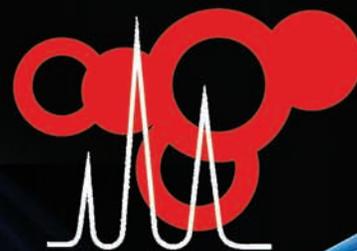


JULY 19-21, 2017 • LOEWS HOTEL • PHILADELPHIA, PA, USA

37th International Symposium and
Exhibit on the Separation of Proteins,
Peptides and Polynucleotides

ISPPP 2017



FINAL PROGRAM

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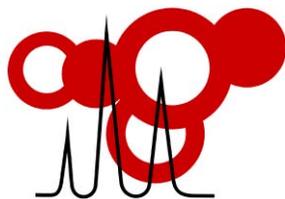
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37th International Symposium and Exhibit on the SEPARATION OF PROTEINS, PEPTIDES AND POLYNUCLEOTIDES

ISPPP-2017 Scientific Program

July 19-21, 2017 in Philadelphia, PA, USA
www.isppp.org

Separation, Purification, and Characterization of Biologically Important Molecules

The premier meeting where scientists from around the world deliver cutting-edge presentations that address key developments and applications, productivity and financial challenges, and novel approaches related to biological molecule separations and analysis. Presenters also showcase their work in the poster sessions, creating a vibrant, interesting, and up-to-date display of the very latest scientific advances in the areas dealing with the separation, purification, and characterization of biologically important molecules.

Wednesday, July 19, 2017

7:30 AM **Symposium Registration Open**

10:10 AM – 7:45 PM **Exhibition Open**
Location: Commonwealth Hall B/C, Exposition/Poster Session Hall, 2nd floor

8:20 AM **Welcome and Opening Comments**
Location: Commonwealth Hall A, 2nd floor

Wednesday Session 1. LC Analysis for Therapeutic Proteins

Session Chair: Joseph Glajch, Momenta Pharmaceuticals, Cambridge, MA, USA

Location: Commonwealth Hall A, 2nd floor

8:30 AM L-101 **Overview of Analytical Needs for Therapeutic Proteins and Biosimilars.**
Joseph Glajch, Momenta Pharmaceuticals, Cambridge, MA, USA

9:00 AM L-102 **Separations and Quantitation of Free Thiols and Disulfide Related Variants in Therapeutic Monoclonal Antibodies.** Taylor Zhang, Genentech, Protein Analytical Chemistry, South San Francisco, CA, USA

9:25 AM L-103 **Using the Hybrid Immunoaffinity/LC-MS technique to Understand the Biotransformation of Biotherapeutics.** Eric Yang, GlaxoSmithKline, RD Platform Technology & Science, King of Prussia, PA, USA

9:50 AM L-104 **N-Glycan Analysis of Monoclonal Antibodies using RapiFluor Kit (Waters) and InstantPC Kit (Prozyme) by HILIC UPLC Method Coupled with FLR-QDa Detection.** Anulfo Valdez, Saileshkumar Patel, Bristol-Myers Squibb, Princeton, NJ, USA

10:15 AM **Break and Social in Exhibition/Poster Session Hall**
Location: Commonwealth Hall B/C, Exposition/Poster Session Hall, 2nd floor

