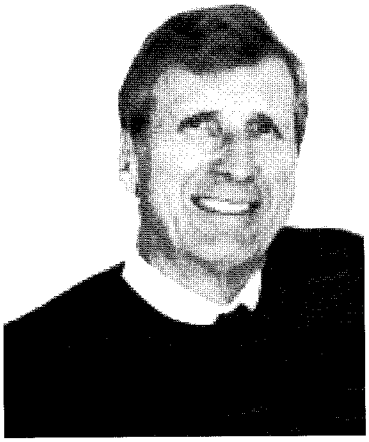
AWARDS

Award for a Distinguished Contribution in Mass Spectrometry

Award Lecture: 8:00 am, Tuesday, May 25



This Award recognizes achievement in or contribution to fundamental or applied mass spectrometry. The 2004 Award is presented to **Michael T. Bowers**, Professor of Chemistry at the University of California, Santa Barbara for his fundamental contribution to ion-neutral collision theory. In the 1960s, the rate constants of many ion-molecule reactions had been measured but there was no adequate theoretical treatment available with which to compare those measurements. In 1973, a paper by Su and Bowers introduced the Average Dipole Orientation (ADO) theory that refined the original Langevin and Locked-Dipole collision theories and yielded an estimated collision rate within 10% of many experimentally determined values. This development of a rigorous collision theory allowed the calculation of accurate energy and angular momentum distributions for newly formed collision complexes and further refinements provided explanation for the very strong negative temperature dependence of some reactions, allowing one to extract reaction barrier heights below the asymptotic reaction energy. Prof. Bowers' work has advanced the prediction of gas-phase ion-molecule collisions from a qualitative to a quantitative level, has furnished the yardstick by which all such reaction rate constants are measured, and has stimulated development of new experimental methods, including ion mobility mass spectrometry. Prof. Bowers has served the community for many years as Associate Editor of the *Journal of the American Chemical Society* and as Editor of the *International Journal of Mass Spectrometry*. The award was formally presented May 25, 2004 at the 52nd ASMS Conference on Mass Spectrometry.

The Biemann Medal

Award Lecture: 8:00 am, Wednesday, May 26

The Biemann Medal recognizes a significant achievement in basic or applied mass spectrometry made by an individual early in his or her career. The award is presented in honor of Professor Klaus Biemann and is endowed by contributions from his students, postdoctoral associates, and friends. The 2004 Medal is presented to **John R. Yates, III**, Professor of Cell Biology at the Scripps Research Institute, La Jolla, CA for his achievements and contributions to protein sequence analysis by tandem mass spectrometry. As a graduate student in Donald Hunt's laboratory at the University of Virginia in the mid 1980s, John accomplished some of the first tandem mass spectrometry determinations of protein sequence. Early in his independent career, John pioneered the development of methods and software (SEQUEST) to search protein and nucleotide databases with tandem mass spectrometry data acquired on peptides generated by enzymatic digestion of proteins in complex mixtures. He first published the methodology in JASMS in 1994 and received the Per Edman Award in 1998 for outstanding contribution to the development of methods for protein identification and sequence analysis. The approach is now used in hundreds of laboratories around the world. More recently, his laboratory has combined multidimensional liquid chromatography with tandem mass spectrometry to identify proteins in complexes and the proteins of whole cells, a method enabled by the ability to use MS/MS data for protein identification. John serves as an Associate Editor of Analytical Chemistry. The Medal was presented May 26, 2004 at the 52nd ASMS Conference on Mass Spectrometry.