

## THE POWER OF KNOWLEDGE AND THE VALUE OF WISDOM

*When you set out on your journey to Ithaca,  
pray that the road is long,  
full of adventure, full of knowledge...*

*Constantine P. Cavafy*

Dear reader,

it is our favor to preface the current issue of "Chemistry Journal of Moldova" with a special dedication to the 60-th anniversary of Academician Gheorghe Duca, Editor-in-chief and our colleague who stands at the roots of the journal.

It was not easy to compile the thoughts connected to this prominent event. The role of Academician Duca to the appearance and development of Ecological Chemistry, as well as his contribution to the whole Moldovan scientific community is enormous. And a couple of journal pages can obviously not include even a brief narration. On the contrary, we decided to follow the journal tradition and to give the reader a chronological description of his carrier evolution as a chemist, manager and Man of Knowledge.

Gheorghe Duca is descendent of a intellectual family from the Northern Moldova. His parents Grigore and Nina Duca have been school teachers for their entire life. Therefore the young boy has acquired the thirst for knowledge directly from his beloved parents. In particular the passion to chemistry was due to his father, who taught him chemistry and encouraged his participation to different chemistry contests and Olympiads. And that was the beginning of his bold carrier in chemistry, when in the 8-th grade he becomes winner of the National Chemistry Olympiad. This event has deeply marked his following achievements: graduation of the secondary school with golden medal award (1969) and successful enrolment as a student of the Chemistry Department of Moldovan State University.

During his early activity in the University everybody remembers him as a open-minded colleague, able to combine social activity with deep and consciousness study. In the same time he has been always a good mixer and the hart of many "informal events" which make the student life so unique and unrepeatabe. In 1974 he graduates with honors and is offered a position at the department of Physical Chemistry as a PhD student. At this point we shall mention his fortune to have as University mentors a myriad of distinguished scholars who shaped the modern Moldovan chemical community: professors Alexei Sytchiov, Boris Melnic, Isaak Bersuker, and many others who led him by their own example and provided high moral and scientific standards.

Duca's research during PhD studies was mainly concentrated on kinetics of redox processes of industrially relevant substrates. The doctoral thesis entitled "The catalysis of tartaric and dihydroxyfumaric acid oxidation" was finished in 1979 and defended successfully at the University Scientific Council. Following period witnessed a fruitful activity in the department of Physical Chemistry of the same Chisinau State University, dominated by successful implementation of theoretical findings in different industrial processes, relevant to Moldovan economical infrastructure. It is our assumption that during this closer contact with real chemical production resulted into the sprout of Duca's interest towards environmental chemistry and protection. Winged by awarding him the prestigious Youth State Award in Science and Technology (1983) he decides to embark on postdoctoral studies, which in fact resulted in his coining the field of Ecological Chemistry. That period was a tumultuous one, marked by Gorbachiov's Perestroika and dramatic changes in our mentality and life. These circumstances allowed the young and very active doctor in chemistry to say the things that previously was only allowed to think. Consequently, he joins the Moscow Institute of Chemical Physics of the Academy of Sciences of the Russian Federation (1985) as a postdoctoral fellow and successfully completes the doctor habilitate thesis "The mechanisms of the eco-chemical processes in the aquatic environment". It was defended in 1989 at the Scientific Council of Odessa University (specialty: 02.00.15, chemical kinetics and catalysis and 11.00.11, environmental protection).

Contact with the broader chemical community and his profound knowledge of the subject, provided him strong confidence to announce with the loud voice the paramount importance of Ecological chemistry for the wellbeing of the society, as a tool for both understanding environmental chemical processes as well as planning of corrective and preventing actions in order to minimize anthropogenic factor on the environment degradation. Due to his permanent strive and by his direct participation several Moldovan and foreign Universities have founded Departments of Ecological Chemistry, the closest to us being the Department of Industrial and Ecological Chemistry (Chisinau State University), to which Gheorghe Duca has served as a head at foundation and permanent and faithful collaborator allover its activity.

But it was not easy at all. The time after Soviet Union collapse was the most difficult included for Professor

Gheorghe Duca too. It was not easy because he had to swim a lot against the flow. We all know what the fate of the prophets is: to endure but to strive and say the truth. And he continued to actively play the game: either in research, political or social activities, either at home or abroad. His achievements are numerous and valuable, and we will try to mention some of them.