Wednesday Session 2. Protein Isolation and Purity Analysis

Session Chair: Milton Hearn, Monash University, Clayton, Australia

Location: Commonwealth Hall A, 2nd floor

- 10:40 AM L-105 **Process Development for the Purification of Glycoproteins from Animal Tissue.** Sonja Berensmeier, Veronika Schömig, Technical University of Munich, Munich, GERMANY
- 11:05 AM L-106 **Multiple, Simultaneous, Independent Gradients for a Versatile Multidimensional Liquid Chromatography. Part II: Application 2: Computer Controlled pH Gradients in the Presence of Urea Provide Improved Separation of Proteins: Stability Influenced Anion and Cation Exchange Chromatography.** Allen Hirsh¹, Latchezar Tsonev², ¹Cryobiophysics Inc., Chevy Chase, MD, USA; ²Cryobiophysics Inc., Sofia, BULGARIA
- 11:30 AM L-107 **Identification of a Host Cell Protein Impurity in Potential Therapeutic Protein, P1.** Deepti Ahluwalia, Harbhajan Dhillon, Thomas Slaney, Hangtian Song, Heather Boux, Sheetal Mehta, Lei Zhang, Anulfo Valdez, Tapan Das, Bristol-Myers Squibb, Pennington, NJ, USA
- 11:55 AM **PAUSE, EXHIBITION, POSTERS** (lunch on own)
Location: Commonwealth Hall B/C, Exposition/Poster Session Hall, 2nd floor
- 12:00–1:15 PM **Wednesday Free Vendor Seminar Sponsored by Wyatt Technology Corporation "Analyzing Protein and Polymer Molecular Weight with SEC-MALS"**
Presenter: Eric Seymour, Applications Scientist, Wyatt Technology
Location: Adams Room, 3rd floor (*light lunch will be provided*)
Must register at the Wyatt Technology exhibit by Wednesday @10:40 AM

Wednesday Session 3. Analysis of Protein Modifications

Session Chair: Stephanie Schuster, Advanced Materials Technology, Wilmington, DE, USA

Location: Commonwealth Hall A, 2nd floor

- 1:45 PM L-108 **Advances in the Separation of Post-translational Modifications using Capillary Electrophoresis – Mass Spectrometry.** Herbert Lindner, Bettina Sarg, Klaus Faserl, Innsbruck Medical University, Innsbruck, AUSTRIA
- 2:10 PM L-109 **Analysis of Exosomes from Patient Serum Samples.** Mingrui An, Kyle Cuneo, David Lubman, University of Michigan, Ann Arbor, MI, USA
- 2:35 PM L-110 **NISTmAb Characterization: Purity, Charge Heterogeneity and Glycan Analyses on a Single Platform.** Esme Candish, Bryan Fonslow, Chitra Ratnayake, Mervin Gutierrez, Andras Guttman, SCIEX, Brea, CA, USA
- 3:00 PM L-111 **LC-MS/MS of Glycopeptides and Glycans: Breaking Isomer Barriers.** Yehia Mechref, Texas Tech University, Lubbock, TX, USA
- 3:25 PM **Break and Social in Exhibit/Poster Session Hall**
Location: Commonwealth Hall B/C, Exposition/Poster Session Hall, 2nd floor

Wednesday, July 19, 2017

Wednesday Session 4. Post-translational Analysis Platforms

Session Chair: Joseph DeStefano, Advanced Materials Technology, Wilmington, DE, USA
Location: Commonwealth Hall A, 2nd floor

- 3:55 PM L-112 **Towards Integrated High Resolution and Rapid Analytical Platforms for the Structural Characterization of Post-translated Recombinant and Wild-Type Proteins.** Milton T. Hearn, Reinhard I. Boysen, Khose Mitri, Agron Mataj, Yuanzhong Yang, Monash University, Clayton, AUSTRALIA
- 4:20 PM L-113 **The use of HILIC LC/MS to Describe Protein Modifications.** Ron Orlando¹, Emily Betchy¹, Majors Badgett¹, Barry Boyes², ¹University of Georgia, Athens, GA, USA; ²Advanced Materials Technology, Wilmington, DE, USA
- 4:45 PM L-114 **Tutorial-I. Effect of Salts on Retention of Neutral Solutes in HILIC and HIC-MS of Proteins with Volatile Solvents.** Andrew Alpert, PolyLC Inc., Columbia, MD, USA
- 5:45 PM Pause
- 6:15 – 7:45 PM **WELCOME MIXER & POSTER PRESENTATIONS in Exhibition/Poster Session Hall**
Location: Commonwealth Hall B/C, Exhibition/Poster Session Hall, 2nd floor

Thursday, July 20, 2017

- 8:00 AM **Symposium Registration Open**
Location: Commonwealth Hall, floor 2
- 10:10 AM – 4:10 PM **Exhibition Open**
Location: Commonwealth Hall B/C, Exhibition/Poster Session Hall, 2nd floor

