



**Professor Dumitru OANCEA**  
(1941–2020)





## IN MEMORIAM PROFESSOR DUMITRU OANCEA (1941–2020)

Born in Vulturești, Argeș county, on January 26<sup>th</sup> 1941, Dumitru Oancea graduated the Faculty of Chemistry of the University from Bucharest in 1964. Being selected by Professor I. G. Murgulescu as an eminent student, Dumitru Oancea began his teaching career in 1964 as assistant in the Department of Physical Chemistry, the Faculty of Chemistry, University of Bucharest, where he became full professor in 1994 and emeritus in 2012. In 1972 he defended his PhD thesis entitled “Kinetics of some ion-dipole reactions” under the supervision of Professor Ilie G. Murgulescu, member of the Roumanian Academy and founder of the Department of Physical Chemistry at the University of Bucharest. Professor Oancea completed his formation as brilliant researcher in USA between 1973–1974 working with Professor E.M. Arnett at the University from Pittsburgh in Pennsylvania, in the field of proton transfer reactions.

In 1990 and 1992, in cooperation with Professor L. De Maeyer from the “Max Planck Institut für biophysikalische Chemie in Göttingen”, Professor Oancea was involved in studies regarding complex reactions in solutions. Due to his interest and basic contributions to the field of explosive combustion in gaseous mixtures, Professor Oancea was visiting professor in the group of “Professor H. Gg. Wagner from Institut für Physikalische Chemie of Göttingen University” in 1993 and 1996, under a COST European program. In 1996 and 1999, the dissemination of original results in the field of gas-phase explosions was made through invited lectures in prestige institutions from Germany: “Institut für Physikalische Chemie, University of Göttingen”; Department of Physical Chemistry, University of Wuppertal; BAM (Bundesanstalt für Materialforschung und prüfung) in Berlin, and PTB (Physikalisch-Technische Bundesanstalt) in Braunschweig.

The teaching activity of Professor Oancea was dedicated to modern aspects of physical chemistry, bound especially to the field of chemical kinetics. Professor Oancea introduced new topics for his lectures: Enzyme kinetics, Kinetics of catalytic reactions, Kinetics of complex reactions, Modeling of enzyme processes, Explosions and protection against explosions, Numerical processing of experimental data, Thermodynamics and kinetics of complex reactions. His rigorous lectures raised the interest and were very appreciated by students, many of them being graduated with works in these fields.

In 1996 Professor Oancea became PhD adviser. Since then, 14 researchers defended their PhD title under his tutorship.

The research activity of Professor Oancea in the field of chemical kinetics of reactions in homogeneous and heterogeneous systems is characterized by a diversity of subjects and techniques, using rigorous experimental methods and advanced theoretical interpretation of results. All methods and techniques developed in the laboratory of Professor Oancea were used also by students working their theses (BSc, MSc or PhD) under his supervision. Essential contributions were brought by Professor Oancea to the study of complex chemical reactions in condensed state. Among them, one could mention the kinetics of ion-exchange reactions; the enzyme kinetics; the kinetics of exothermal, self-accelerating decomposition of energetic compounds in condensed state. For numerous methods Professor Oancea elaborated the software dedicated to experimental data processing. Since 1976, Professor Oancea was involved in studies on the explosive combustion of gaseous mixtures, developing this interdisciplinary field in the Department of Physical Chemistry of the University of Bucharest, under a close, long-term cooperation with the Chemical Kinetics Laboratory from the Center of Physical Chemistry in Bucharest. His contribution was essential for this domain, by designing and building experimental set-ups and developing original methods for measuring relevant properties of flammable gaseous mixtures.

The remarkable activity of Professor Oancea was presented in more than 190 published and cited papers issued in Romanian and international prestige journals. He presented more than 170 scientific communications at national and international meetings. The list of publications of Professor Oancea includes 3 textbooks and 6 books published by acknowledged publishing companies. Among them, “The kinetic modelling of catalytic reactions” (“Modelarea cinetică a reacțiilor catalitice”, Editura ALL, 1998) delivered a unitary presentation of chemical kinetics for both catalytic and non-catalytic processes and raised much interest and appreciation.

Professor Oancea had a fruitful managerial experience firstly as Head of the Department of Physical Chemistry, between 1990 – 1992 and 1996 – 1998. Between 1992 – 1996 he was scientific secretary of the Faculty Council. In 2004 he became Dean of the Faculty of Chemistry, University of Bucharest, being active in this function until his retirement in 2012. Between 1996 – 2012, Prof. Oancea was member in the Senate of the University of Bucharest. In these duties he was deeply involved in managing the teaching and the research activity of the Department of Physical Chemistry and of the Faculty of Chemistry.

Due to this outstanding activity, Professor Dumitru Oancea was elected in 2009 as corresponding member of the Roumanian Academy.

During his career, Professor Dumitru Oancea promoted links to other researchers and attracted many talented people to work in his research group, the purpose of studies being theoretical and experimental investigations on fundamental chemical kinetics, catalysis, and combustion. His outstanding scientific activity, his broad scientific horizon and his managerial activity were remarkable, being an example for the young generation.

His personality and scientific activity were well recognized and widely appreciated in the national and international scientific community of physical chemists. His memory will be cherished by his colleagues, coworkers, former students and friends.

*Dr. Domnina Razus  
“Ilie Murgulescu”  
Institute of Physical Chemistry*