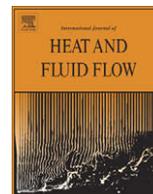


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## Tribute to Professor Rainer Friedrich on his 70th birthday



On May 10, 2010 Professor Rainer Friedrich of the Technical University of Munich, celebrated his 70th birthday. It is indeed one of those very happy coincidences that this event should have occurred on the eve of publication of this special issue of selected papers from the TSFP6 conference; for, Professor Friedrich has, for the last four TSFP symposia, been a member of the organizing committee of what has become established as the leading international conference series on turbulent shear flow phenomena. All those conferences have been the subject of much cited special issues of this journal and it is therefore appropriate that the present special issue be dedicated in his honour.

Rainer Friedrich could be said to be the epitome of 'TUM man'; for his links with the Technical University go back 50 years and, apart from two short periods away, his development from undergraduate to research student; from research associate to professor has all taken place in Munich. His early research tackled problems on the kinetic theory of gases, both his doctoral and habilitation theses being in this area. Thereafter, however, his research interests shifted to transport processes in porous media and to nonlinear transport mechanisms. Thus, by the time of his appointment to a C3 Professorship in 1978, he had embarked on turbulent flow research, a subject that was to become the dominant theme in his professional life for the next 30 years. He quickly realised that the techniques of direct numerical simulation and large-eddy simulation which had emerged a decade earlier in the USA and Japan

provided a powerful route for revealing the essential physics of turbulent flow. Over the 1980s and 1990s a succession of influential papers using these approaches on shock-wave/turbulence interaction and compressibility effects on wall-bounded turbulence firmly established him as an international leader in this field.

The year 1990 marked a major step in his involvement in conference organization for, with Ulrich Schumann, he co-chaired the 8th Symposium on Turbulent Shear Flows (the predecessor of the TSFP series) that was held very successfully at TUM the year following. His experience of this project by no means deterred him for he subsequently became the lead organizer of the Euro-mech 412 Colloquium 'Advances in LES of Complex Flows' and co-organized three biennial ERCOFTAC workshops on direct and large-eddy simulation, subsequently assisting in editing their proceedings published by Springer. Then, as noted in the opening paragraph, in 2002 he joined the TSFP Organizing Committee, a role that continues to this day.

In October 2005 Rainer Friedrich retired from his university professorship. However, that change of role is hardly visible when viewing his external contributions for he masterminded the 2007 TSFP conference in Munich and in 2008 delivered a keynote lecture on the DNS of compressible flows at the latest DNS-LES workshop in Trieste.

Yet, despite his numerous major contributions to the science and organizational presentation of DNS and LES, what those who know Rainer particularly recall are his exceptional kindness, his thoughtfulness and his modesty. From his colleagues and former research students at TUM we have heard of their deep gratitude for the careful nurturing he provided during their formative years but also his encouragement for them to proceed independently when their research had reached maturity; and for his wise yet conciliatory leadership throughout.

Thus, as he embarks with energy and enthusiasm on his eighth decade and with the unswerving support of his wife, Hildegard, we wish Rainer exciting and fruitful years ahead, driven by his undiminished curiosity and optimism.

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