

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

2018 RECIPIENTS: GERT VON HELDEN, MARTIN F. JARROLD, AND DAVID E. CLEMMER

AWARD LECTURE: 4:45 PM, MONDAY, HALL D GROUND LEVEL



The ASMS Award for Distinguished Contribution in Mass Spectrometry has been renamed to honor 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.

Dr. Gert von Helden, Dr. Martin F. Jarrold, and Dr. David E. Clemmer are the recipients of the 2018 John B. Fenn ASMS Award for a Distinguished Contribution in Mass Spectrometry for their pioneering contributions to the development of ion mobility spectrometry (IMS).

Dr. von Helden made a major development in IMS when he applied it to the self-assembly of carbon in plasmas, and showed that carbon structurally evolved from linear chains to rings to fullerenes. Of critical importance, he used quantum chemical approximation methods to obtain model structures, adapted the little-known projection approximation method to obtain collision cross sections, and got excellent agreement with his experimentally measured cross sections. Soon after Dr. Jarrold applied similar IMS methods to silicon and aluminum assembly, and along with Dr. von Helden, showed that fullerenes are formed from activation of carbon ring systems, not C2 addition to graphitic fragments as Smalley had proposed. Dr. Jarrold went on to develop the first high-resolution instrument and, importantly, a more accurate method (the trajectory method) for obtaining collision cross-sections from complex structures such as biomolecules. While these fundamental developments were taking place, Dr. Clemmer realized that these new IMS methods could be utilized for analytical applications, and developed a new "nested" IMS-MS technology, which used ion trapping methods to dramatically increase signal-to-noise ratio and post-IMS dissociation to obtain fragmentation patterns of isomers (or conformers) in a single experiment. These ideas were later incorporated into highly successful commercial instruments, which have made advanced IMS methods available to thousands of labs around the world.



Dr. von Helden



Dr. Jarrold



Dr. Clemmer

Dr. Gert von Helden is Group Leader at the Department of Molecular Physics, Fritz-Haber Institut der Max Planck-Gesellschaft, Berlin, Germany and professor at the Radboud University, Nijmegen, the Netherlands.

Dr. Martin F. Jarrold is Professor and Robert & Marjorie Mann Chair, Department of Chemistry, Indiana University.

Dr. David E. Clemmer is Distinguished Professor, Department of Chemistry, Indiana University.

RON A. HITES AWARD FOR AN OUTSTANDING RESEARCH PUBLICATION IN JASMS

AWARD PRESENTATION: ASMS MEETING, 4:45 PM, WEDNESDAY, BALLROOM 20A UPPER LEVEL



The Ron Hites Award recognizes an outstanding publication of original research, based on a paper's innovative aspects, technical and presentation quality, likely stimulation of future research and impact on future applications. The award is named to honor Professor Ron Hites of Indiana University, who led the creation of JASMS in 1988 while president of ASMS. The award includes \$2,000 and certificates.

The 2018 Award recognizes **Peter B. Armentrout**, University of Utah and co-authors for their paper **How Hot are Your Ions Really? A Threshold Collision-Induced Dissociation Study of Substituted Benzylpyridinium "Thermometer" Ions**; John E. Carpenter, Christopher P. McNary, April Furi, Andrew F. Sweeney, P. B. Armentrout; *Department of Chemistry, University of Utah, Salt Lake City, UT; JASMS* Vol. 28, Sept 2017, pp. 1876-1888, DOI 10.1007/s13361-017-1693-0.

