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Lifetime Achievement in Chromatography

FINALIST

Dr. Milton Hearn

Dr. Milton Hearn is currently Professor of Chemistry and Director of the ARC Special Research Center for Green Chemistry at Monash University in Melbourne, Australia. He received the B.S., Ph.D. and D.Sc. degrees from the University of Adelaide.

Previously he was a Professor and Head of the Department of Biochemistry and Molecular Biology and Director of the Center for Bioprocess Technology at Monash University. From 1981 to 1985 he was first a Senior Research Fellow and then Principal Research Fellow at the St. Vincent's Institute of Medical Research in Australia. He has been a Distinguished Visiting Professor at Kyoto University in Japan, the University of Paris, France, and Yale University in the United States. He received the prestigious Alexander von Humboldt Distinguished Visiting Professor Award for collaborations at Gutenberg University, the University Saarlandes, and the University of Tübingen in Germany. He is a Fellow of the Royal Society of Victoria, the Australian Academy of Technological Sciences and Engineering, the Australian Institute of Company Directors, the Royal Australian Chemical Institute, and IUPAC.

Among his other awards are the Centennial Medal of the Commonwealth of Australia, the R.K. Murphy Medal, the H.G. Smith Medal, the Applied Research Award, and the Analytical Chemistry Medal of the Royal Australian Chemical Institute. He has also been presented the American Chemical Society Green Chemistry Pharmaceutical Forum Distinguished Lecturer Award and the Japan Society for the Advancement of Science Award. He was a member of the Green and Sustainable Chemistry Congress Scientific Committee and the Carnegie G8 International Standing Committee for Green and Sustainable Chemistry and Engineering.

Dr. Hearn has presented 104 keynote/plenary lectures on his research and related topics. He has received over 85M AUD in funding for his research. He has supervised the research of 35 postdoctoral fellows, 59 Ph.D students, 12 Master's students, and 29 B.Sc. honors students. Professor Hearn has been an author on 529 peer-reviewed publications. Milton Hearn is the named inventor on a number of patents that have resulted in commercialized products by seven major multinational manufacturing companies. Among the chromatographically-related technology developments by Dr. Hearn are various adsorbents used in analytical and preparative processes, activation chemistries for affinity-based materials, the development of buffer materials for electro- and chromate-focusing techniques, and novel real-time algorithms for optimization of

HPLC separations of pharmaceutical and biotechnology compounds.

Among Professor Hearn's many and varied research interests are the structural characterization of biomolecules, detailed procedures for the evaluation of HPLC retention processes, the study of adsorption and surface phenomena that have resulted in new ways to use reversed-phase, ion-exchange, hydrophobic interaction, metal ion affinity, bioaffinity, and biomimetic affinity chromatography for analytical and process scale separations of biomolecules, applications of high performance capillary electrophoresis and capillary electrochromatography including the integration of these techniques with mass spectrometry, and the development of various process analytical technologies (PATs) for research and industrial applications.