastner, Hradec Králové/CZ, R. Kučera, Hradec Králové/CZ

P-PHAR41 Control of Lipid Composition and Lipid-Related Impurities and Degradants in Liposome and Lipid Nanoparticle Drug Products by HPLC-CAD
S. Meisen, Kaiseraugst/CH, V. Hoffmann, Kaiseraugst/CH, A. Lutterotti, Kaiseraugst/CH, D. Menzi, Kaiseraugst/CH

P-PHAR42 Reliable HPLC Analysis of Aspirin and Associated Related Substances in Drug Substance and Tablet Formulation
M. Maziarz, Milford/US, P. Rainville, Milford/US

P-PHAR43 (BPA) Analysis of Cyclodextrins on Porous Graphite Carbon HPLC Columns

P-PHAR44 (BPA) Identification and Quantification of the Active Drug Component in Xraphcon, a Medication for the Treatment of Feline Coronavirus-induced Feline Infectious Peritonitis

P-PHAR45 Automated incubation, sampling, extraction, and analysis of drugs, drug metabolites, and biomarkers using organ-in-a-column
S. Kogler, Oslo/NO, E. Kvalvik, Oslo/NO, G. M. Pedersen, Oslo/NO, K. S. Kamuru, Oslo/NO, A. Aizenshtadt, Oslo/NO, S. J. K. Krauss, Oslo/NO, S. R. H. Wilson, Oslo/NO, H. Raberg-Larsen, Oslo/NO

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Further information on the poster sessions can be found on page 24

**Session 2: Tuesday, June 20, 03:30 p.m. – Wednesday, June 21, 04:30 p.m.**

**Environmental Analysis (ENVI)**

- P-ENVI01: Monitoring of acetaminophen and ibuprofen during COVID-19 lockdown by wastewater and river water analysis, N. Mugaashiri, Johannesburg/ZA, A. Mpupa, Johannesburg/ZA, N. Musee, Johannesburg/ZA, P. Nonngongo, Johannesburg/ZA


- P-ENVI03: Uptake of pharmaceuticals by lettuce (Lactuca sativa) grown under hydroponic conditions and in a terrestrial environment and earthworms (Eisenia fetida) in the soil environment, J. Fudik, Brno/CZ, A. Amrichová, Brno/CZ, M. Hamplová, Brno/CZ, J. Navrkalová, Brno/CZ, M. Setlat Brno/CZ, L. Mravcová, Brno/CZ


- P-ENVI05: HepG2 Cell Mediate Metabolism for Typical Plant-generated Glycoconjugates of Tetrabromobisphenol A, J. Liu, Beijing/CN, H. Zhang, Beijing/CN, X. Hou, Beijing/CN, G. Jiang, Beijing/CN

- P-ENVI09: Identifying plasma zymogen-activating components in airborne fine particles using laser desorption ionization mass spectrometry (LDI MS), Q. Zhou, Beijing/CN, Y. Zhang, Beijing/CN, G. Jiang, Beijing/CN


Legend: (BPA) = Best Poster Award (Poster participates in the Best Poster Award)
Development and pre-validation of an analytic method to quantify 25 perfluorinated compounds in environmental matrices by liquid chromatography coupled to tandem mass spectrometry
L. S. Souvignet, Vénissieux/FR, A. Marion, Vénissieux/FR, A. Cortejade, Vénissieux/FR, D. Ouslimane, Vénissieux/FR, M. Nicolas, Vénissieux/FR

Metal speciation using a micro-sized HPLC column coupled to ICP-MS

Ion Chromatography Analysis of Degradation Products in Lithium-Ion Battery Electrolytes

Supercritical Fluid Chromatography Hyphenated to Mass Spectrometry for the Analysis of Polar Contaminants in Water Samples – Revolution or Hype?

Development and pre-validation of an analytic method to quantify 25 perfluorinated compounds in environmental matrices by liquid chromatography coupled to tandem mass spectrometry
L. S. Souvignet, Vénissieux/FR, A. Marion, Vénissieux/FR, A. Cortejade, Vénissieux/FR, D. Ouslimane, Vénissieux/FR, M. Nicolas, Vénissieux/FR

Metal speciation using a micro-sized HPLC column coupled to ICP-MS

Ion Chromatography Analysis of Degradation Products in Lithium-Ion Battery Electrolytes

Supercritical Fluid Chromatography Hyphenated to Mass Spectrometry for the Analysis of Polar Contaminants in Water Samples – Revolution or Hype?

