



Mass Spectrometry Facility

University of Connecticut, Biotechnology•Bioservices Center
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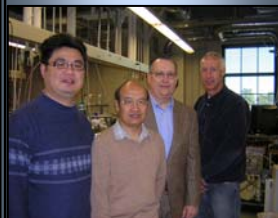
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"The mission of the Mass Spectrometry Facility is to serve the analytical needs of researchers by providing services, consultation, and guidance."



Visit us online at:

www.biotech.uconn.edu/msf

The Biotechnology•Bioservices Center Welcomes New Mass Spectrometry Facility Scientist Dr. You-Jun Fu.



The Biotechnology•Bioservices Center (BBC) welcomes new Mass Spectrometry Facility Scientist Dr. You-Jun Fu. Dr. Fu serves as facility scientist in the BBC's Mass Spectrometry Facility where he oversees the operation of the Q-Star Elite mass spectrometer by providing consultation, assistance, and services to researchers and graduate students. Prior to his hiring by the University of Connecticut, Dr. Fu served as a scientist in the Department of Biochemistry's Proteomics Core Facility at the University of Kentucky. There he was responsible for managing and maintaining a mass spectrometry lab in addition to conducting mass spectrometry-based protein analysis for the University of Kentucky Medical Center. Dr. Fu brings to us his extensive skills and experience in operation, maintenance, and troubleshooting of various HPLC systems and mass spectrometers to include:

- Mass spectrometry based techniques to characterize intact proteins and small molecule characterization;
- Protein sample preparation and protein assay techniques;
- Proteomics data analysis utilizing software (Scaffold, Bioworks, and CPAS) and database search engines (MASCOT, SEQUEST, and X!Tandem);
- Coding ability in BASIC, FORTRAN, and C++;
- Research experience in inorganic, physical chemistry, crystal growth, etc.

Dr. Fu has published more than 60 peer-reviewed journal papers in different research areas such as mass spectrometry, proteomics, inorganic chemistry, and material sciences. Please stop by and introduce yourself to Dr. Fu. You will find him in the Mass Spectrometry Facility, Room 401.

Dr. Fu responded with the following when asked what led him to his interest in mass spectrometry:

"As a chemist, have you had the dream to take one molecule and collide with another in an isolated space without any interference from environment? Mass spectrometry provides you some wonderful ways. I had the experience in gas phase chemistry to isolate ions and induce reactions in a device called ion trap, one type of mass spectrometry detector. On the other hand, recent progress in mass spectrometry instrumentation has enabled analysis of peptides, proteins, and other molecules that were hard to put into vacuum in the past. I moved on to do research in mass spectrometry-based analytical chemistry in 2006 and got familiar with both LC/MS and GC/MS to analyze both proteins and small molecules. My major skills in this area include nano-LC/MS, micro-LC/MS, protein sample preparation (SDS-PPAGE, Western blot, in-gel and in solution digestion), proteomics data analysis, etc.

I am happy to have the opportunity to work in the Department of Chemistry and in the Mass Spectrometry Facility where I can analyze samples from a wide range of sources using methods based on mass spectrometry."

Facility Research Support

The Mass Spectrometry Facility supports research programs in:

- Structure-function relationships
- Structure of proteins
- Nano-material Analysis
- Small Molecule Identification & Quantification
- Conformational Analysis
- Pharmaceutical Chemistry
- Analytical Chemistry
- Chemical Synthesis
- Mass Spectrometry Methods Development

Facility Instrumentation

Q-Star Elite¹

- Fast MS/MS acquisition with quick assessing spectral quality
- Dynamically adjust fragmentation quality and acquisition duration
- Multiple charge states
- Provide dramatic increase in the number of distinct peptide and protein identifications

¹Please contact Facility Scientist Dr. You-Jun Fu at (860) 486-5839 or you-jun.fu@uconn.edu for Q-Star Elite consultation and services.

Q-TOF2²

- Equipped with an API ionization source that operates in either electrospray (ESI) or atmospheric pressure chemical ionization (APCI) mode useful for a broad range of molecules to ~12 kDa
- Precision mass determination as well as structural elucidation by tandem mass spectrometry (MS/MS)
- Dedicated HPLC affords compound separation in mixtures

²Please contact Facility Scientist Dr. Dennis Hill at (860) 486-4265 or dennis.hill@uconn.edu for Q-TOF2 consultation and services.

Costs for services can be found at <http://www.biotech.uconn.edu/msf/pdf/msf-feeschedule.pdf>. All current rates are subject to periodic review and change.