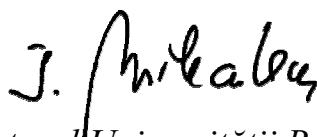


Conducerea Universității București
Omagiază memoria Omului,
Profesorului și Fondatorului
Școlii de Chimie Fizică din România,
Ilie G. Murgulescu
La împlinirea unui veac de la nașterea sa,
27 ianuarie 2002



Rectorul Universității București

Profesor dr. Ioan Mihăilescu

IN MEMORIAM: A CENTURY FROM PROFESSOR'S I.G. MURGULESCU BIRTH DAY



I.G. Murgulescu

(1902 – 2002)

The Founder of the

Romanian Physical Chemistry School

The commemoration of one century since the birth of professor I. G. Murgulescu represents for his co-workers and the young generations, whom enlightened their consciousness at the flame of his wisdom, a moment of pious remembering. The Professor, being for us our spiritual father did not stop to exist: the image of his stately stature and echo of his moderate words, seems to dominate and now the lecture room from the department of Physical Chemistry of the Bucharest University, named for his veneration, "I.G. Murgulescu" amphitheater.

Born at the beginning of the twentieth century at Cornu, Dolj district, and past away in the last decade of the last century, I.G. Murgulescu took part by his remarkable achievements in the development of undergraduate and graduate chemical school and also in

Romanian education school in general.

He started his education in Cornu and after that he continued it at "Gimnaziul Fratii Buzesti" and finally at "Colegiul Regele Carol I" from Craiova. It was his destiny to study at the "Science Faculty" of the Cluj University, in a school exigently managed and strongly dominated by the scientifically personality of Professor Gheorghe Spacu. The inter-war cultural environment from the University of Cluj stimulated also the aptitude, of his young disciple, Ilie Murgulescu, towards philosophy.

After having graduated from the Science Faculty, in 1928, I. G. Murgulescu was appointed as assistant of Professor Gheorghe Spacu. Under his supervision he obtained his Ph.D on “Characterization by physico-chemical methods of Copper Thiosulphate Complexes”, his thesis being approved with Magna cum Laudae by the Cluj University.

Between 1932-1933 he worked on photochemistry with Professor F. Weigert at the Institute of Physical Chemistry from Leipzig.

In 1934 when returned home, he became reader at Analytical and Physical Chemistry Department at the Timisoara Polytechnic Institute and in 1945 he was appointed full professor of Physical Chemistry and then Rector of the same institution.

I. G. Murgulescu was appointed in 1948 professor of physical chemistry and chief of the Department at the new Chemical Faculty from Bucharest University. Very soon he was also appointed Rector of the University. That moment represented the beginning of a rapid development of the new faculty and also of Physical Chemistry being till that time a small university department.

Without being part of this scientific community, would have been impossible to understand how was possible to realize such an opera on an empty field.

The young team selected by professor, understand the onerous responsibility by working with the enthusiasm and vigour in order to prepare the laboratory works for the fundamental lectures given by Professor for third and fourth years of faculty. Equipped with new apparatus and organized according to the main chapters of the field {atomic and molecular structure chemical kinetics and chemical thermodynamics} laboratory works succeeded to supplement the theory lectured by Professor. Several, professor’s assistants were involved in teach all the mentioned specialities. Very soon the Physical Chemistry department become very efficient. New courses were introduced promoting new professors and research works under professor’s supervision. Wishing to promote the school of Physical Chemistry created by him, Professor Murgulescu initiated the separation of the existing department in four new one, related with the principal fields of interest. The process was started in 1964 and was completed two years later. We consider this action as an original one in respect with the undergraduate teaching. With this occasion, professor I. G. Murgulescu demonstrated once again his attachment for his work, his reliance on his co-workers, educated by him and his wish to make from Physical Chemistry a competitive research institution.

Without being directly involved myself in the Institute of Physical Chemistry also founded and organized by I. G. Murgulescu, I want to mention, in agreement with the above desire to exist a direct cooperation between the Institute and the Department, which he partially fulfilled, but he did not have time to extend and consolidate it. If his generous and sagacious spirit had existed, the bridge between

the two institutions would have been today a redutable force in the field of Physical Chemistry.