Active scouting run selection for retention modelling in liquid chromatography

Solute Migration and Band Broadening in Pressure-Enhanced Liquid Chromatography
S. Fekete, Geneva/CH, M. Lauber, Milford/US

Physicochemical Modelling of the Retention Mechanism of Temperature-Responsive Polymeric Columns for HPLC

Liquid Chromatographic Gradient Method Allowances Provided by General Chapter, USP 421
C. E. Layton, Milford/US, P. D. Rainville, Milford/US

Transference and optimisation of a global retention model to classify tea samples by HPLC

Mobile-Phase Contributions to Organic-Solvent Excess Adsorption and Surface Diffusion in Reversed-Phase Liquid Chromatography

Impact of Detector Sampling Rate on Signal to Noise Ratio during Method Migration
Y. Ding, Milford/US, P. Hong, Milford/US

Effect of the mobile phase pH and buffering species on the characterization of chromatographic retention: zwitterionic ZIC-HILIC column as case study
X. Subirats, Barcelona/ES, L. Casanovas, Barcelona/ES, M. Rosés, Barcelona/ES

Chromatographic selectivity in different reversed-phase and HILIC columns
L. Redón, Barcelona/ES, X. Subirats, Barcelona/ES, M. Rosés, Barcelona/ES

Estimation of the Hydrophobicity Extent of Molecular Fragments With a Reversed-Phase Liquid Chromatography Method
I. Varfaj, Perugia/IT, A. Carotti, Perugia/IT, I. Prusini, Perugia/IT, G. Abualzulof, Perugia/IT, S. Bonafe, Perugia/IT, E. Camaioni, Perugia/IT, R. Sardella, Perugia/IT

Simultaneous Separation Method Optimization of Antihypertensive Drugs using HPLC-assisted QSRR Computational Modeling
R. Ratih, Surabaya/ID, V. Setiawan, Surabaya/ID, T. Yuniarta, Surabaya/ID

Determination of effective diffusion coefficients of proteins at elevated pressure in columns packed with wide-pore core-shell particles

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POSTER SESSION 2

P-FUND14 (BPA)
Study of Deuterium Intermolecular Interactions by HPLC with Deuterated Mobile Phases

P-FUND15 (BPA)
On the Challenges of Preparative and Analytical Chromatography Applied to a Mixture of Reacting Species
S. Trespi, Zurich/CH, M. Mazzotti, Zurich/CH

P-FUND16 (BPA)
The wikiChrom Project: Large Scale Acquisition of Retention Data to Support Fundamental Studies and Method Development in Liquid Chromatography

ION-MOBILITY MASS SPECTROMETRY (IMS)
P-IMS01 (BPA)
The analysis of lipids from different animal milk using liquid chromatography ion mobility mass spectrometry
L. Buckett, München/DE, P. Schmitt-Kopplin, München/DE

P-IMS02
Liquid Chromatography and Differential Mobility Spectrometry – Data Independent Mass Spectrometry for Comprehensive Multidimensional Separation in Metabolomics

P-IMS03
High Throughput Analysis of Isomeric Drugs of Abuse in Human Urine Samples by Liquid Chromatography Vacuum Differential Mobility Spectrometry-Mass Spectrometry
G. Hopfgartner, Geneva/CH, M. F. Cifuentes Giraud, Geneva/CH, P. Knight, Manchester/GB

P-IMS04 (BPA)
O-glycan isoform separation using Trapped Ion Mobility-Mass Spectrometry

P-IMS05 (BPA)
The dark side of blue-green algae dietary supplements: use of LC-TWIMS-QTOF to identify the presence of cyanotoxins

P-IMS06
Development of a Coated Blade Spray Ion Mobility Spectrometer

P-IMS07 (BPA)
An Electrospay Ion Mobility Spectrometer Combining High Resolving Power with High Repetition Rate for Fast Chromatography and Droplet Microfluidics

P-IMS08
Minimization of carry-over for LC/MS analysis by autosampler with unique rinse function

P-IMS09 (BPA)
An automated droplet deposition system for the interfacing of multi-outlet chips for spatial multidimensional separations with MALDI mass spectrometry
T. Themelis, Brussels/BE, J. De Vos, Kortrijk/BE, S. Eeltink, Brussels/BE, A. Amini, Brussels/BE

NEW INSTRUMENTATION AND MASS SPECTROMETRIC DETECTION METHODS (INST)
P-INST01
Novel Tandem Nano and Capillary LC-MS Setup Enables 24/7 Proteome Profiling with Close to 100% MS Utilization and 0% Column Carryover

P-INST02
Comprehensive extractables analysis using novel automated parallel extraction and concentration coupled with a multi-detector LC/UV/CAD/HRAM Orbitrap MS system

P-INST03
Optimizing two-dimensional chromatography (Sepiacept Sepbox) for elucidation of complex natural products

