Gas and Liquid Chromatography Troubleshooting Masterclass

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Amsterdam (Netherlands)

UK Traininig
PARTNER



Gas and Liquid Chromatography Troubleshooting Masterclass

Ref: 20262929_7125792 Date: Location: Amsterdam (Netherlands) Fees: 5900 GBP

Course Description

This intensive 1-week course provides a comprehensive understanding of gas and liquid chromatography systems, focusing on troubleshooting and maintenance. Participants will learn fundamental principles, operational techniques, and advanced problem-solving strategies for GC and LC instruments. The course combines theoretical knowledge with hands-on practical sessions to develop essential skills for optimizing chromatographic performance.

Learning Objectives

- Master the theoretical foundations and practical applications of gas and liquid chromatography
- Develop proficiency in GC/LC system operation, maintenance, and troubleshooting
- Learn to identify, diagnose, and resolve common chromatographic issues
- Gain hands-on experience with instrument components, method optimization, and data analysis
- Understand best practices for ensuring reliable and reproducible chromatographic results

Course Modules

Day 1: Fundamentals of Chromatography

- Introduction to gas and liquid chromatography principles
- Instrument components and their functions
- Sample preparation and injection techniques
- Chromatographic parameters and their significance

Day 2: Gas Chromatography Deep Dive

- GC column types and selection criteria
- Inlet systems and optimization
- Detector technologies and applications
- Method development and optimization for GC

Day 3: Liquid Chromatography Essentials

- LC modes and separation mechanisms
- Mobile phase composition and gradient elution
- HPLC column chemistry and selection
- LC detectors and their operating principles



Day 4: Advanced Troubleshooting Techniques

- Systematic approach to problem-solving in chromatography
- Diagnosing and resolving peak shape issues
- Addressing retention time shifts and baseline problems
- Troubleshooting quantitation and sensitivity challenges

Day 5: Maintenance and Quality Control

- Preventive maintenance procedures for GC and LC systems
- Calibration and performance verification protocols
- Data integrity and regulatory compliance considerations
- Best practices for method transfer and validation

Practical Wins for Participants

- Ability to quickly diagnose and resolve common chromatographic issues
- Improved instrument uptime and analytical productivity
- Enhanced skills in method development and optimization
- Confidence in maintaining and troubleshooting complex GC/LC systems