Thursday Session 5. Analyses of Peptides and Smaller Molecules

Session Chair: Robert S. Hodges, University of Colorado, Denver, CO, USA
Location: Commonwealth Hall A, 2nd floor

- 8:30 AM L-115 **Positively Charged Amphipathic α -Helical Peptides as Standards to Evaluate Column Performance in Reversed-phase Chromatography.** Andrew Byers¹, Sean Ankarlo¹, Ziqing Jiang², Colin Mant², Robert Hodges², ¹Regis University, Denver, CO, USA; ²University of Colorado, Aurora, CO, USA
- 8:55 AM L-116 **Comparison of Phenyl- and C18- Bonded-phases to Obtain Separation Selectivity of Peptide Mixtures.** Benjamin Libert, Chuping Luo, Conner McHale, Mark Haynes, Stephanie Schuster, Joe DeStefano, Barry Boyes, Advanced Materials Technology, Wilmington, DE, USA
- 9:20 AM L-117 **Analytical Strategies and Methodologies for Purity Assessment of Macrocyclic Peptides in a Pharmaceutical Drug Discovery Setting.** Jingfang (Jenny) Cutrone, Xiaohua (Stella) Huang, Edward Kozlowski, Adrienne Tymiak, Bristol-Myers Squibb, Wallingford, CT, USA
- 9:45 AM L-118 **Challenges and Strategies in Trace Analysis of Small Molecule Process Impurities using LC-MS/MS in Biotherapeutic Protein Development.** Zheyuan Luo, Kristen Niels, Shelly Ji, Jessika Feliciano, Gulnur Elove, Janssen Research and Development, Malvern, PA, USA
- 10:10 AM **Break/Social in Exhibition/Poster Session Hall**
Location: Commonwealth Hall B/C, Exhibition/Poster Session Hall, 2nd floor

Thursday Session 6. Affinity Methods

Session Chair: Alois Jungbauer, BOKU, Vienna, Austria

Location: Commonwealth Hall A, 2nd floor

- 10:40 AM L-119 **Design of Affinity Tags for Bare Surfaces.** Silvia Blank-Shim, Sebastian Schwaminger, Paula Fraga García, Sonja Berensmeier, Technical University of Munich, Munich, GERMANY
- 11:05 AM L-120 **Novel Pseudo-affinity Strategy for the Purification of Influenza Virus-like Particles.** Sofia B. Carvalho¹, A. Raquel Fortuna², Paula M. Alves¹, Michael Wolff^{2,3}, Udo Reichl^{2,4}, Manuel J.T. Carrondo^{1,5}, Cristina Peixoto¹, ¹iBET/ITQB, Oeiras, PORTUGAL; ²Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, GERMANY; ³University of Applied Sciences, Giessen, GERMANY; ⁴Otto von Guericke University, Magdeburg, GERMANY; ⁵Universidade Nova de Lisboa, Monte da Caparica, PORTUGAL
- 11:30 AM L-121 **Site-specific Immobilization of Affinity Ligand Proteins on the Surfaces of Polymer-based Solid Supports.** Yoichi Kumada, Jun-ichi Horiuchi, Kyoto Institute of Technology, Kyoto, JAPAN
- 11:55 AM **PAUSE, EXHIBITION, POSTERS** (lunch on own)
Location: Commonwealth Hall B/C, Exposition/Poster Session Hall, 2nd floor
- 12:00–1:15 PM **Thursday Free Vendor Seminar Sponsored by Agilent Technologies**
"Learn the Latest Developments in Chromatography and High Performance LC/Q-TOF Eliminating Workflow Limitations"
Alex Zhu, Agilent Technologies BioPharma Applications Specialist
Location: Adams Room, 3rd floor (*light lunch will be provided*)
Must register at the Agilent Technologies exhibit by Wednesday @10:40 AM

