Journal of Inclusion Phenomena and Molecular Recognition in Chemistry **8**: 1–2, 1990.

Donald W. Davidson (1925–1986)

This issue is dedicated to the memory of the late Don Davidson in recognition of his outstanding contributions to scientific research, especially his work on the clathrate hydrates.

Don obtained BSc and MSc degrees in chemistry at the University of New Brunswick. He spent a year at Imperial College as a Beaverbrook Overseas Fellow before obtaining a PhD at Brown University. Some of the papers from his thesis work (under R.H. Cole) are still very popular. The one dealing with the Cole–Davidson skewed arc distribution has again become important with the renewed interest in understanding distributed properties in amorphous materials. After coming to the National Research Council of Canada as a post-doctoral fellow, he worked with H. Bernstein on several problems in infrared

spectroscopy. After joining the NRC staff, he continued his dielectric studies of molecular motion in liquids, and became interested in clathrate hydrates and ice. In collaborative work with E. Whalley, he did much to define molecular reorientation and proton ordering in high pressure ice polymorphs.

Much of the time from the mid-sixties on was spent in unravelling the complex nature of the clathrate hydrates. Over the nearly two hundred years that these materials have been known, they have often proved to be difficult to prepare, study and understand, as attested to by the numerous erroneous reports in the literature. Don was a scientist of the old school who believed that all promising techniques should be explored and mastered. When natural gas hydrates were discovered and some direct research support became available, he promoted a truly multi-disciplinary approach to the study of clathrate hydrates: dielectric relaxation, powder diffraction, NMR, composition studies, calorimetry, optical properties, isotope enrichment, thermal conductivity and theoretical studies. During this period, his principal co-workers were S.K. Garg, S.R. Gough, Y.P. Handa, R.E. Hawkins, C.I. Ratcliffe, J.A. Ripmeester and J.S. Tse. In 1971, he wrote a definitive monograph on clathrate hydrates. During the last few years of his life, he had started a completely new version, necessitated by the vast amount of new information.

As the importance of natural gas hydrates, both of terrestrial, and potentially, extra-terrestrial sources was realized, Don's expertise in the hydrate field was called upon by Government Departments, industry and the academic community. He was consulted by, and collaborated with, eminent scientists in Canada, Japan, the U.S.A., the U.K., and the U.S.S.R.

During his life, Don did not receive a lot of recognition. His basic honesty prevented any form of self-advertising, and his shy and retiring nature kept him away from meetings and out of the public eye in general. However, all who were familiar with Don's work knew it to be first class. During his long and productive career at NRC he was dedicated to excellent research. It is entirely appropriate that his former colleagues and other workers in the field should honour his memory with this special issue.

J. RIPMEESTER