



Department of Chemistry

PhD Student / Postdoc positions

Several PhD Student and/or Postdoc positions are available in the research group of Prof. Dr. Peter Hamm at the Department of Chemistry, University of Zurich. The general topic of our work is the structure and dynamics of complex molecular systems investigated by ultrafast vibrational spectroscopy such as transient-IR spectroscopy, 2D IR spectroscopy and 2DRaman-THz spectroscopy.

Positions are available in two projects:

- Dynamic response of allosteric proteins upon the photo-triggered unbinding of specifically designed ligands. Besides a background in Physical Chemistry, a solid knowledge of standard Biochemistry techniques will be required for that project, in particular of protein expression.
- 2D-Raman-THz spectroscopy of super-cooled water and ionic liquids. This is a hardcore laser spectroscopy project, which will also involve the implementation of a newly purchased 100 kHz femtosecond laser.

To get a flavour of the two projects, please have a look at the following publications:

- B. Buchli, S. A. Waldauer, R. Walser, M. Donten, R. Pfister, N. Blöchliger, S. Steiner, A. Caflisch, O. Zerbe and P. Hamm, *Kinetic response of a photo-perturbed allosteric protein*, Proc. Natl. Acad. Sci. USA, 110 (2013) 11725-11730
- G. Stock and P. Hamm, *A Nonequilibrium Approach to Allosteric Communication*, Philosophical Transactions B, 2018, 373, 20170187
- B. Jankovic, A. Gulzar, C. Zanobini, O. Bozovic, S. Wolf, G. Stock, P. Hamm, *Photocontrolling Protein-Peptide Interactions: From Minimal Perturbation to Complete Unbinding*, J. Am. Chem. Soc., 2019, in press, <http://dx.doi.org/10.1021/jacs.9b03222>.
- Shalit, S. Ahmed, J. Savolainen, and P. Hamm, *THz echoes reveal the inhomogeneity of water in aqueous salt solutions*, Nature Chem., 2017, 9, 273-278
- A. Berger, G. Ciardi, P. Hamm and A. Shalit, *The Impact of Nuclear Quantum Effects on the Structural Inhomogeneity of Liquid Water*, Proc. Natl. Acad. Sci. USA, 2019, 116, 2458–2463

We offer excellent research conditions, above-average salaries, the high quality of life in the city of Zurich and its surroundings, as well as the possibility to work in fascinating interdisciplinary research fields.

We look forward to receiving your application as a **single PDF file** including the following documents: a cover letter stating your motivation for this position, a CV and copies of degrees. Please send the application to Prof. Dr. Peter Hamm (peter.hamm@chem.uzh.ch).

For questions, please contact:

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