

# Separation Science — The State of The Art in Life Science Analysis

**Wednesday 3 December 2025**

The State of The Art in Biopharmaceutical Analysis  
9:15 AM EST | 2:15 PM BST | 3:15 PM CEST

**Thursday 4 December 2025**

The State of The Art in Pharmaceutical Analysis  
9:15 AM EST | 2:15 PM BST | 3:15 PM CEST

**Live Virtual Symposium**



**Register for this free Virtual Symposium organised by LCGC and CHROMacademy at:**  
[www.chromatographyonline.com/lcgc\\_p/state-of-art-2025](http://www.chromatographyonline.com/lcgc_p/state-of-art-2025)

## Event Overview

Separation scientists play a pivotal role in the development of innovative therapeutics that benefit human health and society. In this special two-day symposium organized by *LCGC International*<sup>®</sup> in collaboration with the Chromatographic Society (ChromSoc), leading practitioners in the field will discuss the latest cutting-edge trends and technologies used for both small-molecule and large-molecule analysis. The first day will focus on large molecule analysis, and the second day will focus on small molecule analysis, and will be moderated by Alasdair Matheson, Executive Editor of *LCGC International*. The second session on both days will contain presentations from leading chromatography companies demonstrating how their technologies can benefit separation scientists in practice.

## Key Learning Objectives

Are you a separation scientist working in pharmaceutical or biopharmaceutical analysis? Take your theoretical and practical expertise to the next level with insights into the latest analytical breakthroughs, including:

- **Antibody-drug Conjugates:** Advantages and Disadvantages of Separation Science-based Methods.
- **Next-Gen mRNA Characterization:** Discover modern separation techniques designed to tackle the complexity of mRNA

molecules.

- **Precision Analysis of RNA Therapeutics:** Learn how LC–HR–MS is revolutionizing the detection and quantification of small RNA-based drugs.
- **Smarter Small Molecule Strategies:** See how mechanistic modeling and surface characterization drive smarter, faster method development and optimization.
- **Tracking Plastic Additives in Medical Devices:** Learn about the use of online SFE–SFC–MS methods to monitor and analyze leachables and extractables from plastic components.
- **Advanced PS80 Quantification:** Get up to speed with state-of-the-art approaches to measuring polysorbate 80 content in complex pharmaceutical formulations.
- **Oligonucleotides and Sustainability:** Learn about the latest developments in green chemistry for oligo analysis.

## Who Should Attend

Separation scientists who specialize in pharmaceutical and biopharmaceutical analysis

## Sponsored by

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**Moderator**



**Alasdair Matheson**  
Executive Editor  
*LCGC International*<sup>®</sup>

For questions, email  
[dambrose@mjlhifsciences.com](mailto:dambrose@mjlhifsciences.com)



**Wan-Chih Su**

Principal Scientist

Synthetic: Molecule  
Analytical Chemistry

Genentech Inc.



**Dr. Marcello Locatelli**

Associate Professor

University "G. d'Annunzio" of Chieti-Pescara;  
Department of Science; Chieti, Italy



**Pawel Bigos**

Senior Scientist

Waters Corporation



**Davy Guillarme**

Senior Lecturer

University of Geneva, Switzerland



**Arnold Zöldhegyi**

Researcher & Application Specialist

Molnár-Institute for Applied  
Chromatography



**Torgny Fornstedt**

Professor of Analytical Chemistry

Karlstad University, Sweden



**Paul Ferguson**

Principal Scientist, Analytical Science

Astra Zeneca, Macclesfield,  
United Kingdom



**Yasmin Emamgholi**

Global Product Manager

LabVantage Inc.



**Caroline West**

Full Professor in Analytical Chemistry

University of Orleans, France



**Silvia Millán-Martín**

Senior Research Scientist, Characterisation  
and Comparability Lab (CCL)

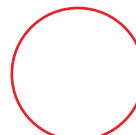
National Institute for Bioprocessing Research  
and Training (NIBRT), Dublin, Ireland



**Steffen Schlimmer**

Global VP Strategic  
Business Partnerships

LabVantage Inc.



