

Editorial

Professor Dr.-Ing. Wilfried Roetzel on his 70th birthday



It is a great privilege and distinct pleasure to write this birthday laudatio to celebrate Professor Roetzel's life and his contributions to heat transfer research over more than 40 years. We will attempt to give the readers a glimpse of his distinguished career as a scientist and an educator.

Professor Roetzel received his Diplom-Ingenieur degree in mechanical engineering at the Technical University Hannover in 1962 and his Ph.D. in chemical engineering with the thesis "Der Einfluß von Schaumbildung auf die Rektifizierwirkung von Siebböden" from the Institute of Thermodynamics and Process Engineering at the same university in 1968. His Ph.D. advisor was Professor Hausen. Professor Roetzel joined the Institute of Thermodynamics at the Technical University Berlin in 1968. After 3 years he obtained the postdoctoral lecture qualification (Habilitation) for heat and mass transfer, working under the supervision of Professor K. Stephan. Professor Roetzel left the Technical University Berlin in order to gain a varied experience in industry. He spent 3 years as a Chief Research Officer and a Senior Chief Research Officer at the Chemical Engineering Research Group of the South African Council for Scientific and Industrial Research in Pretoria. He then joined Bayer AG in Krefeld-Uerdingen (Germany) as Engineer and Senior Manager.

After these industrial years Professor Roetzel moved to the Institute of Thermodynamics at the University of the Federal Armed Forces Hamburg. From 1983 to 2001 he

headed this institute. Although retired officially in 2001, one usually still finds him working on science and related activities.

Professor Roetzel is best known for his work on heat exchangers. Author of the chapter on heat exchanger design in the well-known VDI Heat Atlas, the results of his research are used by professional engineers in Germany and throughout the world. In the past decade, his attention turned to a rather novel approach, the application of dispersion models to thermal design of heat exchangers. With Professor Xuan he authored the book, *Dynamic Behaviour of Heat Exchangers*, which summarizes main results of this work. Later he also developed together with Professor Luo the theory for multistream heat exchangers and heat exchanger networks. But his research interests were by far not limited to heat exchangers. Besides successful work on enhanced heat transfer surfaces, condensation heat transfer, solubility and diffusion coefficients of gases in liquids at higher pressure, measurement techniques for thermal conductivity and diffusivity of solids, liquids and gases and his more recent series of papers on the analysis of the dynamic behaviour of two- and multistream heat exchangers and their networks, Professor Roetzel also dealt with the analytical calculation of bullet trajectories in the field of ballistics and published several papers on this topic.

Professor Roetzel is member of numerous German scientific or engineering associations, such as the Technical

Committee for Heat and Mass Transfer of the VDI Society for Chemical and Process Engineering (VDI GVC-Fachausschuss Wärme- und Stoffübertragung). He is a Fellow of the South African Institution of Chemical Engineers and member of the Joachim Jungius-Gesellschaft der Wissenschaften e.V. in Hamburg. In 2005 Professor Roetzel became senior member of the newly founded Akademie der Wissenschaften in Hamburg. In recognition of his national and international scientific reputation, Professor Roetzel has been admitted as an Advisory Professor of the Nanjing University of Science and Technology (China), a Guest Professor of the University of Shanghai for Science and Technology, and a Fellow of the Wessex Institute of Great Britain.

During his tenure as a faculty member, Professor Roetzel supervised 19 Ph.D. students and more than 150 student theses. He is author of one book, several chapters of the VDI Heat Atlas and about 240 papers in journals, conference proceedings or as monographs. Further, he is member of the Editorial Board of the book series Advances in Heat Transfer of WIT Press, member of the Baltic Heat Transfer Committee, member of the Editorial Board of the International Journal of Heat Exchangers and member of the Honorary Editorial Advisory Boards of the International Journal of Heat and Mass Transfer and the International Communications in Heat and Mass Transfer.

As many in the academic community will readily admit, Professor Roetzel's approach to research in general, and to heat transfer topics in particular, is quite unique. In the vast majority of Professor Roetzel's publications, one will

find this unique trademark of strong emphasis on theoretical elegance. From his early work on condensation to thermal design of complex heat exchangers and his more recent series of papers on the analysis of the dynamic behaviour of heat exchangers, Professor Roetzel's focus was the deep theoretical analysis of the heat transfer topics. Throughout his professional career he has taken on many challenges and attacked them with vigor. Never resting on his laurels, he applies his insatiable curiosity, relentless drive and infectious enthusiasm to everything he does.

We would like to thank Professor Roetzel for his friendship, encouragement, advice, constructive criticism and collegial support during his wonderful career and we wish him a happy 70th birthday.

G. Fieg
E. Hahne
X. Luo
B. Spang
K. Spindler
Y. Xuan

*Institut für Thermodynamik und Wärmetechnik,
Universität Stuttgart,
Pfaffenwaldring 6,
D-70550 Stuttgart,
Germany*

*Tel.: +49 711 685 3536; fax: +49 711 685 3503
E-mail address: hahne@itw.uni-stuttgart.de*