



Professor Victor-Emanuel Sahini



PROFESSOR VICTOR-EMANUEL SAHINI AT HIS 85th ANNIVERSARY

On 30 August 2012, Professor Victor-Emanuel Sahini celebrates his 85th anniversary.

Professor Sahini was born and spent his childhood and first school years in Galați. Moving with the family to Bucharest, he graduated from the “Gh. Lazar” high school and became a student at the Faculty of Chemistry at the University of Bucharest. He graduated in 1950 as a brilliant student, and became an assistant in the Department of Physical Chemistry of the Faculty of Chemistry at the University of Bucharest. This was the beginning of nearly 60 years of teaching activity in the same laboratory, occupying successively the positions of lecturer (1955), assistant professor (1962) and full professor (1968).

He prepared and defended in 1962 a PhD thesis entitled “Contributions to the theory of coordinative bond” under the supervision of Professor I.G. Murgulescu, member of the Roumanian Academy, the founder of the Department of Physical Chemistry at the University of Bucharest.

The teaching activity of Professor Sahini was devoted especially to the new modern topics of Physical Chemistry, which, after his interesting and rigorous lectures, became familiar and was enthusiastically followed by many students. He gave for the first time lectures of Physico-chemical analysis (1952) and Quantum Chemistry (1954) at the University of Bucharest.

For about six decades he gave lectures on Molecular Structure and Spectroscopy, Biological Physical Chemistry, Electrochemistry and Colloid Chemistry at the Faculties of Chemistry, Biology and Geology of the University of Bucharest, as well as at the Military Technical Academy. In the period 1974-1990, when the Faculty of Chemistry was abusively included in the Polytechnic Institute of Bucharest, Professor Sahini gave, for several years, lectures of General Chemistry for the students in the first year of the Faculties of Electronics and Automatics.

The large variety of teaching fields, the high quality of his lectures, based on a solid scientific culture, his calm and understanding attitude towards students and young assistants, were deeply appreciated by more than 50 series of students, now teachers or researchers in different fields of chemistry, in Roumania or abroad. About 30 PhD students passed their thesis under the supervision of Professor Sahini.

The research activity of Professor V. E. Sahini was focused on quantum chemistry and molecular structure and spectroscopy. He had the opportunity of two assignments in the teams of Professors I. K. Syrkin and Dyatkina at the Moscow Institute of Chemistry (1960), and at the Department of Theoretical Chemistry in Cambridge (U.K) with Professor H.C. Longuet-Higgins (1962).

He divided his scientific research activity between the Department of Physical Chemistry at the University of Bucharest and the Center of Physical Chemistry of the Roumanian Academy, later on the “Ilie Murgulescu” Institute of Physical Chemistry of the Roumanian Academy, where he was successively head of the Laboratory of Quantum Chemistry and Molecular Spectroscopy and scientific director. Since 1996 he has been honorary director of the “Ilie Murgulescu” Institute of Physical Chemistry of the Roumanian Academy.

Professor Sahini participated intensively at the scientific and academic life in Roumania, being vice-rector of the University of Bucharest (1970-72), member of the United Nations University Council (1974-1977). In the period 1980-1994 he exerted, besides his teaching and academic duties, the function of Director of the Library of the Roumanian Academy. Since the foundation in 1964 of *Revue Roumaine de Chimie*, the most important scientific journal in chemistry in Roumania, he was, till the end of 1991, Vice-Chief-Editor.

Due to his remarkable scientific activity, Professor Sahini was elected full member of the Roumanian Academy in 1990 (having been a corresponding member since 1963). He is the president of the Spectroscopy Commission and of the Commission of Quantum Chemistry of the Roumanian Academy. Professor Sahini contributed intensively to the development of Physical Chemistry in Roumania and to its promotion in the international scientific community, being one of the most active Scientific Secretaries in the Organising Committee of the National Conferences of Physical Chemistry since 1968 until the present.

The research activity of Professor Sahini, developed in the fields of molecular structure and spectroscopy, quantum chemistry and biophysical chemistry, is characterized by the diversity of subjects and techniques, by the rigorousness of the experimental methods employed, and of the theoretical interpretations of the results. This fruitful scientific activity is illustrated by three books and about 150 papers published in prestigious international journals, frequently cited in the physical chemistry literature.

The main directions of research in which Professor Sahini has important creative contributions are the followings:

Molecular structure and spectral properties of different classes of compounds, in connection with their electronic structure calculations using quantum chemistry methods. In fact, he has initiated in Roumania the application of quantum chemistry methods to various problems in chemistry. In this respect, several classes of aromatic and heterocyclic compounds were investigated by IR, Raman, UV-VIS, ESR and NMR spectral techniques and the results were correlated with MO theoretical calculations (HMO, SCF-PPP-CI, EHT)

The radical anions and radical cations of different heteroaromatic compounds were investigated by combined spectral techniques (ESR, UV-VIS, IR) and their reactivity was discussed in terms of spin density and electronic structure calculations using appropriate quantum chemistry open-shell methods.

The charge transfer complexes and coordination compounds of some hetero aromatic molecules with different acceptors were studied by spectrophotometry and the experimental properties were interpreted in the frame of a perturbation treatment.

Molecular and ionic interactions: A group of papers was devoted to the study of solvent effects in the electronic and vibrational spectra of some carbonyl compounds and the results were correlated with MO calculations. An interferometric method for the study of ionic interactions in diluted aqueous solutions was developed.

Force constant computations from the study of the IR spectra, applying a modified Urey-Bradley force field.

Gaseous-phase radicals, obtained by fragmentation processes of different organic molecules, studied by mass-spectrometry, the results being interpreted in terms of the electronic structure of the parent compounds.

Another research direction, initiated in the Department of Physical Chemistry by Professor V. E. Sahini and Professor Tatiana Oncescu, was developed especially in the last decades and may be designed under the generic name of *Biophysical Chemistry*. In this respect, the electronic structure data and the physico-chemical properties of several classes of compounds (drugs, pollutants) were correlated with their biological or toxicological activity. A molecular orbital modelisation of some processes involved in γ -irradiated nucleotides and lignin was proposed.

A significant part of Professor's Sahini scientific activity was devoted to some applicable aspects of physical chemistry. As a member of a chemical-pharmaceutical research team, he participated to the preparation of a new-patented drug, *Romener*, and initiated a method of photochemical synthesis of D2-vitamin. In the last years an important group of papers was devoted to the study of the thermal folding processes of proteins, as evidenced by different physico-chemical properties.

During the six decades of academic and scientific work, Professor V. E. Sahini created strong research teams in the Institute of Physical Chemistry of the Roumanian Academy and in the Department of Physical Chemistry at the University of Bucharest, to continue and develop his pioneering activity in the field of theoretical chemistry, molecular structure and spectroscopy and biophysical chemistry.

Professor Sahini is a man of impressive culture, his interest going from history to arts, from philosophy to literature. His kind and equilibrated personality was highly appreciated by all his students and coworkers and induced a pleasant and stimulating working atmosphere and collaboration in his team, at the university, as well as at the Institute of Physical Chemistry.

Now, at the age of 85 years, Professor Sahini is an active and prestigious presence of the University of Bucharest and of the academic community in Roumania, a model of professor and scientist for the young students and researchers. We wish him, together with all his friends and colleagues, a long, healthy and productive life and a successful activity.

HAPPY ANNIVERSARY, Professor Sahini!

The Editorial Board

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