

2018 SHORT COURSE PRICES

1/2 day	\$325	Registration by 2/5/18	\$425	Registration after 2/5/18
1 Day	\$575	Registration by 2/5/18	\$775	Registration after 2/5/18
1 1/2 Days	\$850	Registration by 2/5/18	\$1175	Registration after 2/5/18
2 Days	\$1100	Registration by 2/5/18	\$1500	Registration after 2/5/18

There is an additional fee for textbooks, if required.

Saturday, February 24 (8:30 a.m. - 5:00 p.m.)

- SC093 An Introduction to Scanning Electron Microscopy (SEM) and Associated Energy Dispersive X-ray Spectroscopy (EDS) (Randy Vander Wal, Penn State University)
- SC011 HPLC/UHPLC for Practicing Scientists 1: Fundamentals and Pharmaceutical Applications (Michael Dong, MWD Consulting)
- SC003 Industrial Problem Solving Using Thermal Analysis Techniques (Anthony Parker, A.A. Parker Consulting, LLC)
- SC015 Introduction to Chromatography of Proteins, Peptides, and Related Molecules (Thomas Wheat, Chromatographic Consulting, LLC.)
- SC101 Lifecycle Approach to Pharmaceutical Analytical Methods (Gregory Martin, Complectors Consulting)
- SC010 On The Job Skills for Technology Developers (Things You Were Not Taught in School) (Andrew Zander, Gerson Lehrman Group)

Saturday, February 24 (8:30 a.m. - 12:30 p.m.)

- SC134 Basics of Spectroscopy (Hinna Hamid, Jamia Hamdard University)
- SC124 Data Analysis (Mohammed Sardar Ameerunisha Begum, Jamia Hamdard University)
- SC035 Digital Imaging for Materials, Food, Pharmaceuticals and Derived Products Characterization: Lab Scale Applications (Giuseppe Bonifazi, Università di Roma - La Sapienza)
- SC034 Examples of Analytical Data Treatment Using Microsoft® Excel™: Part 1 – Outliers, Significance Testing, & Analysis of Variance (Mark Stauffer, University of Pittsburgh - Greensburg)
- SC084 Introduction to ICP-MS (John Olesik, Ohio State University)

**Saturday, February 24
(1:00 p.m. - 5:00 p.m.)**

- SC130 1.Green Chemistry Concepts and Its Role for Sustainability.
2. Spectroscopy and Their Importance in Identification of Compounds. (Hitendrakumar Patel, Sardar Patel University)
- SC097 Examples of Analytical Data Treatment Using Microsoft® Excel™: Part 2 – Calibration & Regression (Mark Stauffer, University of Pittsburgh - Greensburg)
- SC127 How to Be Successful in Scientific Publishing (Philippe Garrigues, CNRS)
- SC089 Practical Ion Chromatography: Successful Method Development (Jay Sheffer, Metrohm USA)

**Saturday, February 24
Sunday, February 25
One and a Half Day Course
(8:30 a.m. - 5:00 p.m. and
8:30 a.m. - 12:30 p.m.)**

- SC123 Perspectives and progress in Inductively Coupled Plasma Atomic Emission (ICP-AES) Spectrometry – New Instrumental Configurations for Multielement Analysis (Isaac Brenner, Brenner Scientific)

**Saturday, February 24
Sunday, February 25
Two-Day Courses
(8:30 a.m. - 5:00 p.m.)**

- SC103 Analytical Excellence; Assuring Data Integrity and Laboratory Compliance (Christopher Burgess, Burgess Analytical Consultancy Limited)
- SC042 Chemistry Laboratory Techniques for the Chemist and Technician – A Comprehensive Review (Bryan Ham, Research Solutions / Aihui MaHam, Research Solutions)
- SC016 Getting Started with Excel and VBA in the Laboratory (Laptop Required) (William Neil, XLVBALAB/Martin Echols, EcholsTech)
- SC049 How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting (Brian Bidlingmeyer, Analytical Acumen LLC)
- SC107 Practical Gas Chromatography (Eugene Barry, UMass Lowell)
- SC074 Risk Based Strategy for the Development & Validation of Analytical Methods with a QbD Approach (Shib Mookherjea, ValQual International, Inc.)
- SC119 Volume Verification, Good Liquid Handling, and Automated Sample Prep and Detection - Hands-on Workshop (Petar Stojadinovic, Professor)

