

Prof. Dr. Constantin Ghirvu – 70 years anniversary



Professor Constantin GHIRVU was born on May 30, 1940, at Bahna-Neamț, Romania, where he attended the primary school until 1951, then he entered the gymnasium at Cârliți – Bacău (1951-1954), afterwards the “Ferdinand I” High School in Bacău (1954-1957). In 1957 he began the studies at the “Al.I. Cuza” University of Iasi, Physics and Chemistry Section, first at the Faculty of Mathematics and Physics (1957-1960) and then at the Faculty of Chemistry (1960-1962).

Mr. Ghirvu is married with Eugenia Ghirvu, former Istrate, has a daughter Iuliana, a son Constantin-Lucian and a grandson Maximilian-Filip Voicu.

In October 1962, Mr. Ghirvu was appointed as assistant at the Department of Physical Chemistry, Faculty of Chemistry until 1966. Between Sept. 1966-Sept.1969, he worked, with a scholarship, at the “I.G. Murgulescu” Research Institute for Physical Chemistry of the Romanian Academy in Bucharest, where in September 1971 he obtained PhD degree in Chemistry (Quantum Chemistry Direction), when he reported publicly the thesis entitled “Contribution to the Study of the Electronic Structure of some Substituted Aromatic Molecules”, elaborated under expert supervision

of Prof. Victor Emanuel Sahini, member of the Romanian Academy. In the academic year 1969-1970 professor Ghirvu accomplished a specialization at the Theoretical Chemistry Group of the Oslo University (Norway), under the direction of Prof. dr. Per N. Skancke, and during 1995-1996 he was invited at the Univ. "Paris XI", Orsay (France), as visiting professor for 1 month.

Between 1972 and 1990 Mr. Ghirvu was appointed, by competition at the Department of Physical and Theoretical Chemistry of the "Al.I.Cuza" University of Iași, the university positions : lecturer (1972-1976), associate professor (conferentiar) (1976-1990), full professor (1990-2005) and since then consulting professor. During his teaching activity he taught the courses: General and Physical Chemistry(for physicists), Physical Chemistry (Structure)(for chemists and physico-chemists), Quantum Chemistry (for the first time in the faculty) (for chemists and physico-chemists), Quantum Mechanics (for physico-chemists), Physical Chemistry (Thermodynamics and Chemical Kinetics) (for engineers), Molecular Structure (at the faculty of Chemistry, State University Chisinau, Republic of Moldova), Reactivity, Structure and Energetic Aspects of the Chemical Transformations (optional), Reactivity and Molecular Spectroscopy (optional), Molecular Dynamics and Chemical reactivity (optional), Molecular and Computational Spectroscopy (optional), Advanced Theoretical Chemistry (master), UV-VIS and RES-Spectral Methods (Master), Quantum Dynamics of Chemical Reactions (Master), Chemical Reactivity (Doctor's degree School for Chemistry). He edited and contributed as co-author 7 books.

The scientific activity of professor Ghirvu is represented by more than 100 published articles in the prestigious specialized Romanian and

foreign journals, as well as the participation to the national and international conferences and congresses. Also, he was the director of 7 investigation projects as well as the partner to other 14. The main fields of scientific activity of Prof. Ghirvu covered the topics: Quantum and Theoretical Chemistry, Quantum Dynamics and Chemical Reactivity, Molecular Spectroscopy.

Professor Constantin Ghirvu is PhD advisor in Physical Chemistry (theoretical and Quantum specialization) since 1992.

Some of the selected publications of Professor Ghirvu are the following:

1. CNDO Calculation of the π -Electronic Structure and Barrier to Internal Rotation in Benzenesulphonic Acid, *Theoretica Chimica Acta* (Berlin), 30, 115 (1973)
2. On the Electronic Structure of o-, m-, and p-Chloronitrobenzene, *Rev. Roumaine Chim.*, 17, 1951(1972).
3. Electronic Structure and Spectra of Some Disubstituted Benzenes, *Acta Chemica Scandinavica*, 25, 1011 (1971) (with Odd Gropen).
4. MO Studies of the Barrier to Internal Rotation in o-chloronitrobenzene and o-Dinitrobenzene, *Acta Chemica Scandinavica*, 25, 2023 (1971) (with Odd Gropen and P.N. Skancke).
5. A. Pariser-Parr Treatment of Substituted Benzenes, *Rev. Roumaine Chim.* 13, 851(1968), 15, 149 (1971)(with Acad. V. Em. Sahini).
6. Synthesis and Biological Evaluation of New Rh(I) Complexes with Sulphonamide Deratives, *Anticancer Research*, 9, 781 (1989)(with D. Craciunescu, E.P. Iglesias, V. Scarcia, A. Papaioanou).

7. On the Interaction Between the H atom and HCl Molecule, Rev. Roumaine Chim., 47, 817 (2002) (with I. Humelnicu, M. Constantinescu, Iuliana Voicu).
8. Some Aspects of 8-hydroxyquinoline in Solvents Acta Chemica Iași, 17, 85 (2009) (with Elena Filip, I. Humelnicu).

The contributions of the scientific papers of Professor Ghirvu can be systematize as follows:

1. The elaboration of a quantum-mechanical model for the effect of the second order substituents on the electronic structure and spectrum of the benzene molecule both in the Huckel and Parisser-Parr-Pople approximations.
2. The evidence, on the basis of quantum-mechanical calculations, of the charge-transfer configurations and the elaboration of a configurational interaction scheme for the disubstitutes benzenes.
3. The quantum-mechanical investigation of the free rotation of the sulphonic group in the benzenesulphonic acid.
4. Experimental investigation of the influence of the solvents, including polymer solutions, on the UV-VIS spectra of some free radicals and their parent molecules.
5. The elaboration of a new reactivity indices “dynamical overlap” for the reactivity of organic molecules as well as the investigation of some dynamical aspects concerning simple reactions ($CH_2 = CH_2 + \cdot CH_3$; $H + HCl$, etc).

In 1991 Professor Ghirvu was awarded the Romanian Academy Prize for a set of papers concerning the contributions to the study of the electronic structure of complex molecules with biological activity. Science

1985 he was elected as: Head of the Department of Physical and Theoretical Chemistry (1985-1992; 2000-2005), Dean of the Faculty of Chemistry (1996-2000), Vicedean (1992-1996), member in the Council of the Faculty (1985-2005), member in the Senate of the “Al.I.Cuza” University (1985-2005), member in the C.N.A.T.D.C.U. of the Roumanian Ministry of Education (1995-2005) and President of this Council (1998-2000).

Happy anniversary, dear Professor!