



### THE 75TH ANNIVERSARY OF PROFESSOR VACLOVA ZELIONKAITĖ

*On 11 May 2001 one of the most eminent Lithuanian chemists Vaclova Zelionkaitė celebrated her 75th birthday.*

Born in 1926 in Kaunas, she graduated from the 5th Kaunas gymnasium and studied chemistry at Kaunas University. Here she began to work at Physical Chemistry Department and remained there after graduating from the University in 1950. In 1955 V. Zelionkaitė defended her Ph. D. work in selenopolythionic compounds, prepared under the supervision of Prof. J. Janickis. She continued her doctoral studies and in 1964 maintained the thesis "Studies in selenium oxygen compounds", which resulted in a doctor's scientific degree (now it would be a habilitation work). She was the first Lithuanian chemist woman having maintained a doctor's degree.

In 1968 she and some of her colleagues were awarded the Lithuanian State Prize for achievements

in sulfur, selenium and manganese chemistry and electrochemistry, and in 1974 she was awarded the title of Merited Scientist of Lithuania.

In 1969 Prof. V. Zelionkaitė was elected Head of the Department of Inorganic Chemistry at the Faculty of Chemical Engineering. She stayed in this post until 1985, then worked as a professor.

During her long teaching career Professor V. Zelionkaitė delivered various courses of lectures on chemistry, such as physical and colloid chemistry, physical-chemical analysis, technology of sulfuric acid and of nitrogen compounds, general and inorganic chemistry. She (together with colleagues) in 1995 published the manual "General and Inorganic Chemistry". This manual is popular among students of chemical engineering, chemistry, medicine, pharmacology and other related specialities.

Several generations of chemical engineers working throughout the country regard her as their teacher. She is a true patriot of chemical industry in Lithuania, the Kėdainiai and Jonava plants in particular, and did a lot to man these plants with competent specialists.

Professor V. Zelionkaitė's main concern was scientific research. When a university student (about 1948) she began an active research life, investigating unstable sulfur and selenium compounds (polythionic and selenopolythionic acids). Theoretically these compounds are interesting as large-molecule compounds, their molecules being based on atomic chains of sulfur or sulfur-selenium and are intermediate products of certain complex reactions. Actually, their chemistry is related to disintegration of sulfite cellulose solutions and to the problem of obtaining sulfur compounds from industrial gases, turning them into useful chemical substances such as ammonia sulfate and elemental sulfur, as well as some problems of selenium technology. Having bound unstable intermediate compounds and isolated them as insoluble residues, the authors succeeded in experimentally proving the mechanism of thiosulphate, decomposition under the action of acids, *i.e.* the role of sulfanemonosulphonic acids as intermediate compounds in the reaction. Several new reactions of higher polythionic acid formation were discovered, which allowed to show that sulfur atom

chains in the molecules of these acids are practically unlimited. These reactions enabled to find salts with over 50 sulfur atoms in their molecules (co-authors J. Janickis, J. Valančiūnas, V. Janickis and S. Grevys).

New reactions of selenopolythionic acid formation were discovered (jointly with J. Janickis, 1955). These discoveries triggered a new series of research. Synthesized potassium salt of diselenotetra-thionic acid is the first compound of this class with two selenium atoms in its molecule, replacing those of sulfur in the chain.

Having worked out the analysis techniques for complex mixtures of compounds of sulfur and selenium (1957, with J. Janickis and E. Pacauskas), the scientists were able to extend the scope of their investigations in the field of selenopolythionates. Some new reactions of such compound formation were discovered and new selenopolythionates synthesized (co-authors: J. Janickis, D. Kudarauskiene and I. Jatautaitė). Simultaneously the decomposition of such compounds (with J. Janickis and J. Šuliakienė) as well as their catalysis effect on the decomposition of hydrosulfites and their oxidation in air (jointly with J. Janickis, R. Likšienė, E. Pažarauskas, J. Zaleskytė) were investigated. The results of these findings were summed up in J. Janickis's article "Some aspects of the chemistry of polythionates and selenopolythionates" published in the journal "Accounts of Chemical Research" (USA) in 1969.

Among the systems studied by Prof. V. Zelionkaitė, arsenic compounds with selenium and telluriumpolythionates should be mentioned. A number of new selenoarsenites (III) and selenoarsenates (V) were isolated from strongly alkaline solutions (together with R. Čėsniene, A. Žarnauskas, M. Krivenko, G. Jankauskas) as well as the first salts of tellurotrithionic acid (together with A. Pažarauskas, A. Juodzevičius, V. Janickis) and a number of free selenopolythionic acids including selenopentathionic acid hexahydrate (together with J. Šukyte) were isolated and studied for the first time.

Professor V. Zelionkaitė and her followers' scientific achievements have never lacked local and international attention. Some of their findings have been incorporated into manuals and monographs. Professor V. Zelionkaitė delivered reports at numerous local and international scientific conferences. She published over 150 scientific publications. Fourteen theses for doctor's degree were maintained under her supervision, one of them for a habilitated doctor's degree (V. Janickis). Prof. V. Zelionkaitė paid particular attention to scientific activities of students, and encouraged by her some of them became winners of Republican as well as international competitions and later on developed into well-known scientists.

Congratulating Prof. V. Zelionkaitė on her 75th birthday, we wish her further success in all areas of her activities.

*Prof. V. Janickis*