

## Microsymposium

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### *Multi-probe methods for investigating ion hydration*

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Techniques developed at large scale facilities such as X-ray synchrotrons and pulsed or reactor based neutron sources have, over the past few decades, played a significant role in unravelling many of the mysteries that underpin the chemical, physical and biochemical properties of ions in solutions. In this presentation we will illustrate how the combination of X-ray diffraction, neutron diffraction and X-ray absorption spectroscopy can be applied to the investigation of the structure of ion hydration shells. Examples of hydration of di- and tri-valent ions will be shown. In particular we will present an investigation of the hydration structure of copper (II) ions using this multi-technique approach, and discuss the findings in the context of biological and chemical systems.

[1] D.T. Bowron and S. Diaz Moreno, *Coord. Chem. Rev.* (2014), <http://dx.doi.org/10.1016/j.ccr.2014.01.033> (in press), [2] D. T. Bowron, M. Amboage, R. Boada, et al., *RSC Advances*, 3, p. 17803-17812 (2013), [3] D. T. Bowron and S. Diaz-Moreno, *J. Phys.: Condens. Matter*, 25, number 454213 (2013)

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