



PhD Student Position in Ultrafast Photochemistry

A PhD student position in the field of ultrafast photochemistry is open at the Department of Physical Chemistry, University of Geneva. The position is related to the SNF funded project of Dr. Tatu Kumpulainen and the work will be carried out in collaboration with the Ultrafast Photochemistry group of Prof. Eric Vauthey. More details about the research group and spectroscopic techniques available can be found on the following webpage: (<http://www.unige.ch/sciences/chifi/Vauthey>).

Project:

The project focuses on excited-state proton-transfer reactions in solutions and at biologically relevant interfaces. The main goal of the project is to achieve a detailed understanding of the initial steps and time scales of proton transfer to solvent or to an organic base. In the first part, the influence of macroscopic solvent parameters such as polarity and viscosity will be investigated. In the second part, proton transfer at biologically relevant interfaces such as phospholipid membranes, micelles and liposomes will be investigated. Part of this work will be carried out in collaboration with another PhD student focusing on interface specific measurements utilizing surface Second Harmonic Generation.

Major responsibilities:

The candidate will be responsible for characterization of the photophysical properties and kinetics of the proton-transfer reactions of the target compounds in solutions. This includes steady-state absorption and emission spectroscopies together with state-of-the-art time-resolved methods (fluorescence and transient absorption). The main approach will be broadband time-resolved fluorescence spectroscopy in femtosecond time domain. In addition to performing spectroscopic measurements, the candidate will be involved in maintaining and improving the experimental setups as well as the scripts used to process and analyze the data. The candidate will write scientific reports, journal articles and contribute to national and international meetings.

Qualifications:

Applicants should have a Diploma or MSc degree in chemistry, physics or a closely related field. Preference will be given to applicants with experience in experimental spectroscopy and/or photochemistry. Good oral and written communication skills in English are required.

Start and duration:

Starting as soon as possible. Duration is 4 years including one year trial period.

Salary:

From SFr. 47'000.- (first year) to SFr. 50'000.- (last year) per year.

Application:

Please send the application including a cover letter, CV with ~1 page description of previous research experience, relevant diploma with grades, a letter of recommendation and contact details of 2–3 references to Dr. Tatu Kumpulainen.

Further details:

Dr. Tatu Kumpulainen
Dpt. Of Physical Chemistry
30, Quai Ernest-Ansermet
CH-1211 Genève 4
tatu.kumpulainen@unige.ch

Prof. Eric Vauthey
Dpt. Of Physical Chemistry
30, Quai Ernest-Ansermet
CH-1211 Genève 4
eric.vauthey@unige.ch