P-INST04
Insights into Biomolecular Composition using MALSS, UV and RI: Characterization of PEGylated and Membrane Proteins

P-INST05
LC-MS, SFC-MS AND CE-MS (LCMS)
P-LCMS01
Minimization of carry-over for LC/MS analysis by autosampler with unique rinse function

P-LCMS02
An automated droplet deposition system for the interfacing of multi-outlet chips for spatial multidimensional separations with MALDI mass spectrometry
T. Themelis, Brussels/BE, J. De Vos, Kortrijk/BE, S. Eeltink, Brussels/BE, A. Amini, Brussels/BE

P-LCMS03
Comprehensive extractables analysis using novel automated parallel extraction and concentration coupled with a multi-detector LC/UV/CAD/HRAM Orbitrap MS system

P-LCMS04
Optimizing two-dimensional chromatography (Sepiacept Sepbox) for elucidation of complex natural products

P-LCMS05
Insights into Biomolecular Composition using MALSS, UV and RI: Characterization of PEGylated and Membrane Proteins

LC-MS, SFC-MS AND CE-MS (LCMS)
P-LCMS01
Development and Validation of a Bioanalytical Method for Quantification of Nitrated Fatty Acids in Plasma of Cardiovascular Patients by LC-MS/MS
R. Hanafi, New Cairo/EG, M. Gad, New Cairo/EG, M. Herz, New Cairo/EG

P-LCMS02
Simplification of make-up solvent optimization in SFC-MS using prediction models based on the analytic properties and used ionization source

POSTER SESSION 2
P-LCMS03  Signal enhancement for hCG glycoforms analysis at the intact level by nanoliquid chromatography coupled to mass spectrometry

P-LCMS04  Hypenatization of supercritical fluid chromatography with high-resolution MS and charged aerosol detection for the analysis of polar cereal lipids
S. Schneider, Münster/DE, H. Hayen, Münster/DE

P-LCMS05  Advances of capillary electrophoresis methodologies for the characterization of biotherapeutics via mass spectrometry

P-LCMS06  Micropich CE-MS Analysis of Nucleic Acids: From Characterization of Synthetic Oligonucleotides to Sequence Mapping of RNAs
K. Yu, Boston/US, A. Kulkarni, Boston/US

P-LCMS08  UHPLC/MS/MS analysis of supercritical fluid Eucalyptus sp. extract

P-LCMS09  Development of UHPLC and UHPSFC-MS assays for quality control of homemade facemask fit testing solutions
J. M. Herriman, Southampton/GB, G. J. Langley, Southampton/GB

P-LCMS10  High Throughput FAMS – A Fatty Acid Mass Spectrometry Method for Monitoring Polysorbate Hydrolysis in QC

P-LCMS11  RP-HPLC-QqQ-MS combined with LRI system to determine oxygen heterocyclic compounds in Citrus fragrans hand sanitizers
G. Cakeo, Messina/IT, T. M. G. Salerno, Messina/IT, R. Dugo, Messina/IT, L. Mondello, Messina/IT

P-LCMS12  Speciation of 11 Organotin Compounds via HPLC-ICP-MS Using the Complexing Agent α-Tropolone in a Ternary Gradient

P-LCMS13  Quantification of biological molecules via coupling of Capillary Electrophoresis with on-line Isotope Dilution ICP-MS (on-line ID CE/ICP-MS)

P-LCMS14  Development to fast screening identifies active ingredients from Garcinia mangostana L. using LC-MS/MS combined enzyme mode
Y. H. Wang, Taipei/TW, C. K. Lee, Taipei/TW

P-LCMS15  Taking the characterization of bispecific antibodies with RPLC-MS to the next level by improving speed and selectivity

P-LCMS16  A targeted LC-MS/MS method for comprehensive, quantitative analysis of bioactive lipids
S. Rubenzucker, Vienna/AT, R. Ahrends, Vienna/AT

P-LCMS17  Effect of stationary phase on retention of gangliosides in reversed-phase liquid chromatography coupled to mass spectrometry
M. Mlynarczyk, Gdansk/PL, W. Hewelt-Belka, Gdansk/PL

P-LCMS18  Development of simultaneous LC-MS/MS analysis for eight genotoxic nitrosamines in Dibuxaprofen

P-LCMS19  Accurate ceramide quantification without fragmentation bias by non-linear models
POSTER SESSION 2

MATERIALS AND 3-DPRINTING (MAT)

P-MAT01 (BPA)
Using DLP 3D printing as a new, cheap and easy way to sorbent immobilization and custom-shape sorbent fabrication.
S. Uelenberg, Gdansk/PL; P. Georgiev, Gdansk/PL; M. Belka, Gdansk/PL; D. Szynekiewicz, Gdansk/PL; T. Bączek, Gdansk/PL

