

In Honor of Professor Tatjana Malavašič, PhD (1941-2004)

A Personal Perspective on Professor Tatjana Malavašič

Majda Žigon

National Institute of Chemistry, Ljubljana



Professor Tatjana Malavašič, a recognized and established researcher, scientist, professor, and mentor to many undergraduate and graduate students in the field of polymer chemistry, died in November 2004 after a long illness.

Tatjana Malavašič was born in Ljubljana in 1941. After graduating from high school at the classical gymnasium, she enrolled in the study of chemical technology at the Faculty for Natural Sciences and Technology of the University of Ljubljana in the Department for Chemistry and Chemical Technology (today's Faculty of Chemistry and Chemical Technology, FCCT). She completed her degree in 1965 with an undergraduate thesis entitled »Unsaturated polyester resins«. She finished her master's degree at the same faculty in 1973 with her thesis entitled »Characterization of polymeric processes and polymers of vinyl compounds using differential calorimetry« and her doctoral dissertation in 1980 entitled »A study of the polycondensation of phenol with furfural«.

After receiving her undergraduate diploma in 1965, Prof. Malavašič was employed at the Department for Polymers at the National Institute of Chemistry in Ljubljana (then called the »Boris Kidrič« Institute of Chemistry), where she loyally remained until her retirement in 1997, and served as the head of the Laboratory for Polymer Chemistry and Technology from 1990. In addition to her research work, she was also involved in pedagogical work at the University of Ljubljana, where her knowledge and experience were passed on to undergraduate and graduate students. In 1988, she was made Associate Professor in the field of polymers and she lectured since 1989 for the graduate program at FCCT (subject: Chemistry and Technology of Advanced Polymer Materials) and for the undergraduate program at the Academy of Fine Arts, Department of Design (subject: The Technology of Plastics). She unselfishly shared her experience with her younger colleagues, as well as

advising them and motivating them to carry out creative research work. She was a mentor to many undergraduate, master's, and doctoral students.

The scientific research work of Prof. Tatjana Malavašič was extensive. She led or collaborated on a number of basic, applied, and industrial studies, and cooperated with researchers from around the world. The most striking aspect of her early years is her work demonstrating the usefulness of differential scanning calorimetry (DSC) in the characterization of polymers and the study of polymerization reactions, for which she was ranked among the pioneers in this area and seen as an internationally recognized expert. Using DSC, she thoroughly studied the polymerization and copolymerization of acrylates and methacrylates both in bulk and in solution, as well as introduced a method for determining the kinetics of radical polymerization. Using DSC, she also studied other polymer systems and the cross-linking of selected thermosets. In the 1980's, she dedicated herself to the study of the synthesis and characterization of polyurethanes and polyurethane ionomers for preparing environmentally friendly aqueous dispersions, while in the 1990's she focused on the study of side-chain liquid crystal polyurethanes and the study of polymeric blends. Her work will be indelibly printed on the history of the National Institute of Chemistry and on the field of polymers in Slovenia.

Prof. Malavašič had a feeling for the types of professional problems faced by researchers in industry. Therefore, she either lead or collaborated on a number of applied and research/development projects, of which the following examples are but a few: characterization and vulcanization of various rubbers, polyurethane solutions and dispersions, epoxide resins, powder coatings, foamed polyethylene, glues based on urea-formaldehyde resins, etc.

The opus of Prof. Malavašič's scientific research work encompasses around 100 noted publications in domestic and international journals, as well as monographs. She also actively participated in a number of domestic and international conferences (26 published contributions). She received two awards from the Prešeren Foundation for students

(in 1966 and 1974), as well as two awards from the Boris Kidrič Foundation (in 1978 and 1991).

She was also active in other areas, working in various bodies of the National Institute of Chemistry and the Slovenian Chemical Society. She was the president of the Polymers Section of the Slovenian Chemical Society, the Slovenian representative in the European Polymer Federation, and a member of the scientific and organizing committees of many domestic and international conferences. She also actively participated in the organization of two Yugoslav congresses on the Chemistry and Technology of Macromolecules in Slovenia, the 4th Congress in 1975 in Ljubljana and the 8th Congress in 1984 in Bled, as well as participated in the Mediterranean network and schools concerning the chemistry and technology of new polymeric materials. Following Slovenian independence, Prof. Malavašič, together with Prof. France Vodopivec and Prof. Drago Kolar, established a conference on materials and technologies, which brings together both Slovenian and foreign experts for metals, polymers, ceramics, and composite materials in Portorož every year. Up to her retirement she was an active member of scientific committees for conferences and a member of the editorial board of the journal *Acta Chimica Slovenica* and a member of the editorial advisory board of the journal *Metals, Alloys, and Technologies*.

With her internationally recognized scientific, research, and pedagogical work, Prof. Tatjana Malavašič greatly contributed to the development of the field of polymers in Slovenia and to the international recognition of Slovenian polymer science. Despite her work, she always found time for her family and friends, as well as for various activities in her free time. Even illness could not stop this. In the end, though she fought courageously, she finally lost this most unfair of fights. Her colleagues, friends, and acquaintances will remember her inexhaustible energy, decisiveness, and optimism, and not least of all the number of innovative methods she devised for effectively solving the many complex professional challenges she faced. She leaves a great void behind her. She will be greatly missed.
