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46. Milan Lazar

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Personalities in Polymer Science



Milan Lazár

Scientific productivity and creativity have made **Milan Lazár** one of the most distinguished personalities in macromolecular chemistry in Central Europe.

Milan Lazár was born October 8, 1927 at Sliac, (Rybare) in the Zvolen district, where he grew up and finished high school. He entered the Faculty of Chemical Technology of the Slovak Technical University in Bratislava in 1951 and obtained his Ph.D. degree in macromolecular chemistry based on a thesis entitled **Polymerization of Trifluorochloroethylene**. He obtained the degree of Doctor of Science (Associate Professorship) in 1968 with a thesis **Reactions of Free Radicals in Polymer Systems**.

Lazár started his professional career as a chemist at the Research Institute of Cables and Insulators where he worked on problems concerned with the polymerization of trifluorochloroethylene. Later, together with R. Rado he developed research projects on polyethylene crosslinking. The results of these investigations found important practical applications in the Slovak chemical industry.

In 1961, Lazár founded the Laboratory of Polymers of the Slovak Academy of Sciences; and in 1963, he was able to transform the Laboratory into the Polymer Institute of the Slovak Academy of Sciences. At the age of 36 years, he

became the first director of this institution.

The establishment of the Polymer Institute in Bratislava, in the Slovakian part of the then Czechoslovakia, became a logical counterpart to the Institute of Macromolecular Chemistry in Prague and was an important milestone in the development of Czechoslovak polymer science. Bratislava, even within Czechoslovakia, had a separate Slovak Academy of Sciences. The Polymer Institute of the Slovak Academy of Sciences, unlike the Institute in Prague, specialized mainly on free radical processes for polymer preparation and transformation while the Czech Institute concentrated on condensation polymers (particularly Nylon 6) and other polar polymers. Both directors, Milan Lazár and the director in Prague, Oto Wichterle, kept close contact and coordinated their activities carefully which resulted in a high reputation of Czechoslovakia's polymer science.

As 1968 came and the Czechoslovakian Spring swept the progressive scientist (and politician) from leading positions, Milan Lazár's fate was sealed and he was removed as director of the Institute in Bratislava. From 1971 to 1990 he became a scientist of uncertain distinction. This was an extremely difficult period in the scientific career of Milan Lazár; his contacts with the international scientific community were eliminated and his scientific activity was limited with an overall significant harm to the Slovak macromolecular science. As the communist administration collapsed in 1990, Milan Lazár was reinstated as the director of the Polymer Institute and served until his retirement in 1994.

In his scientific work, Milan Lazár contributed to the mechanisms of elementary reactions of free radicals in solid media. He initiated the work on polymerizations initiated by charge-transfer complexes in solid paraffins, the radical polymerization by semistable radicals, the stabilization of reactive free radicals in channel compounds and synthetic zeolites, the study of the decay of free radicals in polymer matrices, the decomposition of peroxides in a solid polymer matrix and the subsequent pathways of polymer modifications. His work also contributed to the crosslinking and grafting of polyolefins (polyethylene and

polypropylene).

As the director of the Institute in the 1960's, Milan Lazár insisted on the development of special methods of polymer characterizations, especially the development of sophisticated ESR spectroscopy, methods of studying chemiluminescence and thermal analysis for polymer characterization.

The style of M. Lazár's work during his first directorship involved the organization of informal meetings with coworkers and guests of the Institute at his small cottage in Bratislava's forests where new ideas were discussed. This created strong bonds between all who had an opportunity to work with him and the Polymer Institute. In most cases these relations survived up to now and are one of the reasons of the high stability and high scientific productivity of the Polymer Institute in Bratislava.

Milan Lazár is the author of more than 150 scientific papers and coauthor of five books: **Free Radicals in Chemistry and Biology**, 1989; **Chemical Transformations of Polymers**, 1989; **Chemical Reactions of Free Radicals**, 1983; **Synthesis and Properties of Macromolecular Compounds**, 1976 and **Fluorocarbon Polymers**, 1960.

Among the honors Professor Lazár received in his career is the Prize of the Slovak Academy, Diosyz Stur Ilkovic, the Silver medal (1982) and the gold medal Dionyz Stun (1992) for scientific achievements and the Gold Medal Dionyz Ilkovic 1987 for Physical Chemistry.

Over the years M. Lazár has had different hobbies. When he was younger he was active in dancing in a folk's group, now he likes wood working in his cottage in the Slovenski Rudohoric Mountains.

Since 1953, M. Lazár has been married to his wife, Tanya, who was devoted and has helped him much during the difficulties of his life. They have two sons, Martin and Lubor, and one daughter, Danica, all of whom are married.

This article has been submitted by Lyda Matšova-Rychla, Polymer Institute, Slovak Academy of Sciences, Bratislava and Otto Vogl, Herman F. Mark Professor of Polymer Science, Polytechnic University, Brooklyn NY.