**Sunday, February 25
 (8:30 a.m. - 5:00 p.m.)**

- SC050 Accessories and Techniques for FT-IR Sample Analysis (Richard Larsen, Anton-Paar)
- SC006 Conducting Effective Investigation of Out-of-Specs (OOS) Analytical Results. (Kim Huynh-Ba, Pharmalytik)
- SC012 HPLC/UHPLC for Practicing Scientists 2: Method Development, Troubleshooting and Biopharmaceutical Applications (Michael Dong, MWD Consulting)
- SC075 Interpretation of Electrospray Mass Spectra of Small Molecules (Michael Thurman, University of Colorado)
- SC004 Language and Matter: Technical Writing for Analytical Scientists and Managers (Anthony Parker, A.A. Parker Consulting, LLC)
- SC105 OOS Investigations: Using Root Cause Analysis to Improve Outcomes (Gregory Martin, Complectors Consulting)
- SC001 Practical LC-MS Method Development for Small Molecule Pharmaceuticals (Perry Wang, US FDA)
- SC094 Safety in the Laboratory - Part 1 (James Kaufman, Laboratory Safety Institute)

- SC059 Solid Phase Microextraction (SPME) and Other Sampling and Sample Preparation Technologies for Laboratory and On-site Applications (Nikita Looby, University of Waterloo)
- SC014 Statistically Sound Calibration Studies, Detection Limits, and Quantitation Limits (Lynn Vanatta)
- SC092 Two-Dimensional Liquid Chromatography for Pharmaceutical Analysis (Dwight Stoll, Gustavus Adolphus College)

**Sunday, February 25
 (8:30 a.m. - 12:30 p.m.)**

- SC065 A Hands-on Example on How to Develop a PLS Regression Model (Laptop Required) (Jose Andrade, Professor)
- SC019 Analytical Spectroscopy Methods: UV-Vis Absorption & Fluorescence (Randy Vander Wal, Penn State University)
- SC009 Chemical Sensors & Detectors in Real Time Chemical Analysis (John Schneider, Argonne National Laboratory)
- SC033 Ionic Liquids in GC and MS (Leonard Sidisky, MilliporeSigma)

**Sunday, February 25
 (1:00 p.m. - 5:00 p.m.)**

- SC020 Analytical Spectroscopy Methods: Raman & SERS (Randy Vander Wal, Penn State University)

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| SC047 | Fast GC Analysis: How to Achieve Fast Separation to Increase Sample Throughput and Productivity (Yelena Sapozhnikova, USDA) | SC066 | Basic HPLC - Fundamentals, Applications, and Troubleshooting (Fredric Rabel, ChromHELP, LLC) |
| SC115 | Frontiers In Atomic Spectrometry Using ICP/MS AS Ionisation Source I: Speciation Analyses for Environmental, Nutrition and Industrial Applications (Olivier F.X. Donard, CNRS) | SC111 | Coaching and Mentoring in R&D (Elizabeth Treher, The Learning Key) |
| SC056 | LC-MS-MS Analysis of Emerging Contaminants (EDCs, PPCPs and PFCs) and Nanomaterials in the Environment (Damia Barcelo, ICRA) | SC104 | Confidence in Analytical Results and Measurement Uncertainty (Christopher Burgess, Burgess Analytical Consultancy Limited) |
| SC045 | Pyrolysis Techniques in the Analysis of Natural and Synthetic Materials (Thomas Wampler, CDS Analytical) | SC098 | Data Integrity: Understanding GXP Regulatory Requirements for Laboratories (Bob McDowall, R D McDowall Ltd) |
| | | SC046 | Essentials of LC-MS (Subhra Bhattacharya, Thermo Fisher Scientific) |
| | | SC060 | Fundamentals of Particle Size Analysis with an Emphasis on Light Scattering Techniques (Alan Rawle, Malvern Instruments Inc) |
| | Sunday, February 25 | | |
| | Monday, February 26 | | |
| | Two-Day Course | | |
| | (8:30 a.m. - 5:00 p.m.) | SC077 | Handheld Vibrational Spectrometers: State-of-the Art Instrumentation, Operation Principles, Measurement Performance and Novel Applications (Heinz Siesler, University of Duisburg-Essen) |
| SC054 | Implementation of QA Program and Risk Management Strategies Using Control Charts (Polona Carson / John Carson, P&J Carson Consulting.com) | SC002 | Introduction to GLP Regulations and Bioanalytical Method Validation by LC-MS/MS (Perry Wang, US FDA) |
| | Monday, February 26 | | |
| | (8:30 a.m. - 5:00 p.m.) | SC005 | Keeping Your Analytical Procedures in Compliance with the FDA: Validation, Documentation, and Change Management. (Kim Huynh-Ba, Pharmalytik) |
| SC041 | An Introduction to Mass Spectrometry Including Biomolecule Applications (Bryan Ham, Research Solutions) | | |