Thursday Session 7. Higher Order Structures and Reference Materials

Session Chair: Ron Orlando, University of Georgia, Athens, GA, USA

Location: Commonwealth Hall A, 2nd floor

- 1:45 PM L-122 **HX MS: The Current State of the Art.** Walter Englander, University of Pennsylvania, Philadelphia, PA, USA
- 2:25 PM L-123 **Structural Biology in the Gas Phase: New Techniques for the Rapid Analysis of Protein Sequence, Structure and Stability.** Brandon Ruotolo, Yuwei Tian, Daniel Polasky, Daniel Vallejo, University of Michigan, Ann Arbor, MI, USA
- 2:50 PM L-124 **High Resolution Hydroxyl Radical Footprinting: Integrating Molecular Modeling with Covalent Labeling LC-MS.** Boer Xie¹, Amika Sood¹, Robert J. Woods¹, Joshua S. Sharp², ¹University of Georgia, Athens, GA, USA; ²University of Mississippi, University, MS, USA
- 3:15 PM L-125 **NISTmAb Reference Material 8671: A Research Tool to Advance Biopharmaceutical Characterization.** John Schiel, Trina Formolo, Katharina Yandrofsky, Abigail Turner, National Institute of Standards and Technology (NIST), Rockville, MD, USA
- 3:40 PM **Break, Social and Poster Presentations in Exhibition/Poster Session Hall**
Location: Commonwealth Hall B/C, Exposition/Poster Session Hall, 2nd floor

Thursday Session 8. Aggregates and Particles in Proteins

Session Chair: Taylor Zhang, Genentech, South San Francisco, CA, USA

Location: Commonwealth Hall A, 2nd floor

- 4:10 PM L-126 **A New Anionic and Butyl Mixed Mode Resin for Removal of mAb Aggregates in a Flow through Downstream Polishing Format after Protein A Capture.** Yoshihiro Matsumoto¹, Shigeyuki Aoyama², Malcolm G. Pluskal³, Yatsuto Umeda¹, ¹JNC Japan, Yokohama, JAPAN; ²JNC Japan, Tokyo, JAPAN; ³JNC America, Littleton, MA, USA
- 4:35 PM L-127 **Quantification of Virus-like Particles by Size-exclusion Chromatography and Nanoparticle Tracking Analysis.** Alois Jungbauer, Petra Steppert, BOKU, Vienna, AUSTRIA
- 5:00 PM L-128 **Tutorial-II. De Novo Designed and Synthesized Peptide Standards for Effective Monitoring of Column Performance and Separation Protocol Development for CEX, HILIC and RP-HPLC of Peptide Mixtures.** Colin Mant, University of Colorado Denver, Aurora, CO, USA
- 6:00 PM **Pause**
- 6:30 – 8:30 PM **CONFERENCE BANQUET** (Ticket Required)
Location: Whiskey and Rye Room
(*lobby floor in private dining space within the restaurant*)

8:00 AM **Symposium Registration Open**

Friday Session 9. Processes and Analytics for IgGs-I

Session Chair: James Martosella, Janssen Research & Development, Malvern, PA, USA
Location: Commonwealth Hall A, 2nd floor

8:30 AM L-129 **LC and LC/MS Analysis of mAbs Resolved using Large Pore Superficially Porous Particle Columns.** Barry Boyes, Stephanie Schuster, William Miles, Ben Libert, Brian Wagner, Joseph DeStefano, Advanced Materials Technology, Wilmington, DE, USA

8:55 AM L-130 **High Throughput and Robust Method of Analysis of a Variety of Immunoglobulin G Derived from Multiple Sources and from Crude Feedstock using an Analytical Protein A Affinity Chromatography Column.** Keegan Gike, Atis Chakrabarti, Tosoh BioScience LLC, King of Prussia, PA, USA

9:20 AM L-131 **Evaluation of High Throughput Technology for Process Characterization: A Potential to Replace AKTA Lab Scale with Robocolumns.** Ashish Sharma, Catherine Grimm, Hai Hoang, Amgen Inc., Cambridge, MA, USA

9:55 AM L-132 **Modular Approaches for Diverse Molecules: Reinventing Smart Bioprocessing.** Stefan Schmidt, Rentschler Biotechnology, Laupheim, GERMANY

