AWARD FOR A DISTINGUISHED CONTRIBUTION IN MASS SPECTROMETRY
2014 RECIPIENT: RICHARD M. CAPRIOLI
**Award Lecture: 4:45 pm, Monday,** Exhibit Hall AB, level 1

Dr. Richard M. Caprioli is awarded the 2014 ASMS Award for a Distinguished Contribution in Mass Spectrometry for the development of MALDI Imaging Mass Spectrometry and its application to molecular mapping of tissues in biology and medicine.

Professor Caprioli's work led to a new paradigm for molecular imaging of tissues, founded on the development of matrix assisted laser desorption ionization (MALDI) imaging mass spectrometry. This is now a burgeoning application of mass spectrometry whereby molecular measurements can be made directly from tissues, adding significantly to the information that can be obtained from these specimens.

This work has made significant contributions to the study of proteins, lipids, metabolites, and pharmaceutical compounds. Since publication of Professor Caprioli's seminal 1997 paper (Anal. Chem. 69(23), 4751-4760) showing the power of MALDI imaging mass spectrometry for tissue analysis, he has pioneered advancements in sample preparation, instrumentation, and informatics approaches that have considerably advanced the technology and made it accessible to hundreds of laboratories worldwide.

The impact of his work is evident in the numerous commercial platforms that employ this technology. Approximately 2,500 papers have been published to date on the subject of MALDI imaging mass spectrometry.

Dr. Caprioli is the Stanford Moore Chair in Biochemistry and Director of the Mass Spectrometry Research Center at Vanderbilt University.Scientist in the Biological Sciences Division and Director of Proteomics Research at Pacific Northwest National Laboratory (PNNL).

BIEMANN MEDAL
2014 RECIPIENT: LINGJUN LI
Award Lecture: 4:45 pm, Tuesday, Exhibit Hall AB, level 1
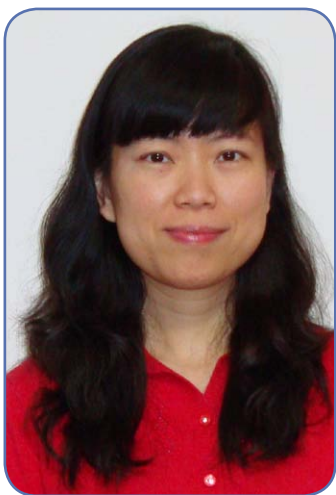
Dr. Lingjun Li is awarded the 2014 Biemann Medal for the number and depth of her contributions in the field of mass spectrometric study of neuropeptides and functional peptidomics.

Professor Lingjun Li's research program is focused on the development of novel and improved mass spectrometry (MS)-based tools in conjunction with microseparation techniques to study challenging neuroscience problems including functional discovery of neuropeptides and biomarker discovery in neurodegenerative diseases.

Dr. Li and her team have created several multi-faceted and integrated MS-based platforms that include high resolution *in-situ* peptide mapping, tissue imaging, *in vivo* microdialysis, high sensitivity micro-separation techniques coupled with tandem MS *de novo* sequencing, and new isotopic and isobaric labeling strategies, and improved bioinformatics tools to allow large-scale discovery and functional analysis of novel neuropeptides. More recently, the Li group also employed novel use of ion mobility MS to address several remaining technical challenges associated with peptidomic research. They developed a novel site-specific strategy to rapidly and precisely localize peptide epimers and new strategies to probe peptide sequence scrambling and peptide misidentification, and to improve isobaric tandem mass tag quantitation in QTOF based instrumentation.

Using these integrated platforms and multifaceted approaches, Professor Li and her group discovered more than 300 novel neuropeptides in crustacean model organisms whose genomic sequences are currently unavailable. These findings significantly expanded our knowledge about neuropeptides in these important model organisms and transformed current understanding of neuropeptide family organization and functional consequences of neuropeptide multiplicity.

Dr. Li is Professor of Pharmaceutical Sciences and Chemistry at the University of Wisconsin-Madison.