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| SC024 | Laboratory Information Management Systems - LIMS (Siri Helene Segalstad, Segalstad Consulting AS) | SC106 | Residual Solvents: Take Advantage of the New Flexibility in Revised USP <467> (Gregory Martin, Complectors Consulting) |
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- SC079 LIMS and ELN: How to Plan and Select the Right Laboratory Software Solution for Your Organization (Howard Rosenberg, CSols, Inc.)

- SC029 Practical Maintenance and Troubleshooting in Gas Chromatography (Jaap de Zeeuw, Restek)

- SC095 Safety in the Laboratory - Part 2 (James Kaufman, Laboratory Safety Institute)

**Monday, February 26
(1:00 p.m. - 5:00 p.m.)**

- SC063 Assessing Risk and Selecting Hoods Using Case Studies (Beth Mankameyer, Labconco Corporation)

- SC118 FDA's Update on Elemental Impurities According to the New ICH Q3D and USP 232/233 Guidelines – Are You Ready? (Gregory Martin, Complectors Consulting)

**Monday, February 26
(8:30 a.m. - 12:30 p.m.)**

- SC013 Drug Discovery and Development Processes (Michael Dong, MWD Consulting)

- SC021 Elemental Analysis via Laser Induced Breakdown Spectroscopy and X-ray Fluorescence (Randy Vander Wal, Penn State University)

- SC008 Gas Chromatography/Infrared Spectrometry (John Schneider, Argonne National Laboratory)

- SC036 Imaging Based Morphology: Fundamentals (Giuseppe Bonifazi, Università di Roma - La sapienza)

- SC064 Multivariate Calibration as an Aid to Develop Atomic Spectroscopy Methods (Jose Andrade, Professor)

- SC116 Frontiers In Atomic Spectrometry Using ICP/MS AS Ionisation Source II: Isotopic Analysis of Heavy Elements for Environmental, Forensic, Biomedical and Industrial Purposes (Olivier F.X. Donard, CNRS)

- SC037 Imaging Based Morphology Applied to Nano-Structures Characterization (Giuseppe Bonifazi, Università di Roma - La Sapienza)

- SC062 Lyophilization/Freeze Drying 101 (Kelly Williams, Labconco Corporation)

- SC043 Problems with FT-IR Spectra and How to Avoid Them (Ellen Miseo, TeakOrigin)

Monday, February 26
Tuesday, February 27
One and a Half Day Courses
(8:30 a.m. - 5:00 p.m. and
8:30 a.m. - 12:30 p.m.)

