

## Obituary Prof. Dr. Roumen K. Kalchev (1951 – 2021)



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With great sadness we share the news that the highly respected and eminent Bulgarian hydrobiologist and IAD board member Prof. Dr. Roumen Kirilov Kalchev has passed away from COVID19 on 12<sup>th</sup> March 2021.

Professor Dr. Roumen Kalchev was born on 20<sup>th</sup> November 1951 in Kubrat Town, Bulgaria. In 1979, he graduated from the University of Rostock, Germany, major in Biology: Freshwater and Marine Hydrobiology. In 1984, he successfully defended his PhD dissertation on the topic “Fluorescence characteristics of some algal species and possibilities for their application for studying primary production of fresh waters” at “Taras Chevchenko” University and the Institute of Plant Physiology of the National Academy of Sciences of Ukraine in Kiev. Immediately after his defence he was appointed at the Institute of Zoology, Bulgarian Academy of Sciences (IZ-BAS), as an Assistant Professor (1984) and later as an Associate Professor (2002). In 2015, he received the rank of Professor at the Institute of Biodiversity and Ecosystem Research, BAS (IBER-BAS). Professor Kalchev was the head of the Phytoplankton Research Group (RG) and Hydrobiology Department at IZ-BAS. Since 2010 he was the head of the Lentic Ecosystem RG and Section of Biodiversity and Processes in Freshwater Ecosystems at IBER-BAS.

The main research efforts of Prof. Roumen Kalchev focused on the composition and functioning of phytoplankton, the photosynthetic pigments, and measurement of primary production by different methods, such as variation in oxygen concentration, carbon radioactive isotopes and fluorescence technique. Professor Kalchev has revealed significant relationships between chlorophyll-a and the phytoplankton parameters (taxonomic and functional groups, algal size, abundance, biovolume, etc.) in water bodies of Bulgaria and the Danube River basin. Further, his research interests extended to aquatic chemistry and nutrient cycles, especially the phosphorus and nitrogen limitation of phytoplankton growth; pelagic trophic relationships between solar energy, nutrients, bacterio-, phyto- and zooplankton and assessment of the trophic status and water quality gradients in stagnant water bodies. His recent studies dealt with impact of the invasive alien species, in particular the mussel species of the genus *Dreissena*, on physical and chemical parameters of water and bacterio-, phyto- and zooplankton in infested reservoirs in Bulgaria. His original scientific and applied contributions helped to successfully solve problems in the conservation and sus-

tainable use of biological resources in standing natural and artificial water bodies, as well as in the restoration and protection of wetlands.

Significant parts of Prof. Kalchev's research-, project-, expert- and organisational activities were connected to the Danube River and the adjacent wetlands. Professor Kalchev developed successful scientific collaboration on relevant topics with colleagues from other Danube countries, being an initiator and national leader in several bilateral projects: “Impact of Iron Gates reservoirs hydraulic river structure, tributaries and adjacent wetlands on ecological interactions, water quality and biodiversity in the Lower Danube” (2005–2006) (Bulgaria – Romania); “BioWetMan: A science based approach to understand biodiversity driven functions and services for improving wetland management” (2008–2009) (Bulgaria – Austria); “Comparison between wetland – Danube River systems of Hungary and Bulgaria related to their biodiversity, functioning, services, management and nature conservation” (2013–2015) (Bulgaria – Hungary); and “The significance of habitat diversity in Danubian wetlands of Hungary and Bulgaria for biodiversity, biological invasion, functioning, management and services of aquatic ecosystems” (2016–2018) (Bulgaria – Hungary). Since 2010, Prof. Kalchev was the country representative of Bulgaria in the International Association for Danube Research (IAD). He was an active member of IAD, contributing to several expert groups (EG), mostly to Water Quality EG, Biotic Processes EG, Phytoplankton / Phytobenthos EG, Invasive Alien Species EG, and others. Professor Kalchev was co-founder of the Danube River Invasive Alien Species Network (DIAS) (2014) and participated actively in all DIAS meetings and activities. He participated in eight of the IAD Scientific conferences and was a chair of the Organising and Scientific committees of the 40th IAD Conference “The Danube and Black Sea Region – Unique Environment and Human Well Being Under Conditions of Global Changes” held from 17–20 June 2014 in Sofia, Bulgaria.

Professor Roumen Kalchev is an author and co-author of more than 150 scientific publications, including a textbook on Ecotoxicology. He was involved in teaching and practical training of students at the Biological Faculty of Sofia University. For 12 years he led practical courses on Hydrobiology and advised two PhD and four MSc students.

With passing of Prof. Dr. Roumen Kalchev we have lost a distinguished scientist and colleague, an active and dedicated member of IAD, and a good friend!

We express our deepest sympathies to his family, friends and colleagues!

Teodora Trichkova  
Bulgarian Academy of Sciences