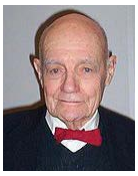
2022 AWARDS

John B. Fenn Award For Distinguished Contribution In Mass Spectrometry

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. 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.



Evan R. Williams is the recipient of the 2022 ASMS John B. Fenn Award for a Distinguished Contribution in Mass Spectrometry for the development of ion chemistry in aqueous nanodrops: fundamentals and applications. Dr. Williams has made pioneering contributions that have improved our fundamental understanding of ion chemistry in aqueous nanodrops both inside and outside the mass spectrometer. His work has had tremendous impact and represents a cohesive and successful sustained effort to understand the chemistry occurring in aqueous solution during the transition in the electrospray process from bulk solution to individual ions or solvated ions.

He has taken advantage of nanodrop chemistry to: 1) manipulate ion charging and desalting ions during the electrospray ionization process, 2) develop rapid mixing in electrospray droplets to investigate ultrafast chemistry (<1 to 100 microseconds) to track peptides and fast-folding proteins in the act of folding, 3) investigate how the organization of water around ions can pattern the hydrogen bonding network of water to long distance, and how water can affect the structure of ions, and 4) develop thermochemical methods, including blackbody infrared radiative dissociation and ion nanocalorimetry, to probe the thermochemistry of processes, such as electrochemical reductions in mass selected aqueous nanodrops.

This collective theme has influenced not just the field of mass spectrometry and ion chemistry but has also improved our understanding about the role of water on ion chemistry in solution, an outcome which impacts many areas ranging from biomolecule structure and folding to atmospheric aerosol chemistry.

Dr. Williams is a Distinguished Professor of Chemistry and Biophysics, University of California, Berkeley.

Biemann Medal

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

Erin Baker is the recipient of the 2022 ASMS Biemann Medal for her significant contributions in the development and application of IMS-MS technologies. The impact of her work has been amplified due to her notable and unique ability to form a bridge between the new IMS-MS technology development and the diverse applications the technology enables. Examples of innovative scientific contributions include: (1) development of new IMS techniques and methods and significant contributions to the improvement of drift tube IMS (DTIMS) platforms; (2) coupling of this improved IMS-MS platform with solid-phase extraction and LC separations to enable high-throughput IMS measurements with enhanced sensitivity for metabolomics, lipidomics, proteomics and exposomics applications; (3) creation of one of the first collision cross section (CCS) databases for more than 500 metabolites and xenobiotics to enable large-scale metabolomics and exposomic studies by IMS technology; and (4) development of a cheminformatic toolbox called Structural-based Connectivity and Omic Phenotype Evaluations (SCOPE), to enable the assessment and visualization of lipidomic associations in environmental and clinical studies.

In addition, Dr. Baker has contributed to the mass spectrometry community through her key role in the establishment of the new group "Females in Mass Spectrometry (FeMS)" whose initial activities coincided with the onset of the coronavirus pandemic. During this unusual situation that has isolated individuals from their communities, FeMS has built a worldwide network (also including males, transgender, and nonbinary participants) that provides frequent virtual opportunities for education, collaboration, and mentorship.

Dr. Baker is Associate Professor of Chemistry, North Carolina State University.