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## 24. Bahattin M. Baysal

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## Personalities in Polymer Science



Bahattin M. Baysal

### Honoring Professor Baysal on his 75th Birthday

Professor Baysal brought Polymer Science to Turkey and is still the leading authority of polymer science and technology in Turkey today.

Bahattin Baysal was born on December 8, 1922 in Kırsehir as the eldest son of Seyfettin Baysal, a former officer of the Turkish army, and Sadmet Baysal. He had two younger brothers and two sisters. In his early youth, young Bahattin grew up in northern Turkey and started Elementary School there; later his family moved to the West Anatolian coast and Bahattin attended Junior and Senior High School in Izmir.

In 1941, Baysal enrolled in the Faculty of Science of the University of Istanbul and studied Chemistry and Physics; he received his B.Sc. degree in 1945. For his doctoral degree, Baysal went to the University of Ankara and studied Physical Chemistry at the Faculty of Science under Professor Adolf G. Parts who had come to teach at Ankara University from the University of Tartu, Estonia. Baysal received his D.Sc. in 1949 with a thesis entitled: *A Kinetics Studies on the Decomposition of Hydrogen Peroxide by Ferrous Ions*. During this time, Bahattin became interested in Polymer Science, soon thereafter, in 1952, he became a Docent with his second thesis: *Kinetics of*

*Chain Reaction Polymerization* with the privilege to teach at the University.

Professor Baysal started his academic career at the Faculty of Science at the University of Ankara as Assistant in Physical Chemistry, and continued as Docent from 1952 to 1960. He was then invited and accepted an appointment as Professor of Physical Chemistry at the Middle East Technical University in Ankara. For the next 10 years, he served as the Chairman of the Department of Chemistry and ultimately, from 1971 to 1973, he served as the Dean of the Faculty of Arts and Sciences. Baysal was largely responsible for the creation of the Research Institute at the Middle East University and served as its Director from 1973 to 1983.

In 1979, Baysal was appointed a Professor at the Technical University in Istanbul and continued in this position until his retirement in 1990. During this period Baysal served as the Chairman of the Chemistry Department for two terms between 1982 and 1986. He was also the Director of the CEKMECE Nuclear Research and Training Center in Istanbul.

In 1990 Baysal, moved to Bogazici University as Professor of Chemical Engineering, a position he still holds. From 1992 he served as consultant to the Director of the Marmara Research Center and from 1993 to 1996 he was the Director of the Research Institute for Basic Sciences at the Marmara Research Center, the Scientific and Technical Research Council of Turkey.

Baysal spent a considerable amount of time abroad to study and to gain additional experience for his work in Ankara. From 1950 to 1952, he spent two years in the United States, first as a Research Fellow at the Polytechnic Institute of Brooklyn where he was associated with Professor Herman F. Mark working on *Polymerization Kinetics* and later as National Research Fellow in the Department of Chemistry of Princeton University, in Princeton NJ, working with A. V. Tobolsky on *The Kinetics of Chain Reaction Polymerization*.

From 1957 to 1959, Baysal again was two years in the United States, first at the Massachusetts Institute of Technology in Cambridge, where, as A.I.D. Fellow, he studied *Ion-Exchange Equilibria*. Subsequently he worked at the Brookhaven National Research Laboratory in Upton,

Long Island, where he investigated the Kinetics of Electron-Transfer Reactions and Solid State Polymerization.

In the summer months of 1963 and 1964 Baysal worked on a Ford Foundation Project involved with the study of the Science Curriculum for the Science Lycee in Ankara. He continued to be associated with Ford Foundation Projects of shorter duration. In 1964, he was a Research Associate at Dartmouth College with Walter Stockmayer, where he worked on *Dielectric Dispersion in Dilute Solutions of para-Substituted Polystyrenes*. In 1970, he worked with Arthur Tobolsky at Princeton on *Synthesis and Characterization of Block Copolymers*. Baysal spent his sabbatical year in 1986 again with Stockmayer at Dartmouth College working on *Low and High Frequency Studies of Polymeric Systems in Dilute Solutions*.

Bahattin M. Baysal's research interests varied widely. He has studied Chain Reaction Polymerization, the Kinetics of Polyaddition Reactions, the Determination of Chain Transfer Constants and of Kinetic Parameters and the Kinetics of Electron Transfer Reactions. He was also involved with Physico-chemical Studies on Synthetic Ion-Exchange Resins, Solid State Polymerization and the Electrical Properties of Polymer Solutions, studied at low and high Frequencies and the Dielectric Dispersions in Dilute Solutions.

Later in his scientific work, Baysal became interested in Block Copolymers and Blends, Block Copolymers containing Glassy and Soft, Rubbery Segments, Block Copolymers Prepared by Chemical Combination of Functional Prepolymers. He studied Interpenetrating Polymer Networks of Poly(dimethylsiloxanes) and Various Network Systems, Swelling and Phase Transitions on Polymer Gels and the Polymer Chain Collapse below the  $\theta$  Temperatures.

Under his supervision, 30 M.S. and 32 Ph.D theses were completed.

Baysal has published extensively; about 200 papers represent his life work. He is the Editor of the Turkish Journal of Chemistry and on the Editorial Board of the Journal of Applied Polymer Science.

Bahattin Baysal started to attend International Scientific Conferences and Symposia in 1951, at the XII. IUPAC Congress in New York. During his career, he attended Symposia on Macromolecules in many Scientific Centers in Europe and

America and, over the last 50 years he participated in nearly all chemistry meetings in Turkey. In 1995 he was appointed the Scientific Chairman of the 35th IUPAC Congress in Istanbul, Turkey and edited the publication of the manuscripts, based on the lectures of the conference.

For his accomplishments in science and his service to scientific institutions in Turkey, he received a number of Awards. In 1968, the Science Prize of the Turkish National Research Council (TUBITAK) in Polymer Chemistry, the Science Prize of the Parlat Foundation of the Middle East Technical University in Ankara in 1989 and the Science Prize of the Turkish Chemistry Association in 1991.

In 1990, Baysal was awarded an honorary doctoral degree of Philosophy from the Middle East University.

Bahattin Baysal is now leading an active research group at the Marmara Research Center and is the co-director of two international research projects on polymers.

In addition to his dedication to Polymer Science, Bahattin Baysal is also interested in Turkish and world literature and poetry and in ancient history.

In 1961 Bahattin Baysal married Engin G. Ucak an art teacher from Ankara. They have two children, one son, Kemal Baysal who is an M.D. with also a PhD and a daughter, Ayse Baysal, also an M.D.

This article was prepared by **Otto Vogl** and **Elif Hamurcu\***, Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA, 01003, USA