



Chris Balarew (right) receives Presidential Honors from President Rosen Plevneliev (left)

the crystals and the solution and of the free energy of phase transitions to be performed on the basis of solubility data.

Balarew also elaborated a model for explaining the nucleation and the kinetics of crystallization of highly soluble salts. Nucleation starts when some of the complexes existing in the solution display high activity sufficient to reach and surpass the solubility product of the crystallizing salt. These complexes or some of their directly derivable forms (e.g. those obtained by condensation) together with other ions or molecules form the crystal structure. This means that the activity of definite species in the solution (complexes, molecules or simple hydrated ions) that are able to be incorporated directly or with minor changes into the crystal structure is of primary importance for the crystallization process. The lowest critical supersaturation needed for nucleation and the highest rate of crystallization are displayed by those salts whose complexes in the solution have analogues in the crystal structure of the crystallizing salt. The knowledge of the type and composition of the species in the solution is of crucial significance for the elucidation of the ability for supersaturation and for the crystallochemical explanation of the Ostwald step rule.

The experience accumulated during these scientific studies was applied by Prof. Balarew to the elaboration of technologies for producing reagent-grade chemicals, synthesizing new materials, and developing methods for hydrometallurgical extraction of useful components from natural raw materials or from industrial waste products, including technologies for utilization of marine chemical resources.

Prof. Balarew is an active IUPAC participant, and has been since 1979, mostly in the Analytical Chemistry Division. In 1999 he has been President of the National Committee of Chemistry of Bulgaria for IUPAC. Prof.

Balarew is coauthor of many publications in the field of Pure and Applied Chemistry. He was Chair of the 10th ISSP International Symposium on Solubility Phenomena, Varna, 22-26 July 2002. He is a member of the Editorial Boards of many IUPAC - Solubility Data Series Volumes since 1989.

In memoriam: Nikola Kallay (1942-2015)

On 20 April 2015, Professor Nikola Kallay passed away in his sleep, leaving a huge gap in his family, among his friends and colleagues, and in the chemical community as a whole.

He was a Titular Member of Commission I.1 from 1977 to 1985, Associate Member until 1989, and initiator of the project on the revision of the *IUPAC Green Book* which lead to its first edition in 1988, second edition in 1993, and third edition in 2007. Those of us who worked with him will remember the many discussions and fierce arguments we had as well as the charm with which he introduced “jokers” for each one of us, writing the text by which a particular formulation could be passed even if we were unable to reach a unanimous agreement on it.



The Working Party on the revision of the Green Book in Dubrovnik, Croatia, March 1986: from left Tom Cvitaš, Klaus Homann, Ian Mills, Kozo Kuchitsu and Niki Kallay.