P-MAT02 (BPA)
Investigation of Homemade Low Temperature Plasma Ion Sources

P-MAT03 (BPA)
3D-printable PP/ABS/C18 silica composite and its application in pharmaceutical analysis
D. Szynekiewicz, Gdansk/PL; S. Uelenberg, Gdansk/PL; P. Georgiev, Gdansk/PL; A. Hejna, Poznan/PL; B. Mikolajek, Gdansk/PL; T. Bączek, Gdansk/PL; G. V. Baron, Brussels/BE; J. F. P. Denayer, Brussels/BE; G. Desmet, Brussels/BE; M. Belka, Gdansk/PL

P-MAT04 (BPA)
LC-MS Sample Preparation Made Easy: Developing an Open-Source Robotic Automation System with 3D Printing Technology

P-MAT05 (BPA)
Exploring the Potential of DLP Printing and Silica Incorporation in Microfluidic Devices for Drug Extraction
P. Georgiev, Gdansk/PL; U. Uelenberg, Gdansk/PL; M. Belka, Gdansk/PL; D. Uelenberg, Gdansk/PL; T. Bączek, Gdansk/PL

P-MAT06
Development of a 3D Printed Highly Customizable Lab-on-a-Chip Platform
T. Weres, Duisburg/DE; M. Klaßen, Duisburg/DE; T. Teutenberg, Duisburg/DE

P-MAT07
Micro 3D printing of stationary phases for miniaturized liquid chromatography
T. Dirschner, Reutlingen/DE; J. Maier, Reutlingen/DE; A. Lorenz, Reutlingen/DE; T. Weres, Duisburg/DE; M. Klaßen, Duisburg/DE; T. Teutenberg, Duisburg/DE; M. Brecht, Reutlingen/DE; G. Lorenz, Reutlingen/DE

P-MAT08
Trace Corrosion of Metallic HPLC Components from Common Mobile Phase Additives and the Deleterious Impact on Separations
J. Bischof, Bellefonte/US

MULTIDIMENSIONAL SEPARATIONS (MDLC)

P-MDLC01 (BPA)
Off-Line Coupling of Asymmetrical Flow Field Flow Fractionation (AF4) with Capillary Electrophoresis (CE) for Analysis of Extracellular Vesicles

P-MDLC02 (BPA)
Selective comprehensive two-dimensional liquid chromatography combining hydrophilic interaction liquid chromatography and reversed-phase liquid chromatography with active solvent modulation to analyze organic micropollutants in environmental waters
M. Pardon, Leuven/BE; S. Chapel, Leuven/BE; P. De Witte, Leuven/BE; D. Cabooter, Leuven/BE

P-MDLC04 (BPA)
Offline LCxSFC-HRMS/MS method development for the non-target analysis of depolymerized lignin
E. Tammevili, Villeurbanne/FR; M. Batteau, Villeurbanne/FR; D. Laurenti, Villeurbanne/FR; K. Faure, Villeurbanne/FR

P-MDLC06
Characterization and Comparison of Smokeless Powders by On-line Two-dimensional Liquid Chromatography
R. S. van den Hurk, Amsterdam/NL; N. Abdulhussain, Amsterdam/NL; A. S. A. van Beurden, Amsterdam/NL; M. E. Dekker, Amsterdam/NL; I. Lemmink, Amsterdam/NL; J. R. van Schaik, Amsterdam/NL; A. Hejna, Poznan/PL

P-MDLC07
Unlocking Objective Numerical Evaluation of Data Analysis Strategies: A Novel Platform to Generate Highly Reliable LC×LC and GC×GC Data
N. B. L. Milan, Amsterdam/NL; S. Samaniopoulos, Amsterdam/NL; B. W. J. Pirok, Amsterdam/NL

P-MDLC08
A Novel, Coupled, Two-Dimensional Liquid Chromatography Method for Characterizing Immunoglobulin G Charge Variants from Chinese Hamster Ovarian Cell Lines

P-MDLC09 (BPA)
Online and automated sample handling – The future of fast and efficient mAb characterization and quantification
A. Bathke, Basel/CH; S. Oezipek, Basel/CH; S. Hoelterhoff, Basel/CH

