



Professor James P. Hartnett on his 70th birthday



IT IS FITTING to dedicate this special issue of the *International Journal of Heat and Mass Transfer* to celebrate the 70th birthday of one of its founders, Professor James P. Hartnett. Professor Hartnett, who was born in Lynn, Massachusetts on 19 March 1924, has amassed impressive credentials in the field of heat and mass transfer. He is a world-class editor and has done more than anyone else to promote international cooperation in heat transfer research and the publication of research results. Furthermore, he has provided inspiring leadership in energy management and energy policy, thus bridging the gap between scientific knowledge base and its application for the benefit of society.

There are three main themes in Professor Hartnett's 40 year research record. In the 1950s and 1960s, in response to the special needs of nuclear reactor cooling, he undertook fundamental studies of liquid metal heat transfer which yielded major contributions to the permanent literature. Space flight and the re-entry problem motivated the second major theme—mass transfer cooling. Here, his contributions, which involved both experiment and analysis, have become standard references. In more recent years, he has turned his attention to one of the most difficult areas of heat transfer—heat transfer to non-Newtonian fluids. There is no doubt that his work in this subject is at the very frontier of knowledge.

In addition to these main themes, Professor Hartnett has worked broadly in diverse areas of heat transfer such as thermal properties of solids, interaction of convection and radiation in boundary layer flows, radiation and thermophysical properties of materials, conduction, duct flows and impingement flows. His ability to deal effectively with such a variety of subject matter is further testimony to his research accomplishments. In total, the fruits of his research have yielded a harvest of about 170 papers. He also has served as advisor for 20 completed doctoral theses.

Apart from his research, Professor Hartnett is among the acknowledged key architects and builders of the international heat transfer community as it exists today. It was he who succeeded in securing breakthroughs to open up channels of communication between countries which had earlier carried out heat transfer research in their separate ways.

He was one of the original proposers of the International Heat Transfer Conferences which will hold its 10th Conference this year in Brighton, England. In fact, many of the ideas and much of the structure of the Assembly for International Heat Transfer Conferences come out of a social setting in his house. He played a key role in the formation of the International Centre for Heat and Mass Transfer. He has served on advisory committees and also as a consultant on research and educational activities in the former

Soviet Union, Eastern Europe, Southeast Asia and Korea. In addition, he has been a visiting professor at the University of Tokyo, the University of Alexandria and the Israel Institute of Technology. In 1980, he was invited by the Chinese Academy of Sciences to visit the People's Republic of China and to present lectures at the Institute of Engineering Thermophysics and at several universities. Subsequently he has been invited back to China three more times and has been responsible in furthering a relationship between his university and the Northeastern University of Technology in Shenyang. He has also lectured in the former Soviet Union, Brazil, Israel, England, Czechoslovakia, Romania, India, Italy, Taiwan and Japan. He was awarded a 1987 Research Fellowship by the Japan Society for the Promotion of Science to conduct a six-week lecture tour over all of Japan.

His contributions to the dissemination of information to the heat transfer community are seminal. He was a prime mover in the founding and development of the *International Journal of Heat and Mass Transfer*, *Heat Transfer Research* (formerly *Heat Transfer—Soviet Research*), *Heat Transfer—Japanese Research*, *International Communications in Heat and Mass Transfer* and *Previews of Heat and Mass Transfer*.

In addition to his many journal editorships, he has been a co-editor of the *Advances in Heat Transfer* series (25 volumes) where definitive state-of-the-art review articles were published and of the *Handbook of Heat Transfer* (two editions). He has also been an editor of the Hemisphere/McGraw-Hill series in Thermal and Fluids Engineering.

In 1974, he founded the Energy Resources Center at the University of Illinois at Chicago and has been its director ever since. This is an interdisciplinary research and public service organization which provides and disseminates information on energy technology and policy. Concurrent with this activity, he has served, by appointment of the Illinois legislature, as the secretary of the Illinois Energy Resources Com-

mission which advises the legislature on energy matters. He is often called upon for testimony and advice on energy questions by the U.S. Congress and by state and federal government agencies.

Many honors have been bestowed on Professor Hartnett in recognition of his significant achievements. He has been the recipient of the A. V. Luikov Medal of the International Centre for Heat and Mass Transfer, the ASME Heat Transfer Memorial Award, the Max Jakob Award of A.I.Ch.E. and ASME, and the ASME Heat Transfer Division 50th Anniversary Award. He was also the recipient of a Fulbright Award, a Guggenheim Fellowship and the Professional Achievement Award from his Alma Mater, the Illinois Institute of Technology. He is a Fellow of both the A.I.Ch.E. and ASME.

Professor Hartnett has honored the heat transfer community by the breadth and excellence of his activities. In the midst of what is rightfully a long encomium of Professor Hartnett's many contributions to the heat transfer and engineering community must be added a compelling and vital tribute to Jim Hartnett—the man. He has been friend and counselor, wise sage and cheerful confidant to us and countless other colleagues in times of need, and has unselfishly promoted the activities of others. Many of his colleagues have contributed to this special issue of the journal as a token of their esteem both for him as a person and for his contributions to the heat transfer field. On their behalf and for his many friends worldwide, we wish Jim and his wife Edith good health and continued success in the years to come.

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