IN MEMORIAM

To the memory of Prof. DSc. Christo Boyanov Boyadjiev (1936-2022)

This year we lost our dear colleague and teacher Prof. Christo Boyanov Boyadjiev. He was born in 1936 in Sliven. He has graduated the High Institute of Chemical Technology-Sofia in 1960. He defended a PhD thesis at the Institute of Chemical Machinery Construction, Moscow in 1968.

He was promoted as Associate Professor at the Institute of General and Inorganic Chemistry-BAS in 1970 and was elected as Full Professor in 1984. During the years of his scientific career, Prof. Boyadjiev has had successful international collaborations with various universities and institutes such as Ben-Gurion University-Beer Sheva, Technion University-Haifa, Tel Aviv University-Tel Aviv, Israel; Russian Academy of Sciences, Institute of Thermophysics. He was also a member of Union of Scientists in Bulgaria, Union of Chemists in Bulgaria, Bulgarian Society of Chemical Engineering, European Federation of Chemical Engineering, member of the Editorial Board of the Russian Journal "University Communications. Energetics", vice-editor-in-chief of the Russian Academy of Sciences Journal "Transactions of Academenergo".

Professor Christo Boyadjiev was the founder of the Laboratory "Process Systems Engineering" in the Institute of Chemical Engineering at Bulgarian Academy of Sciences.

He was the founder and chairman of the Organizing Committee of regular workshops on "Transport Phenomena in Two-Phase Flows".

He has significant contributions in the creation of a theory of the diffusion boundary layer in two-phase systems with moving phase boundaries, which is a basis for modeling mass transfer processes in two-phase industrial systems. He also contributed to the theory of non-linear mass transfer and hydrodynamic stability in systems with intensive interphase mass transfer, which provides a basis for intensification of interphase mass transfer in industrial processes. He has created methods of process systems engineering, allowing modeling and simulation of chemical-process systems, methods for waste gases purification from sulfur dioxide using criterion models for simulation the absorption of sulfur dioxide in a Venturi-type scrubber, as well as methods for parameters identification and for solving incorrect inverse problems.

In recent years, Prof. Christo Boyadjiev has developed a new approach for two-steps modeling of mass transfer in a column apparatus using convective-diffusion type models and average-concentration models, allowing solution of a large range of chemical engineering problems. The created approaches allow the modeling of industrial processes in column apparatuses in the case of simple and complex chemical reactions, physical and chemical absorption in co-current and counter-current apparatuses, physical and chemical adsorption of solid adsorbents, catalytic reactions of a solid catalyst in physical and chemical adsorption. The obtained theoretical results were included in three patents and two utility models, which allow the creation of an absorption-adsorption method and apparatus for waste gases purification from sulfur dioxide.

He was an author and co-author of over 230 papers, published in prestigious international journals, 12 patents registered, of which two have been implemented. Professor Christo Boyadjiev was an author of 9 monographs and 5 book chapters in specialized issues published by Elsevier and Springer.

Prof. Christo Boyadjiev delivered lectures on "Modeling and simulation in chemical engineering" in the University "Prof. Dr. Assen Zlatarov" – Bourgas.

He was also the supervisor of many PhD students who successfully defended their theses and some of them continued their scientific careers in the Institute of Chemical Engineering at the Bulgarian Academy of Sciences.

Professor Chr. Boyadjiev's high professionalism, dedication and broad scientific interests will be remembered and appreciated by his colleagues and friends.

We shall remember Prof. Christo Boyadjiev as a remarkable Bulgarian scientist in the field of chemical engineering and as a best colleague and teacher.

The team of the Institute of Chemical Engineering
Bulgarian Academy of Sciences