P-MDLC11 (BPA)
Investigating Chemical Distributions in Co-polymer Polymers by Chemical or Enzymatic Degradation Followed by SEC-HRMS and 2DLC-HRMS
M. Serizawa, Amsterdam/DE; E. Abdelraheem, Amsterdam/DE; F. Nittel, Amsterdam/NL; R. Peters, Amsterdam/NL; P. Schoenmakers, Amsterdam/NL; A. Gargano, Amsterdam/NL; M. Serizawa, Amsterdam/DE; E. Abdelraheem, Amsterdam/DE; F. Nittel, Amsterdam/NL; R. Peters, Amsterdam/NL; P. Schoenmakers, Amsterdam/NL; A. Gargano, Amsterdam/NL

P-MDLC12 (BPA)
Phospholipid profiling of mitochondria utilizing 2D-LC and parallel detection
V. Schwanties, Münster/DE; C. Oettmeier, Münster/DE; J. Wittke, Münster/DE; F. Schmelter, Münster/DE; K. Busch, Münster/DE; H. Hayen, Münster/DE

P-MDLC13 (BPA)
Enantioselective Determination of biological and pharmaceutical compounds by an Achiral × Chiral, using purely aqueous mobile phase in the first dimension and ultrafast chiral chromatography in the second dimension
T. Rahman, Ghent/BE; A. Ampe, Ghent/BE; F. Lynen, Ghent/BE

P-MDLC15
Column switching for automated online enrichment and separation of polar and nonpolar analytes from aqueous matrix
K. Kochale, Duisburg/DE; J. R. Cunha, Duisburg/DE; T. Teutenberg, Duisburg/DE; T. C. Schmidt, Essen/DE

P-MDLC16 (BPA)
A novel selective comprehensive on-line nanoLC-CZE-MS platform for proteome characterization

P-MDLC17 (BPA)
2D-LC platform with enhanced method development to facilitate peak purity assessment
S. Gierszewski, Wuppertal/DE; A. Ulbrich, Wuppertal/DE

P-MDLC18 (BPA)
1D / 2D UPLC-MS system and its use in the field of drug metabolism and pharmacokinetics
M. Schiell, Frankfurt/Main/DE; F. Steiner, Frankfurt/Main/DE; M. Grueneber, Frankfurt/Main/DE

P-MDLC19 (BPA)
Enantioselective Determination of Ornithine and Lysine in Human Physiological Fluids Using a Highly Selective Two-dimensional HPLC System Based on Intramolecular Excimer-forming Fluorescence Derivatization

P-MDLC20
Identification of the unknown – real time reaction monitoring and high speed md-LC-MS/(MS) characterization

P-MDLC21 (BPA)
Characterization of fatty acid polymers by off-line reversed-phase liquid chromatography x supercritical fluid chromatography coupled with Orbitrap mass spectrometry
M. Sanchez, Villeurbanne/FR; A. Limoges, Solaize/FR; J. Crepier, Solaize/FR; K. Faure, Villeurbanne/FR

P-MDLC22 (BPA)
Two-dimensional chiral RP×RP LC-UV-MS method development for characterization of conjugated fatty acid isomers and lipid oxidation products
M. Olfert, Tübingen/DE; M. Lämmerhofer, Tübingen/DE

P-MDLC23 (BPA)
Herbal remedies as complex samples – Challenge or possibility for new analytical techniques?

Legend:
(BPA) = Best Poster Award (Poster participates in the Best Poster Award)
POSTER SESSION 2

P-MDLC24 (BPA) Heart-cut 2D-LC-QqQ-MS as a novel tool for the Characterization of the Cholesterol Biosynthesis
P. Wittenhofer, Dortmund/DE, O. Schmitz, Essen/DE, S. Meckelmann, Essen/DE

P-MDLC25 Multi-dimensional LC with online high-pressure UV detection and radio-activity detection developed for isolation and purification of metabolites
S. Wouters, Beerse/BE, F. Van Looveren, Beerse/BE, F. Cuyckens, Beerse/BE

P-MDLC26 (BPA) Interpretive Method Development of LC Separations using Chemometrics: Opportunites for Selectivity Screening

P-MDLC27 (BPA) Introduction of 2D Sequential-Cutting by adopting High-Resolution Sampling 2D Liquid Chromatography using Teicoplanin as an Example

P-MDLC28 (BPA) Investigation of bioactive compounds in grape pomace using comprehensive two-dimensional liquid chromatography

PREPARATIVE AND PROCESS CHROMATOGRAPHY (PREP)

P-PREP02 An experimental comparative study of the potential of monolithic multi-capillary columns
A. Bouchaudy, Saint Fons/FR, F. Parmentier, Saint Fons/FR

P-PREP04 The Small Molecule Bulk Purification Workflow: A Practical Approach Using Agilent InfinityLab Instrumentation and Columns
R. Freeman, Wilmington/US, L. Subbarao, Wilmington/US, A. Tei, Waldbronn/DE

