

AWARD FOR A DISTINGUISHED CONTRIBUTION IN MASS SPECTROMETRY

Award Lecture: 4:45 pm, Tuesday

2007 Recipient: Jesse L. (Jack) Beauchamp

“Ion Cyclotron Resonance for Studies of Ion-Molecule Reactions”



The 2007 award is presented to Professor Jesse Lee (Jack) Beauchamp for his seminal contributions to the development of ion cyclotron resonance as a tool for studies of gas phase ion chemistry. While a graduate student during the period 1964-1967, and even before the first ICR instrument was operational, Professor Beauchamp published a complete analysis of the phenomenon of ion cyclotron resonance. This theoretical analysis provided the inspiration for the first ion cyclotron double resonance experiment, which became an important technique for studying ion-molecule reactions in the gas phase. In a highly-cited 1971 review titled “Ion Cyclotron Resonance Spectroscopy,” Professor Beauchamp describes the technique’s utility for determining rate constants, acidities and basicities in the absence of complications due to solvation, and reaction mechanisms of organic and inorganic ions. These studies have evolved in numerous laboratories around the world and remain a major activity of many research groups. Professor Beauchamp is presently employing ion cyclotron resonance to investigate biochemical problems, including the chemical sequencing of peptides and nucleic acids and determining the properties, reactions and structures of biologically significant molecules.

THE BIEMANN MEDAL

Award Lecture: 4:45 pm, Wednesday

2007 Recipient: Roman A. Zubarev

“Electron Capture Dissociation for MS/MS”



The 2007 Medal is presented to Roman A. Zubarev for his leadership in developing electron capture dissociation for MS/MS. Dr. Zubarev showed that ECD preferentially breaks the N-C peptide linkage in underivatized peptides. Cleavage induced by ECD is essentially random along the peptide chain enabling more complete sequencing based on “c” and “z” ions. This dissociation method contrasts with collisional and multiphoton dissociations, which lead to breakage of the weakest bonds. Dr. Zubarev also demonstrated that ECD achieves peptide cleavage without loss of common post-translational modifications, making it the method of choice for determining the nature and sites of such modifications. Since the initial publication in 1998, there has been an exponential rate of growth in research in the ECD technique. Dr. Zubarev has extended the range of ECD applications from FT-ICR mass spectrometers to quadruple ion traps. He continues to investigate related techniques in the newly established area of ion-electron chemistry, including “hot ECD” which can distinguish leucine from isoleucine, electron detachment dissociation that cleaves the C-CO bond in negative ion mode, and electronic excitation dissociation that can increase cation charge.

CALL FOR NOMINATIONS FOR 2008

Award for a Distinguished Contribution in Mass Spectrometry. The person nominated should have made a contribution that has had a significant impact on the fundamental understanding and/or practice of mass spectrometry. Eligibility is not restricted to members of ASMS. The award is announced at the ASMS Annual Conference with the presentation of a \$10,000 cash award and a recognition plaque.

Name of person nominated _____

Affiliation _____

Address _____

Nominee’s email: _____

Your name & email: _____

Supporting letters (one page) will be provided by: _____

The Biemann Medal recognizes a significant achievement in basic or applied mass spectrometry made by an individual early in his or her career. Nominees are expected to be 40 years old or younger at the nomination deadline. The award is presented at the ASMS Annual Conference with the presentation of the Biemann Medal and a \$5,000 cash award.

This individual is nominated for:

- Distinguished Contribution in Mass Spectrometry
 Biemann Medal Age of Nominee _____

Please enclose the following:

1. **Short description of the achievement** (1-2 paragraphs);
2. **A list of the nominee's publications** pertaining to this award and;
3. **A copy of no more than two of the nominee's publications** relevant to the subject.

Send completed nomination form and enclosures for receipt by November 30 to:

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