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IN MEMORIAM

PROFESSOR VALENTINA G. KHARCHENKO

(September 27, 1920 – August 30, 2005)

Professor Valentina Grigor'evna Kharchenko, an outstanding organic chemist and leader in the field of sulfur and selenium heterocyclic compounds, died on August 30, 2005. She was eighty five years old. She combined scientific creativity with generosity of spirit. Her talent, inexhaustible capacity for work, and dedication led to the formation of the Saratov school of organic chemists. "A great worker" was the highest compliment paid by Prof. Kharchenko and was her own personal credo.

In 1949, Prof. V. V. Chelintsev, the head of the organic chemistry chair at Saratov State University and Corresponding Member of the Academy of Sciences of the USSR, appointed Valentina, his favorite student, as an assistant in the chair. From then on, Prof. Kharchenko's scientific activities were tied to the organic chemistry chair of the Chemistry Faculty of Saratov State University, first as an assistant and then, as docent, professor, and chair head from 1971 to 1992. She was professor emeritus from 1995 until her death in 2005.

Prof. Kharchenko defended her Candidate's dissertation in 1956 on the "Condensation of Cyclohexanone with Benzaldehyde and Furfural – A New Condensation of Acyclic Ketones with Aromatic Aldehydes" under the direction of Docent M. N. Tilichenko. Subsequently, her beloved diketones took on new life, converting to oxygen, selenium, sulfur, and nitrogen five- and six-membered heterocyclic compounds. Her doctoral dissertation entitled "A Study of the Synthesis and Properties of 1,5-Diketones and Derived Organosulfur Compounds" was defended in 1969 in the Section of Chemical and Biological Sciences at the Academy of Sciences of the Latvian SSR.

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In 1971, the "Kharchenko school" was finally founded and became well-known for its pioneering studies in the chemistry of 1,5-dicarbonyl and polycarbonyl compounds and also sulfur, selenium, oxygen, and nitrogen heterocyclic compounds. Prof. Kharchenko carried out extensive studies on the nucleophilic and electrophilic reactions of saturated and unsaturated arylaliphatic, seven-membered, and bicyclic 1,5-diketones along with their oxo and dioxo analogs. Competitive mechanisms were discovered for the formation of pyridinium, thiopyridinium, and selenopyridinium salts and their condensed analogs. Preparative conditions were found for the oxidation of labile thio- and selenopyrans to give thio- and selenopyranones and the feasibility of the isomerization of 2,4-substituted 5-oxohexahydroquinolines to give 2,3-substituted analogs was established. Prof. Kharchenko studied the halogenation of pentane- and pentene-1,5-diones and the transformations of chlorine derivatives of pyrilium and thiopyrilium salts into chloropyridines, chloroaroylfurans, and other five- and six-membered heterocycles. She also discovered the recyclization of substituted furans to give thiophenes and selenophenes in strongly acidic media.

In addition to basic research, Prof. Kharchenko directed research on the practical applications of products first synthesized in her laboratory. These studies were carried out in conjunction with research institutes and industrial firms in Moscow, Minsk, Voronezh, Engels, and Saratov. Prof. Kharchenko held more than 130 Author's Certificates on a broad range of biologically active compounds, antioxidants, cryoprotectors, dyes, anticorrosion additives, analytical reagents, and photosensitizers. She developed the organoselenium compound DAFS-25 and found use for it as a veterinary stimulant.

Prof. Kharchenko devoted enormous efforts to chemical education and introduced special courses on heterocyclic chemistry, stereochemistry, and physical methods in organic chemistry and published textbooks. She enthusiastically gave lectures on organic chemistry and was greatly devoted to her students who rewarded her with their love. She provided her students of various generations as professors, doctoral and graduate students, and undergraduates with valuable scientific advice and warm words of encouragement. Her beauty and natural charm combined with generosity towards all who knew her.

Valentina Grigor'evna educated successful students who proved as enamored as she of organic chemistry, to which she devoted her whole life. Thirty five Candidate's dissertations and six doctoral dissertations were defended under her direction. Her students include a rector, dean, department directors, and professors institutes of higher education in Saratov.

Prof. Kharchenko was the author of about 600 scientific publications, including six monographs, chapters, reviews, articles, which have been widely cited in the scientific literature. She organized Inter-University and All-Russian conferences at Saratov University on Carbonyl Compounds in Heterocyclic Synthesis in 1977, 1982, 1985, 1989, and 1992. The conference on this subject in 2000 was dedicated to Prof. Kharchenko on the occasion of her eightieth birthday. She participated in conferences and symposiums abroad in Czechoslovakia, Bulgaria, and Latvia and visited Rumania as an honored guest in 1988.

As of 1978, Prof. Kharchenko was one of only two Honoured Scientists of the RSFSR in Saratov. She was a member of the Scientific Council of the USSR State Committee for Science and Technology of Sulfur Organic Compounds, chairperson of the dissertation council of the chemistry faculty, and a deputy to the regional Soviet among many other posts held in the period from 1970 to 2000.

Valentina Grigor'evna was a respected authority in the research community and was a Honoured Inventor of the USSR. She received a State Scientific Stipend for outstanding Russian Scientists (1996-2000), and was awarded the Gustav Vanag's and V. V. Chelintsev's scientific medals, as well as medals "For Distinguished Labour", USSR Exhibition of National Economic Achievements, she received a Honorary Symbol of the Saratov Oblast Governor "For the Love to the Motherland".

To our great regret Prof. Kharchenko is no longer among us but her life continues in her students. For us, she will always remain the paragon of a creative and hardworking scientist.

A. P. Kriven'ko