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| | SC039 | How to Select an ICP-MS: The Most Important Analytical Considerations (Robert Thomas, Scientific Solutions) |
| | SC038 | Hyperspectral Imaging Applied To The Food Sector: Fundamentals (Giuseppe Bonifazi, Università di Roma - La Sapienza) |
| SC120 | | Laboratory Equipment and Facility Management Systems (Petar Stojadinovic, Professor) |
| SC073 | | Qualification & Validation (IQ, OQ, PQ) of Laboratory Instruments and Systems with a Risk Based Strategy for QS Compliance (Shib Mookherjea, ValQual International, Inc.) |
| SC032 | | Statistics for the Non-statistician with Applications to Analytical Chemistry (James De Muth, University of Wisconsin-Madison) |
| SC017 | | Survey of Materials Characterization Methods (Dalia Yablon, SurfaceChar LLC/ Greg Haugstad, University of Minnesota) |
| | SC030 | Injection Techniques in Gas Chromatography (Jaap de Zeeuw, Restek) |
| | SC126 | Latest Advances in Laser Ablation Direct Solid Sampling (Jhanis Gonzalez, Applied Spectra, Inc.) |
| | SC109 | Long-Term Archival of Laboratory Data (Burkhard Schaefer, BSSN Software GmbH) |
| | SC133 | Mastering High Performance Liquid Chromatography (HPLC) (Lee Polite, Axion Analytical Labs, Inc.) |
| | SC025 | Measurement and Interpretation of pH in Aqueous and NonAqueous Solutions and a Host of Other Applications (William Tindall, Analytical Science Solutions) |
| SC102 | | Advanced Light Scattering for Optical Rheology: G' and G'' at High Frequency (Ulf Nobbmann, Malvern) |
| SC018 | | Applications of Two-dimensional X-ray Diffraction (Bob He, Bruker AXS) |
| SC067 | | Basic HPLC Method Development (Fredric Rabel, ChromHELP, LLC) |
| | SC114 | Polarity Management: A Tool to Build Collaboration (Elizabeth Treher, The Learning Key) |
| | SC099 | Practical Approaches to Review of GMP Audit Trail Entries (Bob McDowall, R D McDowall Ltd) |
| | SC091 | Practical Near-Infrared Measurements: Successful Method Development (Adam Hopkins, Metrohm USA) |

Tuesday, February 27
(8:30 a.m. - 12:30 p.m.)

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| SC088 | Practical Titration: Successful Method Development (Kerri-Ann Blake, Metrohm USA) | SC072 | Highlights of Process Analytical Technology (PAT), FDA Directives and QbD Era (Shib Mookherjea, ValQual International, Inc.) |
| SC129 | Primer on XRF Spectrometry: Instrumentation (Charles Wu, London X-ray Consulting Group) | SC125 | Highly Successful Strategies for LC/MS Quantitation: Current Applications and Emerging Technologies (Richard King, PharmaCadence Analytical Services, LLC) |
| SC061 | Sampling for Particle Size Analysis (Alan Rawle, Malvern Instruments Inc.) | SC096 | How to Be a More Effective Chemical Hygiene Officer (James Kaufman, Laboratory Safety Institute) |
| SC057 | Size, Molecular Weight and Zeta Potential for Life Science & Nanoscience Applications (Ana Morfesis, Malvern Instruments) | SC113 | Managing Conflict (Elizabeth Treher, The Learning Key) |
| SC082 | The Secrets of Successful Lab Informatics Implementations (Geoff Turnbull, CSols, Inc.) | SC027 | Polymers: An Introduction and Characterization Techniques (Diep Nguyen, IIT) |

**Wednesday, February 28
(8:30 a.m. - 5:00 p.m.)**

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| SC086 | Analytical Sampling and Sample Preparation (Doug Raynie, South Dakota State University) | SC044 | Sampling and Sample Preparation (John Schneider, Argonne National Laboratory) |
| SC100 | Auditing GMP Regulated Laboratories: Preparation and Execution (Bob McDowall, R D McDowall Ltd) | SC055 | Technical Writing at Work (Steven Schultz, Writing at Work, Inc.) |

**Wednesday, February 28
(8:30 a.m. - 12:30 p.m.)**

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| SC051 | Characterization of Coated Polymers (Bernhard Dringenberg, BJD-Analytics) | SC028 | A Practical Guide to Reversed Phase LC (Merlin Bicking, ACCTA, Inc.) |
| SC007 | Effective Analytical Documents in Pharmaceutical GMP laboratories and Good Documentation Practices (GDP) (Kim Huynh-Ba, Pharmalytik) | SC040 | A Practical Guide to the New Global Guidelines on Elemental Impurities and Analytical Procedures for Pharmaceutical Materials and Dietary Supplements (Robert Thomas, Scientific Solutions) |
| SC048 | Extractable Leachable Practical Workshop (Gyorgy Vas, Intertek/VasAnalytical) | | |

