

# Editorial

**Erich Königsberger**

The study of solubility phenomena is not popular, as it is regarded to be an old-fashioned and, when performed properly, time-consuming method. The strategic plans of universities and priority areas of grant agencies have thus favoured more fashionable research directions. Nevertheless, solubility equilibria play an important role in many aspects of science and technology, too many for a comprehensive list to be given here. Fortunately, there are still a number of eminent scientists around the world who have devoted their research to the study of solubility equilibria. Many of them have met regularly at the International Symposia on Solubility Phenomena and have served for many years on the IUPAC Solubility Data Commission by editing and contributing to numerous volumes of the IUPAC-NIST Solubility Data Series. The authors of the contributions to this special issue of *Monatshefte für Chemie* belong to this group or, I might rather say, family of Commission members. They are friends and colleagues of Professor *Heinz Gamsjäger* the current Chairman of the IUPAC Subcommittee on Solubility and Equilibrium Data and dedicate their contributions to him on the occasion of his 70<sup>th</sup> birthday. In the following Preface, *Mark Salomon* is *Heinz Gamsjäger's* laudator.

The scientific topics of this special issue cover a variety of solubility phenomena. General aspects of gas–liquid solubilities (*Fogg*), gas–liquid and liquid–liquid solubilities of the chloromethanes in water (*Clever*) and mutual water–hydrocarbon solubilities (*Maczynski et al.*) are presented. Solid–liquid solubility studies include double salt formation in ternary transition metal–alkali metal halide systems (*Balarew and Tepavitcharova*), solubilities in ternary aqueous systems involving copper(II) (*Chernykh et al.*) and magnesium salts (*Bousmina et al.*), the crystallisation and phase stability of calcium sulfate based salts (*Freyer and Voigt*) and a new evaluation of the solubility constants of the three calcium carbonate polymorphs (*De Visscher and Vanderdeelen*). Other reviews deal with solubilities in mixed solvents of silver halides (*Waghorne*) and alkali metal fluorides (*Senanayake and Hefter*) and with solubility phenomena in ternary water–salt systems under sub- and supercritical conditions (*Valyashko and Urusova*). Solid–liquid solubilities also extend to lanthanide chlorides in molten alkali metal chlorides (*Gaune-Escard and Rycerz*), environmental aspects of lead(II) arsenate stabilities (*Magalhães and Silva*) and an application of solubility measurements to medicine (*Sadovska et al.*).

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*Issue Editor*