**Daniel Steyer**

Principal Scientist

GSK, USA

### Day 1: The State of The Art in Biopharmaceutical Analysis

Wednesday, December 3, 2025 - Morning Session: 9:15 am - 11:30 am EST

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|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:15 am EST  | <p><b>Introduction</b><br/>Alasdair Matheson, Executive Editor, <i>LCGC International</i></p>                                                                                                                                                                                                                                  |
| 9:30 am EST  | <p><b>Advancing High-Throughput Analytical Workflow of mRNA and Lipid Nanoparticle (LNP) Development</b><br/>Wan-Chih Su, Principal Scientist, Synthetic: Molecule Analytical Chemistry, Genentech Inc</p>                                                                                                                     |
| 9:50 am EST  | <p><b>Innovative Chromatographic Strategies to Characterize mRNA-based Medicines</b><br/>Davy Guillarme, Senior lecturer, University of Geneva, Switzerland</p>                                                                                                                                                                |
| 10:10 am EST | <p><b>Sustainability Considerations in the Development Of Oligonucleotide Chromatographic Methods</b><br/>Paul Ferguson, Principal Scientist, Analytical Science, Astra Zeneca, Macclesfield, United Kingdom</p>                                                                                                               |
| 10:30 am EST | <p><b>Characterization of small RNA-based therapeutics by LC-HRMS: technological considerations and analytical challenges</b><br/>Silvia Millán-Martín, Senior Research Scientist, Characterisation and Comparability Lab (CCL) at the National Institute for Bioprocessing Research and Training (NIBRT), Dublin, Ireland</p> |
| 10:50 am EST | <p><b>Antibody-drug Conjugates: Advantages and Disadvantages of Separation Science-based Methods</b><br/>Dr. Marcello Locatelli, Associate Professor, University "G. d'Annunzio" of Chieti-Pescara; Department of Science; Chieti, Italy</p>                                                                                   |
| 11:10 am EST | <p><b>Live Q&amp;A Session</b></p>                                                                                                                                                                                                                                                                                             |
| 11:30 am EST | <p><b>Session End/Lunch Break</b></p>                                                                                                                                                                                                                                                                                          |

Wednesday, December 3, 2025 - Afternoon Session: 11:45 am - 12:45 pm EST

Experts from leading chromatography companies describe how new chromatography technologies can achieve results in life science analysis in practice.

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|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11:45 am EST | <p><b>Employing Multidimensional Design Space Modeling Across Frequent Chromatographic Challenges—Use Cases from Recently Published Results</b></p> <p>Arnold Zöldhegyi, Researcher &amp; Application Specialist, Molnár-Institute for Applied Chromatography</p>   |
| 12:05 pm EST | <p><b>From R&amp;D Discovery to Decision: The Transformative Power of Scientific AI and Transparent Data</b></p> <p>Yasmin Emamgholi, Global Product Manager, LabVantage Inc.<br/>Steffen Schlimmer, Global VP Strategic Business Partnerships, LabVantage Inc.</p> |
| 12:25 pm EST | <p><b>Unlocking Peak Performance: Enhancing Peptide and Oligonucleotide Analysis with Ultra Inert HPLC Technology</b></p> <p>Anne Blackwell, Product Manager Bio LC Columns, Agilent Technologies</p>                                                               |
| 12:45 pm EST | <p><b>Session End</b></p>                                                                                                                                                                                                                                           |

## Day 2: The State of The Art in Biopharmaceutical Analysis

Thursday, December 4, 2025 - Morning Session: 9:15 am - 11:30 am EST

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|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:15 am EST | <p><b>Introduction</b></p> <p>Alasdair Matheson, Executive Editor, <i>LCGC International</i></p>                                                                                                                              |
| 9:30 am EST | <p><b>Fundamental and Practical Aspects of Small Molecule Separations: From Mechanistic Insights to Quality Control</b></p> <p>Professor Torgny Fornstedt, Professor of Analytical Chemistry, Karlstad University, Sweden</p> |

Day 2 agenda Continued on next page

### Day 2: The State of The Art in Biopharmaceutical Analysis

Thursday, December 4, 2025 - Morning Session: 9:15 am - 11:15 am EST

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| 9:50 am EST  | <p><b>Investigating Plastic Additives and Their Migrations from Medical Devices with Online SFE–SFC–MS Methods</b><br/>           Caroline West (co-authors: Benjamin Caux, Clément De Saint Jores, Ramy Abou-Naccoul, Shinnosuke Horie, Toshiyuki Yamishita, Takeshi Bamba), Full Professor in Analytical Chemistry, University of Orleans, France</p> |
| 10:10 am EST | <p><b>Analysis of PS80 Content in Pharmaceutical Formulations</b><br/>           Daniel Steyer, Principal Scientist, GSK, USA</p>                                                                                                                                                                                                                       |
| 10:30 am EST | <p><b>Question-and-answer session with all the speakers in the session</b></p>                                                                                                                                                                                                                                                                          |
| 11:00 am EST | <p><b>Session End/Lunch Break</b></p>                                                                                                                                                                                                                                                                                                                   |

Thursday, December 4, 2025 - Afternoon Session: 11:15 am - 11:35 pm EST

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|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11:15 am EST | <p><b>Analytical Quality by Design Approaches for GLP-1 RA Impurity Profiling</b><br/>           Pawel Bigos, Senior Scientist, Waters Corporation</p> |
| 11:35 pm EST | <p><b>Session End</b></p>                                                                                                                              |