First of all, Academician Gheorghe Duca is the founder of the Scientific School of environmental chemistry. His disciples include 16 PhD and 2 habilitat doctors. His developed theory of redox phenomena in the environment helped elucidation of the redox mechanisms during the evolution of the quality of aquatic systems, including treatment of residual waters and waste recovery. He introduced new procedures and methods for chemical risk assessment, elaborated environmental audit methodology, formulated and proposed principles of environmental education. The research results were reflected in 1565 scientific works, of which 624 scientific papers, 139 patented inventions, 42 monographs, 25 textbooks and methodological works, including the first textbook of "Ecological Chemistry", published in three editions and translated into three languages.

He conducts also a prodigious teaching activity, delivering courses on Physical Chemistry, Chemical Technology, Ecological Chemistry, Processes and Appliances, Physical-chemical Methods of Research, Chemical Risk Assessment, Kinetics and Thermodynamics of Ecological Systems.

He founded the Industrial and Ecological Chemistry Department, MSU (1991), Centre for Research in Applied and Ecological Chemistry, MSU (1992), the Faculty of Ecology at the Free International University of Moldova (FIUM) (1992), the High School for gifted children of ASM (2007), the University of Academy of Sciences (2007), the non-governmental organization for environmental protection "Terra Nostra" (1992), the Association of Research and Development in Moldova – MRDA (2000), the magazines "Mediul Ambiant" ("The Environment") (2002), "Chemistry Journal of Moldova" (2005), Journal of Science, Innovation, Culture and Art "Akademos" (2005).

Besides, academician Gheorghe Duca's public activities are relevant, including positions of the Chairman of the Committee on Culture, Science, Education and Mass-media of Moldovan Parliament (1998-2001) and Minister of Environment and Territorial Development (2001-2004).

And finally there is an achievement we can not bypass: Academician Gheorghe Duca represents a personality to whom the whole scientific community of Moldova is greatly indebted. It is due to his permanent efforts to strengthen the image of the science in our society, to maintain the combative spirit of Moldovan researchers and to actively promote the knowledge based society principles. These are the precious results we greatly appreciate in his carrier of a diligent chemist and skilful manager of Moldovan research and innovation activities.

On the occasion of academician Gheorghe Duca's 60-th birthday, Moldovan Academy of Sciences will host the International Symposium on Ecological Chemistry – the field to which he devoted most of his brilliant scientific carrier. We have included in the current issue of the journal some of the representative Symposium presentations in the form of extended abstracts. It is our hope to provide a following impetus to the development of collaboration between Moldovan researchers and foreign colleagues in all fields of Ecological Chemistry and adjacent areas.

Dear academician Gheorghe Duca, distinguished scholar and precious colleague! On the occasion of Your 60-th anniversary, on behalf of the Editorial Board of the journal and of all Moldovan chemical community, we address You our best wishes of prosperity, health, welfare, new advances in your research and social activities.

Happy Anniversary!

Editorial Board  
Chemistry Journal of Moldova



**The V International  
Conference-Symposium  
ECOLOGICAL CHEMISTRY 2012**

*www.ecochem2012.mrda.md*

*Chisinau, March 2-3, 2012*

The 5th International Conference ECOLOGICAL CHEMISTRY 2012 will serve as the main arena for discussion, experience and ideas exchange of recent achievements in the field related to investigation of mechanisms and chemical processes taking place in natural waters, atmosphere and soils under the influence of anthropogenic pollutants, the pollutants impact on the human health and habitat, as well as methods of environment pollution prevention and mitigation.

The 5th International Conference ECOLOGICAL CHEMISTRY 2012 will contribute to:

- Short- and long-term planning of international cooperation in the field of ecological chemistry and related disciplines
- Involvement of young scientists in international research area of Ecological Chemistry
- Promotion of healthy life style
- Formulation of recommendations to reduce the impact of pollution on human health and environment and methods of their implementation
- Publication and wide dissemination of conference digest papers and young scientists' papers in the form of proceedings and book of abstracts

**Topics:**

- A. Ecological chemistry of water**
- B. Ecological chemistry of atmosphere**
- C. Ecological chemistry of soil**
- D. Ecological chemistry and healthy style of life**
- E. Ecological chemistry and sustainable development**

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