

## *In Memoriam*

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# Professor Dionizas POŠKUS (1930–2005)

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On August 14, 2005 one of the most eminent Lithuanian chemists Professor Dionizas Poškus passed away, just 4 months before his 75th birthday.

He was born on 20 December, 1930 in Mažeikiai (the town in north-western Lithuania). In 1955 he graduated from the Chemical Faculty of the Vilnius University and began to work at the Institute of Chemistry and Chemical Technology of the Lithuanian Academy of Sciences (now the Institute of Chemistry) with which he remained until retirement in April 2000.

In 1955 D. Poškus was sent to the Institute of Physical Chemistry of the Academy of Sciences of the USSR in Moscow for post-graduate studies. There, under the guidance of Prof. Andrei Kiselev (1908–1984) the well-known specialist of adsorption he investigated hydrocarbon adsorption on magnesium hydroxide.

After returning to Vilnius in 1958, D. Poškus continued adsorption studies and remained in this field for all his scientific career. Initially he was engaged in experimental investigation of adsorption from solutions, but later he concentrated on theoretical work, collaborating with Prof. A. Kiselev.

A large part of these studies was devoted to the molecular-statistical calculations of thermodynamic characteristics of the simplest adsorption process – physical adsorption at low surface coverage on regular and homogeneous graphitized carbon black. The semi-empirical method for calculation of adsorption energy, entropy, Henry constants was developed and successfully used for various hydrocarbons (*ca.* 100 compounds), employing some experimental data. In this cycle of studies, the high sensitivity of adsorption characteristics to the molecules geometry was demonstrated, and on the next stage the method of **calculation** of molecular structure parameters (potential barriers and equilibrium angles of internal rotation) from adsorption data was developed.

Some of these results were summarized in his Dr. Sc. dissertation “Molecular theory of adsorption at low surface coverage” defended in Moscow in 1972. In 1977, for the work on adsorption phenome-



na D. Poškus was awarded the Lithuanian State Prize in Science.

Later D. Poškus carried out a large cycle of investigations of adsorption processes on a gold electrode by the radiotracer method, improved the experimental techniques and determined the surface concentration of cyanide- and gold-containing species and thallium ions on the gold surface in electroplating solutions. These results are very important for understanding the complicated electrochemical processes of gold deposition.

He worked for 4 months with Prof. D. H. Everett at the University of Bristol in 1969–70.

D. Poškus (sometimes his name was transcribed phonetically as Poshkus) co-authored two monographs: “*Adsorption of Gases and Vapors on Homogeneous Surfaces*”, Moscow, 1975 (together with N. Avgul and A. Kiselev) and “*Molecular Fundamentals of Adsorption Chromatography*”, Moscow, 1986 (together with A. Kiselev and Y. Yashin), and almost 80 scientific papers; most of them were published in the best Western and Russian physical chemistry journals, *e.g.*, Journal of Electroanalytical Chemistry, Jour-

nal of the Chemical Society, Faraday Transactions, Faraday Discussions, Zhurnal Fizicheskoi Khimii. He is one of the most-cited Lithuanian chemists.

Alongside the research work, the important administrative and organizing activities of D. Poškus should be mentioned. From 1965 up to 1993 he was head of laboratory, and for 17 years (from 1975 to 1992) Deputy Director of the Institute of Chemistry

and Chemical Technology. Prof. D. Poškus was also a member of the editorial board of the journal "Chemija" from 1990.

His colleagues will remember him as the highest authority of adsorption in Lithuania, a highly disciplined scientist striving for perfection in his work.

*Prof. Algirdas Vaškelis*