P-PREP05 Remediation of pyrrolizidine alkaloids in plant extracts by liquid-liquid chromatography: case studies of comfrey and red clover
D. Rutterschmid, Kecskemét/HU, A. Koczó, Kecskemét/HU, Z. Kovács, Kecskemét/HU, M. Nacs, Kecskemét/HU

P-PREP06 (BPA) Simple and efficient reversed phased flash chromatography method for separation and isolation of aroma-active ethyl and isoamyl esters in natural mixtures
V. Výbohová, Bratislava/SK, K. Hroboňová, Bratislava/SK

P-PREP07 (BPA) Scalable and cost-efficient isolation of artemisinin from a crude Artemisia annua extract by means of centrifugal partition chromatography
Z. Kádár, Kecskemét/HU, Z. Kovács, Kecskemét/HU, A. Koczó, Kecskemét/HU

P-PREP08 (BPA) Fractionation of herbal extracts using preparative high-performance liquid chromatography
K. Bechynska, Prague/CZ, V. Kosek, Prague/CZ, A. M. Hajslova, Prague/CZ, J. Polak, Prague/CZ, J. Hajslova, Prague/CZ

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| P-SAMP01 | A | Hyphenation of flow-based approaches to mass spectrometry for determination of bioactive compounds in biomatrices |
| P-SAMP02 | A | New Labeling Strategies for Glycosylation Analysis by CE/LIF and CE-MS |
| P-SAMP03 | A | Development of innovative oligonucleotide-based supports for the selective extraction of cadmium and lead from serum samples |
| P-SAMP04 | A | Sample filtration and its impact on HPLC column lifetime and data quality |
| P-SAMP05 | A | Application of Various Extraction Techniques (QuEChERS, d-SPE, SPE, DLLME) for the extraction of phthalates in environmental matrices |
| P-SAMP06 | A | Enrichment of menthol from Mentha haplocalyx and cinnamonaldehyde from Cinnamonum cassia by suppression particle assisted solvent sublation and molecular docking of menthol and cinnamonaldehyde on Amydoloid-B |
| P-SAMP07 | A | New ideas for the development of liquid phase extraction-Nanoconfined liquid phase nano extraction |
| P-SAMP08 | A | A modified QuEChERS coupled to hydroxyapatite-based extraction procedure for six steroid compounds determination by LC-MS/MS |
| P-SAMP09 | A | Comparison of extraction methods for purification of positively charged oligosaccharides and glycans |
| P-SAMP10 | A | Green microextraction of xenobiotic contaminants from tropical beverages using natural hydrophobic deep eutectic solvents |
| P-SAMP11 | A | Quality Control of Methoxyacarbonyl-sulfenylchloride after Derivatization Followed by Gas Chromatography |
| P-SAMP12 | A | Extraction procedure evaluation of different solvents for arsenic speciation in plant and soil material by HPLC-ICP MS |
| P-SAMP13 | A | Plant metabolites-based natural deep eutectic solvents for the vortex-assisted liquid-liquid microextraction of endocrine disruptors and their metabolites from environmental water samples |

**Legend:** (BPA) = Best Poster Award (Poster participates in the Best Poster Award)
SEPARATION MODES (HILIC, MIXED-MODE, AFFINITY, ET AL.) (SEPM)

P-SFC04 (BPA) Simulated Moving Bed Chromatography (SMB) and perspective of combination with supercritical fluid chromatography (SMB-SFC) for green purification of cannabinoids from hemp extract

P-SFC05 (BPA) CFD study on true separation performance throughout an SFC column

P-SFC06 (BPA) Simultaneous Analysis of Carboxylic Anhydrides and Hydrolysates Using Supercritical Fluid Chromatography

P-SFC07 Sustainable and Fast Chromatography—Finding the ideal solvent for the separation of polar analytes in SFC

P-SFC08 (BPA) Method development and Identification of Triacylglycerols species in Palm Oil with Supercritical Fluid Chromatography

STATIONARY PHASES & COLUMN TECHNOLOGIES (STPH)

P-STPH01 Improvement of separation performance for eggshell-based reversed-phase HPLC columns by controlling particle size and application in therapeutic drug monitoring
Y. Hinuta, Yokohama/IP, T. Yoshi, Yokohama/IP, K. Nakano, Yokohama/IP, T. Okuda, Yokohama/IP, D. Citterio, Yokohama/IP

P-STPH02 Preparation and Chromatographic Evaluation of Novel Mixed-mode Chitosan Functionalized Methylacrylate Monolithic Capillary Column
M. A. M. El-Nouby, Gifu/JP, L. Wah Lim, Gifu/JP

