

GÖCH-OBERÖSTERREICH PROGRAMMVORSCHAU

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Prof. Peter Hamm
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Department of Chemistry

“It’s All About Water”

Johannes Kepler Universität Linz
17.15 Uhr, Hörsaal 13 (TNF-Turm)



Univ.-Prof.Dr. Günther Knör
Leiter GÖCH – Oberösterreich

It's All About Water

Ultrafast time-resolved spectroscopy, and in particular its extension to multidimensional techniques, can tell us a lot about solvation dynamics, structural dynamics and energy transfer processes of solution phase molecular systems. I will illustrate applications of these spectroscopies by discussing a couple of quite diverse examples that lie at the interface between Physics, Biology and Chemistry. In different ways, these examples highlight the importance of water as a very special substance. That is, I will start out with the ultrafast structural dynamics of bulk water and concentrated salt solution observed by THz photon echoes (Physics), continue with the catalytic cycle of an artificial photosynthetic system designed for light-driven water splitting (Chemistry), and finally discuss the response of an allosteric protein upon an external perturbation (Biology). Also the latter is in fact dictated by the dynamics of the water solvation layer.