The scientific results of Academician I. G. Murgulescu studies and of his direct co-workers were achieved mainly by experimental procedures following one of the Bodenstein principle: "Resources of thinking with whom spirit works, comes from the experiment".

Speaking about scientific activity of Professor Murgulescu I shall mention especially those achieved in collaboration with his direct Ph.D. students from the beginning of physical chemistry studies at the Chemical Faculty.

Passing from initial scientific work to research activity oriented exclusively on the main fields of physical chemistry, corresponding to the main department already formed, Professor Murgulescu cooperated for a period of time with his co-workers from the respective specialities till he considered that they were able to work alone in those fields.

Being consistent with his initial scientific initiative he shows a special interest for chemical kinetics field. He was the chief of this department till his retirement in 1972.

In general his papers are dealing mainly with chemical kinetics, thermochemistry, chemical thermodynamics molecular structure, electrochemistry, radiochemistry; but his preponderant fields were chemical kinetics and molten salts chemistry, the last one being studied at the Institute of Physical Chemistry of the Romanian Academy of Science.

A summary look at his early publications shows the following fields: the mechanism of some thermal and photochemical reactions in homogenous and heterogeneous media, like decomposition of some oxalates complex of diphenyl diazomethane in solution, reactions with participation of some alcohols, reactions of alcali alcoxides with nucleophyles and so on.

He studied also heterogeneous reactions, dehydration of some crystalohydrates, oxidation of magnezium, zinc and copper and thermal decomposition of complex salts, adsorbtion processes of gases on thin metallic films and also chemisorption processes.

In radiochemical kinetics, he studied radiolysis of some oxalates of some complex salts and solutions and also radiochemical polymerisation.

The first published chemical thermodynamics papers deal with the nonideal characterization of binary and ternary non-ideal solutions, by activity coefficients or excess functions, the experimental support being the main colligative properties of solutions. The measurements were performed with prototypical devices built in the department workshop. In the same way were determined the dimerization enthalpies and implicitly the dissociation equilibrium constants Using calorimetric

measurements, different thermal effects associated to some hardly soluble salts, have been obtained.

From the initial preoccupation from the field of molecular structure we can mention the elaboration of a computation method of the refractive index in the electrolyte mixtures and the method of obtaining individual refractive index. By using infrared spectrometry the nature of the coordination bond in the complex oxalates and in cis-trans izomerisation has been examined.

The electrochemical and corrosion studies have been directed to electrode potential determinations, thermodynamic activities from thermogalvanic elements, electrode kinetics, anodic passivation of some steel and alloys and also electrochemical behaviours of thin metallic films.

All this scientific preoccupations has been the inheritance left to the young pupils of Professor Murgulescu as Ph.D. students at the physical chemistry Department and Institute of Physical Chemistry.

Diversification of the research directions by choosing new projects for the young co-workers, principle established from the beginning by the Professor, consolidated the physical chemistry school among the best similar schools from the country.

Very soon the prestige of this school-surpassed country's frontiers after the young scientists were send by ours generous Professor at specialization abroad. After returning home they fulfilled this mission till our days.

Esteem, appreciation and unanimous recognition of Professor I.G. Murgulescu: the scientific activity brought him during the years, numerous scientific distinctions prizes and academic titles from ours country or abroad.

Always active, he completed his work in collaboration with the professors and his co-workers raised under his direct supervisions: a book in seven volumes modestly entitled "Introduction in Physical Chemistry". This "Opus Magnum" of several thousand pages does not represent only the completion of his research activities but also an illustrative example of his creative activity.

At this moment of remembering the memory of the brilliant initiator of the Romanian School of Physical Chemistry, no one is able to be aware of "sanctuary of peace" and creative atmosphere from the Physical Chemistry Department from that time, except those who lost their spiritual father!

Professor Dr. Rodica Vîlcu

