



JOHN B. FENN AWARD FOR A DISTINGUISHED CONTRIBUTION IN MASS SPECTROMETRY

2019 RECIPIENT: **JOHN R. YATES III**

AWARD LECTURE: 4:45 PM, MONDAY, MURPHY BALLROOM, BUILDING B, LEVEL 5



The ASMS Award for Distinguished Contribution in Mass Spectrometry honors the memory of John B. Fenn who shared the 2002 Nobel Prize for the development of electrospray ionization. John joined ASMS in 1986 and remained an active member until his passing in 2010. The award is conferred at the ASMS Annual Conference with the presentation of a \$10,000 cash award, a recognition plaque, and the award lecture.

Dr. John R. Yates III is the recipient of the 2019 ASMS John B. Fenn Award for a Distinguished Contribution in Mass Spectrometry, for development of automated, large-scale interpretation of peptide tandem mass spectral data. Dr. Yates' SEQUEST algorithm laid a critical foundation for the field of proteomics and has enhanced the accuracy and effectiveness of mass spectrometry to understand important biological and clinical questions.

Subsequent software developments continue to empower molecular and cellular biology research, including peptide and protein quantitation, identification of posttranslational modifications, and the use of DNA sequences to enable proteogenomic methods. Dr. Yates also enabled large-scale studies to identify the components of protein complexes in single celled organisms and mammalian cells. Proteomics is now practiced by thousands of researchers all over the world to study proteins in almost every organelle in prokaryotic and eukaryotic cells. The comprehensive analysis of cells and tissues is now routinely used to understand differences between normal and disease states.

Dr. Yates is Professor, Department of Molecular Medicine, The Scripps Research Institute.

AL YERGEY MS SCIENTIST AWARD

2019 RECIPIENT: **JEFFERY SHABANOWITZ**

AWARD PRESENTATION: 4:45 PM, MONDAY, MURPHY BALLROOM, BUILDING B, LEVEL 5



The Al Yergey Mass Spectrometry Scientist Award is sponsored by ASMS to recognize dedication and significant contributions to mass spectrometry-based science by "unsung heroes." This award is named in memory of Al Yergey a well-respected scientist who was known as a dedicated mentor.

Dr. Jeffrey Shabanowitz is the inaugural recipient of the Al Yergey MS Scientist Award. For more than forty years Dr. Shabanowitz has worked with Professor Donald Hunt at the University of Virginia, where he co-authored more than 330 peer-reviewed scientific papers and is co-inventor on ten issued patents. He played a major role in development of peptide sequence analysis by tandem mass spectrometry. The methods and instrumentation he helped to develop underpin the field of proteomics, and have led to major breakthroughs, especially in immunology and epigenetics research. He has also been a valued mentor to dozens of graduate students, postdocs, and visiting scientists. Dr. Shabanowitz is Principal Scientist in the Hunt Laboratory at the University of Virginia

BIEMANN MEDAL

2019 RECIPIENT: **SARAH TRIMPIN**

AWARD LECTURE: 4:45 PM, TUESDAY, MURPHY BALLROOM, BUILDING B, LEVEL 5



The Biemann Medal is awarded to an individual early in his or her career to recognize significant achievement in basic or applied mass spectrometry. The Medal is conferred at the ASMS Annual Conference with the presentation of a \$5,000 cash award, a recognition plaque, and the award lecture.

Dr. Sarah Trimpin is the recipient of the 2019 Biemann Medal for discovery and development of novel ionization processes. Dr. Trimpin's unusual observation of highly charged protein ions in an atmospheric pressure MALDI experiment led to her discovery that ionization occurs simply by passing compounds through the inlet of a mass spectrometer. She demonstrated that this simple approach achieves sensitivity comparable with, and frequently better than, electrospray or MALDI.

Through fundamental studies, Dr. Trimpin discovered solid matrices that produce highly charged ions upon laser ablation using MALDI ion sources. Even more astonishing is her discovery of matrix compounds that spontaneously produce multiply charged ions when exposed to vacuum (termed matrix-assisted ionization, MAI). No heat, nebulizing gases, laser, or voltage is required and exceptionally low chemical background is achieved for a variety of compounds, including proteins at least as large as bovine serum albumin (66 kDa). She has now discovered more than forty matrices that spontaneously produce analyte ions. Her work has been recognized by numerous awards and has led to commercialization.

Dr. Trimpin is Professor of Chemistry at Wayne State University.