

**TWO-DAY COURSE, Saturday and Sunday
08 LC-MS Practical Maintenance and Troubleshooting**

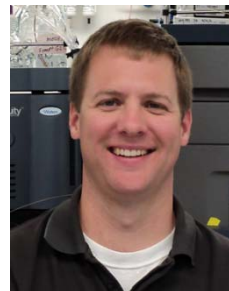
Instructors



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With expanding use of LC-MS in laboratories not specifically focused or trained in analytical chemistry, the analytical skills needed to maintain high instrument performance and data quality are less often part of the central curriculum or training of instrument operators in these laboratories. Indeed, high-end LC-MS systems are now routinely found far outside of the traditional analytical chemistry laboratory, including labs focused on pharmaceutical, biochemical, biological, or environmental applications. This is a natural progression as LC-MS technologies become more mature and robust, however the increased use of LC-MS has not removed the need for basic troubleshooting, instrument maintenance and repair skills, which are critical for limiting downtime and providing cost savings to any laboratory.

While an in-depth discussion of how to operate each individual instrument is surely outside the scope of any short course, this short course will seek to introduce a basic skill set for troubleshooting and repair of LC-MS instrumentation, including the following areas: basic “best practices,” system suitability and qualification, tuning, calibration, basic troubleshooting and maintenance. Importantly, the course will actively seek to remain as vendor-neutral as absolutely possible and will seek to cover nano-, micro- and analytical-scale chromatographic methods as well as general information on ion trap, quadrupole, FT, and TOF mass spectrometry platforms. The goal is to better equip the growing numbers of LC-MS practitioners for success in their use of the technology.

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LC-MS: Practical Maintenance and Troubleshooting

Start	End	Session	Instructor
Saturday			
8:00		8:50 Intro, Poll Group, What to Learn from Engineer, Vis Inspection	Will
9:00		9:50 System Suit	Chris
10:00		10:50 MS Troubleshooting Workflow,	Erik/
11:00	noon	MS Preventive Maintenance, Optics cleaning, etc	Will
1:00		1:50 MS Troubleshooting Problems (1 discussion led, two group?)	Group
2:00		2:50 HPLC Parts, Pumping, Configuration and Pressure Traces	Will/Chris
3:00		3:50 LC Troubleshooting Workflows, Preventive Maintenance	Erik
4:00		5:00 LC Working in Groups, 2 problems	
Sunday			
8:00		8:50 Laboratory Preparation/wakey wakey	Erik/
9:00		9:50 Autosampler and Maintenance upkeep	Chris
10:00		10:50 Hands on Fittings OR Valve Configuration	Erik/Chris
11:00	noon	Hands on Valve Configuration OR Fittings	Will
1:00		1:50 Group Problem session, reverse engineering pressure traces	Chris
2:00		2:50 I walked into the lab and... #1/#2	
3:00		3:50 I walked into the lab and... #1/#3	
4:00		5:00 Open Discussion of question	