10:20 AM **Break**

Location: Commonwealth Hall Foyer, 2nd floor

Friday Session 10. Processes and Analytics for IgGs-II

Session Chair: Mark Schure, Kroungold Analytical, Bluebell, PA, USA
Location: Commonwealth Hall A, 2nd floor

10:50 AM L-133 **Online Monitoring of Quantity, Purity and Potency of an Antibody Capture Process.** Nicole Walch¹, Dominik Sauer¹, Edit Felfoldi¹, Theresa Scharl-Hirsch¹, Michael Melcher², Friedrich Leisch², Alois Jungbauer², Astrid Dürauer²; ¹Austrian Centre of Industrial Biotechnology, Vienna, AUSTRIA; ²BOKU Vienna, Vienna, AUSTRIA

11:25 AM L-134 **Reversed-phase Separation Strategies for the Development of Bispecific Monoclonal Antibodies.** James Martosella, Geetha Goparaju, Janssen Research & Development, Malvern, PA, USA

12:00 PM **Closing Remarks and Adieu**

- P-135 **Enhanced Peptide and Oligonucleotide Purification via Novel Orthogonal, Doped Reverse Phase Chromatography.** Jurgen Machielse¹, Joachim Kinkel², Andrea Wild¹, Timothy O'Mara³, ¹Zeochem AG, Uetikon am See, SWITZERLAND; ²TU Nuernberg, Nuernberg, GERMANY; ³Itochu Chemicals America Inc., White Plains, NY, USA
- P-136 **Separation of Highly Charged (+5 to +10) Amphipathic α -Helical Peptides by Cation-exchange and Reversed-phase HPLC.** Colin Mant, Ziqing Jiang, Robert Hodges, University of Colorado, Aurora, CO, USA
- P-137 **N-Glycan Analysis of Monoclonal Antibodies using RapiFluor Kit (Waters) and InstantPC Kit (Prozyme) by HILIC UPLC Method Coupled with FLR-QDa Detection.** Saileshkumar Patel, Anulfo Valdez, Bristol-Myers Squibb, Pennington, NJ, USA
- P-138 withdrawn
- P-139 **Computational Fluid Dynamics Simulations of Preparative Chromatography Columns using Radial Porosity Distribution Measured In situ by X-ray Nanotomography.** Susanne Schweiger¹, Rupert Tscheliessnig¹, Tim Schroeder², Christine GebSKI², James Peyser², Astrid Dürauer³, Alois Jungbauer⁴, ¹Austrian Centre of Industrial Biotechnology, Vienna, AUSTRIA; ²Repligen, Waltham, MA, USA; ³BOKU, Vienna, AUSTRIA; ⁴BOKU, Vienna, MA, USA
- P-140 **Real-time Prediction of Potency, Purity and Concentration throughout a Chromatographic Capture Step of Basic Fibroblast Growth Factor 2.** Dominik Georg Sauer¹, Nicole Walch¹, Edit Felföldi¹, Magdalena Mosor¹, Anna Carina Frank¹, Theresa Scharl-Hirsch¹, Michael Melcher¹, Friedrich Leisch², Alois Jungbauer², Astrid Dürauer², ¹Austrian Center of Industrial Biotechnology, Vienna, AUSTRIA; ²University of Natural Resources and Life Sciences, Vienna, AUSTRIA
- P-141 **Application of Capillary Electrophoresis–Mass Spectrometry (CE-MS) for the Quantification of Mono-phosphorylated Isobaric Peptides.** Bettina Sarg, Klaus Faserl, Herbert Lindner, Medical University Innsbruck, Innsbruck, AUSTRIA
- P-142 **Automated Two-step Purification of Mouse Antibody IgG1 with AZURA Bio LC Lab System.** Yannick Krauke, Kate Monks, KNAUER Wissenschaftliche Geraete GmbH, Berlin, GERMANY
- P-143 **Peptide Mapping using Charge Hybrid/C18 Bonded Phase Column: Analysis of Posttranslational Modifications of Monoclonal Antibody.** Suresh Babu C.V.¹, Linda Lloyd², Anne Blackwell³, Agilent Technologies, Bangalore, INDIA; ²Agilent Technologies, Church Stretton, UK; ³Agilent Technologies, Little Falls, DE, USA
- P-144 **A Fully Automated Microchip Capillary Electrophoresis-ESI-MS System for High Throughput Analysis of Metabolites, Peptides, and Intact Proteins.** J. Scott Mellors¹, Erin Redman¹, Joshua Guerrette¹, Michael Goodwin², ¹908 Devices, Carrboro, NC, USA; ²908 Devices, Boston, NC, USA
- P-145 **Characterization of Monoclonal Antibodies and Antibody Drug Conjugates using Microfluidic CE-MS Technology.** Erin Redman, Joshua Guerrette, Michael Goodwin, Scott Mellors, 908 Devices Inc., Boston, MA, USA