P-STPH03 The Importance of Mitigating Analyte Interactions with Metal Surfaces in HPLC Separations of Small Molecules

P-STPH04 Microfluidic Validation of the Diffusional Bridging Effect Suppressing Dispersion in Multi-Capillary Flow Systems
B. Vankeerbergen, Brussels/BE, F. Parmentier, Lyon/FR, G. Desmet, Brussels/BE

P-STPH05 Innovative Solutions to Critical Liquid Chromatography Workflows Employing Porous Graphitic Carbon UHPLC Columns

P-STPH06 Lignin-immobilized Polymer Monolithic Capillary Column for Mixed-mode Liquid Chromatographic Separation
A. R. Anggraeni, Gifu/IP, L. W. Lim, Gifu/IP, T. Takeuchi, Gifu/IP

P-STPH07 All Carbon Stationary Phase Material for Biomolecule Separation: Design and Characterization
B. Sirtharan, Stony Brook/US, M. Parente, Stony Brook/US
**POSTER SESSION 2**

P-STPH08  
In-situ stationary phase modification for Temperature-Responsive Liquid Chromatography (TRLC) by flow-through modification  
A. Ampe, Ghent/BE, K. Broekhoven, Brussels/BE, F. Lynen, Ghent/BE

P-STPH09  
Substitution of acetonitrile with more sustainable solvents in HPLC on monolithic silica columns.  

P-STPH10  
3μm Monodisperse Particles for Ion Exchange Chromatography Stationary Phases and Their Impact on the Separation of Biomolecules  

P-STPH11  
Cation exchanger carrying sulfonate groups as a possible alternative for both mixed mode type and heparin affinity resin  
E. Müller, Griesheim/DE, M. Begic, Pula/HR, P. Grbcic, Pula/HR, D. Josic, Marburg/DE

P-STPH12  
Cation Exchange Stationary Phase Platform for the Analysis of Multifunctional Compounds using IC-MS  

P-STPH14  
Novel end-capping method with silyl-reagent including ethylene chain  

P-STPH15  
Consideration of π-π and CH-π interactions as dipole-dipole interactions in biphenyl stationary phases  

P-STPH16  
New Porous Monodisperse HPLC particles  
Y. Walsh, Neston/GB, K. Butchart, Neston/GB, M. Woodruff, Neston/GB

P-STPH17  
Novel end-capping method with silyl-reagent including ethylene chain  

P-STPH18  
Design of analytical methods using ionic liquids as modifiers of the mobile phases in LC technique  
N. Tredar, Gdansk/PL, A. Roszkowska, Gdansk/PL, I. Olejdka, Gdansk/PL, T. Bączek, Gdansk/PL, A. Pienis, Gdansk/PL

P-STPH19  
Investigation of the Retention Mechanisms of Porous Graphitic Carbon as Stationary Phase in HPLC  

P-STPH20  
Diminishing the effect of large-volume injections of a hydrophobic diluent in reversed-phase liquid chromatography  

P-STPH21  
Novel polyamide-divinylbenzene based mixed-mode stationary phases with grafted polyethyleneimine and polyglycidol  
A. Gorbovskaia, Moscow/RU, E. Popkova, Moscow/RU, A. Uzhel, Moscow/RU, A. Chernobrovkina, Moscow/RU, O. Shpigun, Moscow/RU

P-STPH22  
Novel stationary phases for HILIC with polymeric functional layers introduced via the Ugi reaction  
N. Chikurova, Moscow/RU, A. Belyaeva, Moscow/RU, A. Chernobrovkina, Moscow/RU, O. Shpigun, Moscow/RU

P-STPH23  
Separation of Long-Stranded RNAs by RP-HPLC Using an Octadecyl-Based Column with Super-Wide Pores  

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**Legend:** (BPA) = Best Poster Award (Poster participates in the Best Poster Award)
P-STPH26  
Characteristics and usefulness of reversed-phase column bonded with adamantyl groups  
S. Makino, Kyoto/JP; I. Sallay, Osaka/JP

P-STPH27  
Hypercrosslinked monolithic stationary phases in size-exclusion of peptides and proteins  
D. Mayer, Brno/CZ; J. Urban, Brno/CZ

P-STPH28  
Pore Characterization of Chromatographic Particles – Adsorption isotherms for Complex Pore Shapes  

P-STPH29  
Innovative Temperature-modulated Separation of Next-generation Medicines Using Thermoresponsive Polymers  
K. Nagase, Tokyo/JP; H. Kanazawa, Tokyo/JP

P-STPH30  
Development and investigation of a mixed-mode RP/WAX phase with pH-dependent surface charge reversal for hydrophobic charge-induction chromatography of proteins  
M. Wolter, Tübingen/DE; M. Lämmerhofer, Tübingen/DE

