

This volume represents the proceedings of the 9th International Workshop on “Polymer Reaction Engineering” held at the University of Hamburg, Germany, in cooperation with DECHEMA (Gesellschaft für Chemische Technik und Biotechnologie e.V., Frankfurt a. M.), October 7–10, 2007.

For more than twenty years the workshop series and the corresponding proceedings successfully accompany the chemical community promoting the update, exchange and discussion of new findings in the field of polymer reaction engineering between experts from academia and industry alike. With almost 200 participants the 9th International Workshop was one of the largest meetings of this kind worldwide. As long as this workshop exists the organizers fund young scientists to take part in the conference. This year 30 % of the participants were young PhD students, and thanks to the generous support of WILEY-VCH Publisher, awards for the two most outstanding poster presentations could be granted.

After all, 35 % participants from industry document special relevance attached to the conference. From 70 accepted contributions almost 75 % are compiled in the present proceedings. Excellent papers of emerging new concepts and promising developments, technologies from neighboring fields of chemical engineering and industrial solutions in process and product

design are widely discussed from a superior perspective. New catalysts and catalytic polymerization processes, controlled radical polymerization, high-throughput and micro technologies, new reactor and process design and intensified processes are included. Polymer thermodynamics, process analytics, modeling and process control enable development and application of these technologies. Distinctive spotlights were put on contributions of new environmentally benign polymerization processes in consideration of economical needs. Furthermore nanotechnologies perform new and extended characteristics to polymer materials.

We thank all the contributors for providing their manuscripts and thankfully acknowledge WILEY-VCH Publisher for publishing this volume, thus making the proceedings available forthwith to the meeting not only to the conference attendees.

We are deeply grateful to DECHEMA for organizing this workshop as an outstanding international conference and especially encouraging young scientists to join the scientific community.

Finally we like to thank the members of the Scientific Advisory Committee for helping to establish a scientific program of high quality and for careful revision of the contributions.

*H.-U. Moritz, W. Pauer*



**Heinz Gerrens**

September 1st, 1923, Hamburg – May, 14th, 2007, Frankenthal

**Prof. Dr. Heinz Gerrens** started his career as student of Günter Victor Schulz at the Institute of Physical Chemistry at the Johannes Gutenberg University in Mainz, Germany, where a large variety of topics were covered, among them the kinetics of polymerization at high conversion, transfer reactions and their importance for branched polymers and new methods for the determination of molecular weight distribution and the size as well as the shape of macromolecules and their properties in solution.

After joining BASF **Heinz Gerrens** put his main interests in the influences of reactor type and operation on polymer properties and semibatch as well as continuous emulsion polymerization, thus

becoming one of the founders of modern Polymer Reaction Engineering. He published numerous brilliant reviews especially in the 1960's and 70's, however the most distinguished in *Ullmann's Encyclopedia of Industrial Chemistry*. As honorary professor of the University of Karlsruhe he always kept engaged in the education of young scientists for decades, which he believed to be essential for future common welfare. In this context his contribution to *Fitzner, Fritz: Technische Chemie - Einführung in die Chemische Reaktionstechnik* is recognized as fundamental. With emphasis and determination he helped to establish the DECHEMA course of Polymer Reaction Engineering for advanced training of industrial chemists and engineers in which he acted as a lecturer for more than fifteen years, despite a feeble health even after his retirement in 1982. Finally, it was up to **Heinz Gerrens** to speak the closing remarks of the International Workshop of Polymer Reaction Engineering as long as he was able to take an active part, not only presenting statistics, but always trying to find an outlook for future trends and developments. The scientific community of Polymer Reaction Engineering owes deep gratitude to his great personality.

His colleagues, collaborators and students will remember him as an exceeding, competent and inspiring counterpart. Even though he felt a great affinity to the mountains, especially to the Alps, he stayed a "hanseatic" in its best sense: a person of cordial integrity, liberal, open-minded, dignified, but disciplined to himself.