- P-146 **Separation of HIV-1 gag VLP Variants using Polymer Grafted Chromatography Media.** Patricia Pereira Aguilar¹, Tobias Amadeus Schneider², Toots Urve³, Andres Tover³, Alois Jungbauer^{1,2}, ¹University of Natural Resources and Life Sciences Vienna, AUSTRIA; ²Austrian Centre of Industrial Biotechnology, Vienna, AUSTRIA; ³Icosagen, Tartumaa, ESTONIA
- P-147 **A Negative Mode Expanded Bed Chromatography Approach for Improving Human Mesenchymal Stem Cells Washing Strategies.** Bárbara Cunha¹, Ricardo Silva², Margarida Serra¹, John Daicic³, Jean-Luc Maloisel³, John Clachan³, Anna Åkerblom³, Manuel Carrondo⁴, Cristina Peixoto¹, Paula Alves¹, ¹iBET/ITQB-NOVA, Oeiras, PORTUGAL; ²iBET, Oeiras, PORTUGAL; ³GE Healthcare, Uppsala, SWEDEN; ⁴iBET/FCT-UNL, Oeiras, PORTUGAL
- P-148 **Assisting the Characterization of IgG Glycosylation with a Hydrophilic Interaction Liquid Chromatography Retention Model for Glycopeptides.** Emily Betchy¹, Majors Badgett¹, Barry Boyes², Ron Orlando¹, ¹University of Georgia, Athens, GA, USA; ²Advanced Materials Technology, Wilmington, DE, USA
- P-149 **Profiling the N-Glycosylation of Biotherapeutic IgGs with HILIC-MRM Analysis of Trypsin Digested Culture Media.** Ron Orlando, Tyler Fletcher, Gerardo Gutierrez, University of Georgia, Athens, GA, USA
- P-150 **Online Monitoring of Quantity, Purity and Potency of an Antibody Capture Process.** Nicole Walch¹, Dominik Sauer¹, Edit Felföldi¹, Magdalena Mosor¹, Theresa Scharl-Hirsch¹, Michael Melcher², Friedrich Leisch², Alois Jungbauer², Astrid Dürauer², ¹Austrian Centre of Industrial Biotechnology, Vienna, AUSTRIA; ²BOKU Vienna, Vienna, AUSTRIA
- P-151 **Evaluation of High Throughput Technology for Process Characterization: A Potential to Replace AKTA Lab Scale with Robocolumns.** Ashish Sharma, Catherine Grimm, Hai Hoang, Amgen Inc., Cambridge, MA, USA
- P-152 **A Rapid Method for Testing of Long-term Alcohol Abuse based on IE-UHPLC.** Werner Conze, Judith Vajda, Michael Marquardt, Egbert Müller, Tosoh Bioscience, Griesheim, GERMANY
- P-153 **High Resolution Chromatography Coupled with Mass Spectrometry for Therapeutic IgG1, IgG2, and IgG4.** Mary Wirth, Alexis Huckabee, bioVidria, Inc., West Lafayette, IN, USA
- P-154 **Using All the Tools in the Toolbox: Characterization of a Novel Antibody-Drug Conjugate Mimic by Several Modes of Chromatography.** Cory Muraco¹, Gary Oden¹, Kevin Ray², David Bell¹, ¹MilliporeSigma, Bellefonte, PA, USA; ²MilliporeSigma, St. Louis, MO, USA
- P-155 **Novel Protein A Chromatography Resin Enables Elution by Heat, Salt and Acid.** Walpurga Krepper, Alois Jungbauer, Peter Satzer, BOKU Vienna, Vienna, AUSTRIA
- P-156 **Orthogonality Measurements for Multidimensional Chromatography in Three and Higher Dimensional Separations.** Mark Schure^{1,2}, Joe Davis³, ¹Kroungold Analytical, Inc. & Blue Bell, PA, USA; ²University of Delaware, Newark, DE USA; ³Southern Illinois University at Carbondale, Carbondale, IL, USA

