

Studentship – Organic Fluorine Chemistry

Host Institution. University of Oxford (Chemistry Research Laboratory)

Industrial Partner. Pfizer

Academic Supervisor. Professor Véronique Gouverneur

Industrial Supervisor. Dr Christophe Allais, David W. Piotrowski, Jared Piper, Paul Richardson



<http://gouverneur.chem.ox.ac.uk/home>

Fully funded D Phil studentship. Applications are welcome from UK nationals, EU students with settled/pre-settled status and students with indefinite leave to remain or enter.

Starting Date. As soon as possible and no later than October 2022.

How to contact us: Send your CV including references and cover letter to Professor Veronique Gouverneur at: veronique.gouverneur@chem.ox.ac.uk

The science. With this studentship, you will invent new cost-effective and safe methods to prepare fluorochemicals from metal alkali fluoride. The project will build on the Gouverneur's group expertise in hydrogen bonding phase transfer catalysis (HBPTC), and will provide skills in synthesis, catalysis and various aspects of physical organic chemistry.

Selected Publications on Hydrogen Bonding Catalysis.

- Hydrogen Bonding Phase-Transfer Catalysis with Alkali Metal Fluorides and Beyond, *J. Am. Chem. Soc.* **2022**, doi.org/10.1021/jacs.2c00190
- Asymmetric Azidation under Hydrogen Bonding Phase-Transfer Catalysis: A Combined Experimental and Computational Study *J. Am. Chem. Soc.* **2022**, doi.org/10.1021/jacs.1c13434
- Hydrogen Bonding Phase-Transfer Catalysis with Ionic Reactants: Enantioselective Synthesis of γ -Fluoroamines *J. Am. Chem. Soc.* **2020**, *142*, 14045–14051.
- Impact of Multiple Hydrogen Bonds with Fluoride on Catalysis: Insight from NMR Spectroscopy *J. Am. Chem. Soc.* **2020**, *142*, 19731–19744.
- Hydrogen Bonding Phase-Transfer Catalysis with Potassium Fluoride: Enantioselective Synthesis of β -Fluoroamines *J. Am. Chem. Soc.* **2019**, *141*, 2878–2883.
- Asymmetric Nucleophilic Fluorination Under Hydrogen Bonding Phase-Transfer Catalysis, *Science* **2018**, *360*, 638–642.

Qualifications. The applicants should have, or be expecting to achieve, a first or upper second- class Honours degree or equivalent in Chemistry. The successful applicant will demonstrate strong interest in (physical) organic chemistry and self-motivation, and the ability to think analytically and creatively. A rigorous approach to research, good team-working, and both presentation and writing skills in English are essential.