

ASMS Award for Distinguished Contribution to Mass Spectrometry for 1990

The American Society for Mass Spectrometry is pleased to announce the recipient of its new research prize. This prize is called the "ASMS Award for Distinguished Contribution to Mass Spectrometry". This award will be given annually, and it is given this year for the first time.

The purpose of this award is to recognize focused achievement in or contribution to fundamental or applied mass spectrometry. It is intended to acknowledge a single, unique contribution to the field. It consists of an ASMS plaque and a cash award of \$2,000.

The first winner of this award is Prof. Ronald D. Macfarlane of Texas A & M University. Prof. Macfarlane received his B.A. degree from the University of Buffalo and his Ph.D. from the Carnegie Institute of Technology. After serving as a postdoctoral fellow at the Lawrence Berkeley Laboratory and as a chemistry faculty member at McMaster University, he joined the faculty of Texas A & M University as a professor of chemistry in 1967.

Prof. Macfarlane has been a member of ASMS since 1976, and he is currently serving on the editorial advisory board of our Journal. He has received a Guggenheim Fellowship, the Texas A & M Faculty Distinguished Achievement in Research Award, and the American Chemical Society Award in Nuclear Chemistry.

The "ASMS Award for Distinguished Contribution to Mass Spectrometry" is presented to Prof. Macfarlane for his work on the conception, development, and application of Californium-252 plasma desorption mass spectrometry.

Initial work by Prof. Macfarlane and his colleagues involved the study of beta-emitting nuclei using the facilities of the Cyclotron Laboratory at Texas A & M University. He noticed that ions were detected in the process, which did not correlate with beta decay. He concluded that atoms and molecules on a foil surface, which were probably hydrocarbons and salt contaminants, were being ionized and emitted in the process. Prof. Macfarlane recognized the potential of this observation and utilized fission fragments from Californium-252, instead of the beta emitters, to deposit more energy on the surface of a sodium acetate target and used a time-of-flight analyzer for mass analysis. This experiment was successful and gave a mass spectrum showing high intensity atomic hydrogen, sodium, and aluminum ions, as well as fragments of the acetate moiety. Thus, the first Californium-252 plasma desorption mass spectrum was recorded in 1973.

Prof. Macfarlane and his research group have spent the years following this discovery developing the instrumentation and sample preparation techniques for the analysis of un-derivitized organic molecules, extending the mass range for desorbed molecules to over 30,000 daltons.

Prof. Macfarlane's work has had a significant impact on many fields outside mass spectrometry itself, especially in biological research. For the first time, biochemists could directly obtain the mass spectra of mid-sized proteins and other large biomolecules. Further, and perhaps most importantly, it established that such large molecules could be desorbed from a target and recorded intact after passing through a mass analyzer. His work helped stimulate research in this area and helped lead others to new discoveries and innovations that now show recorded molecular weights of up to 300,000 daltons.

We are very pleased to present Prof. Macfarlane with the first "ASMS Award for Distinguished Contribution to Mass Spectrometry".