- SC083 Enhancing Lab Informatics Systems with Lean Lab Principles (Katherine Temple, CSols, Inc.)
- SC069 TLC and HPLC Analysis of Herbal Medicines/Supplements for Purity and Content (Fredric Rabel, ChromHELP, LLC)

- SC026 How Buffers Work and How to Wisely Chose and Make Them (William Tindall, Analytical Science Solutions)

Wednesday, February 28
Thursday, March 1
Half and a One Day Course
(12:30 p.m. - 5:00 p.m. and
8:30 a.m. - 5:00 p.m.)

- SC068 Hydrophilic Interaction Chromatography (HILIC) - Companion to Reversed Phase HPLC (Fredric Rabel, ChromHELP, LLC)

- SC131 Countercurrent Chromatography and Centrifugal Partition Chromatography (Martha Knight, CC Biotech LLC)

- SC058 Water Treatment and the Benefits of Light Scattering Characterization (Ana Morfesis, Malvern Instruments)

Wednesday, February 28
Thursday, March 1
One and a Half Day Course
(8:30 a.m. - 5:00 p.m. and
8:30 a.m. - 12:30 p.m.)

Wednesday, February 28
(1:00 p.m. - 5:00 p.m.)

- SC090 Karl Fisher Analysis for All Samples Types: Solids, Liquids and Gases (Kyle Hollister, Metrohm USA)

- SC081 Data Mining: Basic Tools to Extract Relevant Information (Jose Andrade, Professor)

- SC132 Mastering Gas Chromatography (Lee Polite, Axion Analytical Labs, Inc.)

Wednesday, February 28
Thursday, March 1
Two-Day Courses
(8:30 a.m. - 5:00 p.m.)

- SC076 Separations: Fundamentals of Advanced Gel Permeation & Size Exclusion Chromatography Detection (Mark Potheary, Malvern Instruments)

- SC121 Automated Liquid Handling in Accredited or Forensic Environments (Petar Stojadinovic, Professor)

- SC080 Setting Your Company Up for Computer System Validation (CSV) Success (Michael Barkan, CSols Inc.)

- SC078 Basic Theory, Instrumentation and Applications of Vibrational Spectroscopy (Raman, Mid-/Near-/Far-Infrared) in Materials and Life Sciences (Heinz Siesler, University of Duisburg-Essen)

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| <p>SC023 ISO 17025 Preparing for Lab Accreditation (Siri Helene Segalstad, Segalstad Consulting AS)</p> <p>SC128 ISO/IEC 17025:2017 – A New Laboratory Perspective (Chris Gunning, A2LA)</p> <p>SC122 New Technology Commercialization (Matthew Klee, ACS)</p> | <p>SC110 Managing Analytical Data with the AnIML Standard -- Theory and Practice (Burkhard Schaefer, BSSN Software GmbH)</p> <p>SC108 What to Do When C18 Doesn't Work (Merlin Bicking, ACCTA, Inc.)</p> |
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**Thursday, March 1
(8:30 a.m. - 5:00 p.m.)**

- SC071 Designing and Maintaining a Robust Quality System for FDA/EPA/ISO Regulated (Food, Pharma, Specialty Chemicals, Devices, Biotech...) Laboratories and Organizations (Shib Mookherjea, ValQual International, Inc.)
- SC087 Green Analytical Chemistry (Doug Raynie, South Dakota State University)
- SC117 LC/MS Strategies for the Identification of Impurities, Degradants, and Metabolites (Mike Lee, Milestone Development Services)
- SC112 Supervisory Skills for Technical Managers (Elizabeth Treher, The Learning Key)

**Thursday, March 1
(8:30 a.m. - 12:30 p.m.)**

- SC070 Basic Preparative HPLC - Fundamentals and Applications (Fredric Rabel, ChromHELP, LLC)