P-STPH31  
Improvement of the Efficiency of the HPLC Column containing Metal-Organic Frameworks  

P-STPH32  
Separation characterization of the prototype of cyclodextrin-bonded HILIC column  
T. Shimpo, Kyoto/JP; Y. Osaka, Kyoto/JP; S. Yamaki, Kyoto/JP

P-STPH33  
Long-term stability studies and pharmaceutical applications of the CD-Screen columns  
E. Batai, Budapest/HU; E. Varga, Budapest/HU; R. Ivanj, Budapest/HU; M. Dobó, Budapest/HU; G. Dombi, Budapest/HU; G. Toth, Budapest/HU; Z. Szabo, Targu Mureș/RO

P-STPH34  
Impact of bioinert column hardware on phosphopeptide analysis  
T. Schützler, Duisburg/DE; M. Meyer, Duisburg/DE

P-STPH35  
3,5-dinitrobenzamido (DNBA)-SPP LC Stationary Phase  
A. Al-Abcha, Sunderland/GB; S. Matlin, London/GB; W. J. Lough, Sunderland/GB

P-STPH36  
Comparison of Novel HILIC Stationary Phases with Different Functional Layer Structures  
Chernobrovkina, Moscow/RU; N. Chikurova, Moscow/RU; A. Shemiakina, Moscow/RU; O. Shpigun, Moscow/RU

P-STPH37  
2D-LC separation of herbal liqueur using the identical stationary phase in both dimensions  

P-STPH38  
Implementing 1.5 mm inner diameter columns into LC-MS bottom-up proteomic workflows  
H. Ritchie, Wilmington/US; S. Jadeja, Hradec Králové/CZ; D. Nepalek, Hradec Králové/CZ; J. Lenco, Hradec Králové/CZ

P-STPH40  
Novel Phenyl Based “Naphthyl Stationary Phase” providing alternate selectivity and speed towards conventional reverse phase separations  
T. Hey, Bolton/CA; R. Raut, Bolton/CA; S. Shulga-Morskoy, Hopkinton/US

UNTARGETED AND TARGETED ANALYSIS (UTTA)

P-UTTA03  
Use of Fisher’s Ratio Assisted MCR-ALS for Discovery-Based Analysis using UHPLC-QTOF  
B. Baumgarten, Los Alamos/US; C. E. Freye, Los Alamos/US

P-UTTA04  
Liquid chromatography-mass spectrometry based targeted and untargeted analysis to discover metabolic features in human neurogenesis  
X. Wang, Shanghai/CN; Z. Gao, Shanghai/CN; W. Zhou, Shanghai/CN

P-UTTA05  
Development of a targeted UHPLC-MS method for medium-chain phospholipids  
T. Janker, Tübingen/DE; A. Brun, Tübingen/DE; K. Dittrich, Tübingen/DE; M. Lämmerhofer, Tübingen/DE

P-UTTA06  
High resolution analysis and machine learning for the identification of tyre-wear contaminants in wastewater from a high-traffic urban environment  
H. Rapp-Wright, London/GB; S. Wright, London/GB; L. P. Barron, London/GB

P-UTTA07  
Development of protein precipitation-UHPLC-MS/MS workflow for the high-throughput and sensitive targeted analysis of mouse plasma samples  
T. Gazarkova, Hradec Králové/CZ; K. Plachka, Hradec Králové/CZ; H. Kocovo Vikcova, Hradec Králové/CZ; L. Novakova, Hradec Králové/CZ

P-UTTA08  
Nontarget screening for the comprehensive identification of microcrysts in fish and freshwater samples  
A. B. Martinez-Piernas, Jaen/ES; N. Badagian, Montevideo/UY; B. M. Bren, Montevideo/UY; A. Perez-Parada, Rocha/UY; J. F. Garcia-Reyes, Jaen/ES

P-UTTA09  
Assessment of vacuum frying as an alternative procedure for the preparation of vegetable crisps  
T. Kourimska, Prague/CR; H. Pirova, Prague/CR; B. Hradeck, Prague/CR; V. Hrebek, Prague/CR; J. Hajplova, Prague/CR

P-UTTA10  
Non-Targeted Discovery Based Analysis for UHPLC-HRMS  
C. E. Freye, Los Alamos/US; B. Baumgarten, Los Alamos/US; M. A. Corbally, Los Alamos/US

P-UTTA11  
Characterization of Energetic Material Impurities Using UHPLC-QTOF  
M. A. Corbally, Los Alamos/US; C. E. Freye, Los Alamos/US
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