

Obituary

In memoriam Tadeusz Pakula 1945–2005



He was employed as a Research Associate in the Physics Department of the Technical University of Lodz from 1967 to 1973 and as a Senior Research Associate at the Center of Molecular and Macromolecular Studies of the Polish Academy of Sciences from 1974 to 1984. During that time he spent one and a half years from 1977 to 1978 as a Postdoctoral Fellow with Prof. Dr. E.W. Fischer at the Institute of Physical Chemistry of the Johannes Gutenberg University of Mainz, and one year from 1982 to 1983 as a Visiting Professor with Prof. Dr. H. Kawai and Prof. Dr. T. Hashimoto at the Chemistry Department of Kyoto University. In 1984, Tadeusz Pakula joined the newly founded MPI-P in Mainz as a staff scientist and project leader where he, as the head of the related service group, set up the laboratory for testing the mechanical properties of polymers.

The research interests of Tadeusz Pakula were very broad, dealing mainly with the relationship between structure and dynamics on microscopic length and time scales and their correlations to the corresponding macroscopic properties. He utilized a variety of experimental methods as well as computer modelling techniques to explore these interests. Efforts were made to establish methods that can simultaneously give access to structural and dynamical details like rheo-optics or rheo-dielectrics.

A Monte Carlo Method was used by Tadeusz Pakula to support results derived from experimental findings of common simple polymers but more importantly to investigate the structural and dynamic properties of complex homogeneous and heterogeneous polymeric systems. For this purpose, he had developed a unique and very efficient “Cooperative Motion Algorithm”, which allowed the study of the supramolecular structure and dynamics of dense, void-free systems. Particularly systems became increasingly more attractive to him, in which a controlled molecular architecture leads to self-organisation of molecules and to special supramolecular structures with unexpected properties; for example, melts of ring, branched, and star polymers, block copolymers, polymer brushes, microgels, stiff chain and liquid crystalline polymers, and polymers at surfaces, interfaces, and in confined geometries.

The research of Tadeusz Pakula was often organized as a cooperation with other departments of the MPI-P or with university or research groups from Poland, Greece, and the USA.

On June 7th, 2005, a few weeks before the 60th anniversary of his birthday, Prof. Dr. Tadeusz Pakula died of a short serious illness in Mainz, Germany. As staff scientist and project leader in the Department of Polymer Physics of the Max-Planck-Institute for Polymer Research (MPI-P) in Mainz, he was head of a service group for more than 20 years. At the beginning, this service group only dealt with the mechanical properties of polymers, whereas later, as a consequence of an internal reorganisation of the institute, it also became responsible for the dielectric relaxation equipment of the institute and the related experiments.

Tadeusz Pakula was born on July 21st, 1945 in Lodz, Poland. He studied physics at the University of Lodz in Poland and got his Ph.D. in Chemistry in 1976 under the supervision of Prof. Dr. M. Kryszewski. His thesis was titled “Deformation of Supramolecular Structure in Polyethylene by Small Angle Light Scattering”. In 1984, he received his “Habilitation” at the Technical University of Lodz with the thesis “Structure Dependent Mechanical Properties of Heterogeneous Polymers”.

Since 1995, he was also affiliated as a professor with the Institute of Polymers at the Technical University of Lodz, where he regularly gave lectures on polymer physics and supervised graduate and Ph.D. students. The results of his scientific work are presented in more than 200 papers, published in POLYMER (13) and other respected scientific journals. More than 170 of them appeared after he took over the position at the MPI-P. The profound worldwide appreciation of his work also becomes obvious from the large number of invited lectures he gave at international conferences and symposia.

Tadeusz Pakula was an enthusiastic scientist who impressed everyone with his broad and detailed knowledge of polymer physics. He had the ability to reduce difficult polymer problems, making them accessible to a computer simulation, and to support his views and intuitions with convincing arguments and corresponding results. His contributions to progress in the sciences were honoured in 1983 by the Award for Initiatives in Research of the Polish Academy of Sciences for his work on the modelling of mechanical properties of heterogeneous materials and in 1996 by awarding him the title of a Professor by the Polish Academy of Sciences.

He will be remembered by his colleagues as a modest, kind, and helpful person who significantly contributed to the development of the MPI-P. It is a real pity that he could not work out any more of the many ideas that he always had in mind.

His colleagues, co-workers, and friends at the MPI-P, in Poland, and at other national and international universities and research institutes are extremely sad about his death. They mourn for him together with his family and will keep him in thankful and honourable memory.

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