



Nomination for LCGC's 2011 Lifetime Achievement Award

Candidate: Milton T.W. Hearn

Dr. Milton T.W. Hearn is Professor of Biochemistry and Director of the Centre for Green Chemistry at Monash University, Melbourne, Australia. Early on, Dr. Hearn recognized the importance of separation science; in particular, he saw the emerging technique of high performance liquid chromatography (HPLC) as a key for providing insights into many unresolved fundamental questions of biological and biochemical processes. In the late 1970s, relatively few analytical chemists and even fewer scientists trained in biologically-related fields grasped the potential of HPLC to facilitate new breakthroughs in their disciplines. At this time, Professor Hearn began a concerted research effort to understand the fundamental principles of HPLC and provided significant advances leading to the further development of the method that helped bring it to the mature and essential technique that it is today. In addition to his pioneering work in HPLC, Dr. Hearn's research also has provided significant insights into fundamental biological processes. His considerable experience with protein and peptide analysis by HPLC, and in particular his knowledge of their fundamental properties, facilitated the adoption of electrophoretic methods, mainly capillary electrochromatography, and has led to significant advances in this emerging technology.

An obvious assessment of the stature of the research undertaken in Dr. Hearn's groups is the number of publications (more than 400) and the quality of the journals where they appear. A large number of his publications are in such prestigious journals as *Analytical Chemistry* and *The Journal of Chromatography*. This pattern of publication has been evident throughout Dr. Hearn's career, indicating a sustained level of high quality research. Professor Hearn has converted a significant number of ideas that either have been patented or adopted by industry for commercial applications. These advancements have produced new methodologies in separation science as well as biotechnology.

Dr. Hearn's collaboration with industry has gone beyond simply technology transfer of the ideas developed in his laboratory. He has interacted directly in the development of these technologies

and others based on his knowledge of peptide chemistry and separation science. He regularly is sought out as a consultant by a wide variety of chemical, biotechnology, pharmaceutical and instrumentation companies located around the world. An especially significant contribution by Professor Hearn is his role in the founding of the Centre for Green Chemistry. The Centre is involved in the development of new technologies that are more environmentally friendly, a concept that is rapidly gaining importance throughout the industrialized world. An essential feature of the Centre is its cooperation, and direct involvement, with industry. Professor Hearn has been recognized for his research achievements by numerous awards from institutions in Australia, Japan, the United States and Europe. These awards have been primarily in recognition of his work in the separation sciences but also include acknowledgment of contributions made via industrial collaborations. Dr. Hearn also has been made a fellow of a number of scientific organizations as well as receiving fellowships in support of research activities. Dr. Hearn has had a remarkable career as a productive scientist and educator. His contributions have spanned four decades with his research evolving to more sophisticated levels until it has reached the mature and highly innovative program that it is today.