Free Vendor Seminar

Wednesday, July 19, 2017 @ 12:00-1:15 PM

12:00–1:15 PM **Wednesday Free Vendor Seminar Sponsored by Wyatt Technology Corporation**
"Analyzing Protein and Polymer Molecular Weight with SEC-MALS"

Presenter: Eric Seymour, Applications Scientist, Wyatt Technology

Location: Adams Room, 3rd floor (light lunch will be provided)

Must register at the Wyatt Technology exhibit by Wednesday @10:40 AM

Molar mass is among the most important properties of a protein. Size exclusion chromatography is a well-established technique for protein characterization, often used to estimate molar mass. However, while SEC allows us to isolate protein aggregates and fragments, molar mass determined from column calibration is not always accurate. This seminar will explain how coupling multi-angle light scattering with SEC enables the determination of absolute molar mass without the need for reference standards. SEC-MALS works for glycoproteins, PEGylated proteins, and hydrophobic proteins that are not compatible with the traditional column calibration approach. Other case studies include ADCs, detection and quantification of aggregates, advantages of UPLC-SEC-MALS, and at-line process monitoring.

Free Vendor Seminar

Thursday, July 20, 2017 @ 12:00-1:15 PM

12:00–1:15 PM **Thursday Free Vendor Seminar Sponsored by Agilent Technologies**
**"Learn the Latest Developments in Chromatography and High Performance LC/Q-TOF
Eliminating Workflow Limitations"**

Alex Zhu, PhD, Agilent Technologies BioPharma Applications Specialist

Location: Adams Room, 3rd floor (light lunch will be provided)

Must register at the Agilent Technologies exhibit by Wednesday @10:40 AM

Bioanalytical LC/MS protein quantitation analysis is traditionally performed by monitoring signature peptides from enzymatically digested samples based on targeted multiple reaction monitoring (MRM) techniques. While this technique does offer the highest level of sensitivity, it has two significant limitations: inability to observe unexpected molecular species as well as possible artifacts introduced through sample handling. Quantifying at the intact protein level avoids these limitations, but faces separate challenges of sensitivity and reproducibility. Using the latest developments in chromatography and the high performance 6545XT AdvanceBio LC/Q-TOF, we establish a highly sensitive and reproducible quantitative method that spans an impressive linear dynamic range.

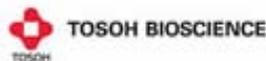
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the Analytical Scientist

*A magazine by analytical scientists,
for analytical scientists*

The image displays three overlapping covers of the magazine 'the Analytical Scientist'. The central cover is the March 2017 issue, featuring a green background and a yellow '50th Anniversary' seal. The main article is 'The Secret Life of Plants' by Elena Stanjenko. Other sections include 'Upfront' (Cracking open a 5,000-year-old beer), 'In My View' (Keeping it simple in sample prep), 'Feature' (Three gurus of LIBS break it down), and 'Profession' (Pauline Rodd shares her lessons learned). The left cover is the December 2016 issue, featuring 'Landmark Literature' with a colorful illustration of a city skyline. The right cover is the February 2017 issue, featuring a globe graphic. A blue circular call-to-action is overlaid on the bottom right of the magazine covers.

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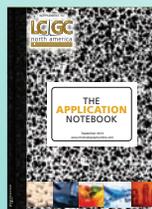
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