



Chemistry of Complex Matter (UMR 7140)
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systemschemistry-lab.chimie.unistra.fr



Post-doctoral position in Physical Organic (Systems) Chemistry

We are seeking to hire an outstanding Post-doctoral research associate to join the Laboratory of Systems Chemistry at the University of Strasbourg, France. The successful candidate will work on **new ways to achieve exponential self-replication**. The start date would be ideally in November 2025 but is somewhat flexible.

Background: Self-replication, i. e. the ability of making copies of oneself, is one of the key components of life.^[1] The design of chemical self-replicating systems is of primordial importance for the synthesis of life *de novo* and to understand the principles behind the emergence of life on earth. Currently, the field is held back by the difficulty to design self-replicators with exponential growth, which hampers their potential for further complex behaviour (e. g. Darwinian evolution).^[2]

Project: the goal of this post-doctoral position will be to design new chemical self-replicating systems. This will be done by analysing structural and network features identified in literature systems that have (near-)exponential growth, then taking advantage of the knowledge gained to design new systems with the desired properties. The studied systems will be of molecular and/or supramolecular nature and will involve organic synthesis, reactivity studies, self-assembly studies, kinetic monitoring via NMR and HPLC-MS as well as microscopic imaging (optical and/or electron microscopy). A potential part of the work is also chemical reaction network analysis and modelling.

Candidate profile:

- PhD in molecular and/or physical chemistry
- Hands-on knowledge of any of the mentioned techniques are assets
- Excellent communication skills (at least B2 in written/spoken English)
- Excellent work ethic, scientific curiosity and a drive to learn
- Ability to work independently and to supervise students (MSc and possibly also PhDs)

What we offer:

- Participation in an ambitious and exciting interdisciplinary project
- A supportive, international environment in a young research team and a beautiful city
- A 1-year contract, renewable for a 2nd year
- A salary of €2387/month gross (€2746/month in the 2nd year)

Prospective candidates are invited to submit an application (CV + a maximum one-page motivation letter outlining why you are a good fit for this position + a summary of your main research works + contact information for at least two referees, all merged within a single .pdf file) to Yannick Geiger (y.geiger@unistra.fr) on **August 24, 2025** at the latest. Only complete applications will be considered. Auditions will take place in late August/early September.

References:

- [1] T. Kosikova, D. Philp, *Chem. Soc. Rev.* **2017**, *46*, 7274–7305.
[2] P. Adamski, M. Eleveld, A. Sood, Á. Kun, A. Szilágyi, T. Czárán, E. Szathmáry, S. Otto, *Nat. Rev. Chem.* **2020**, *4*, 386–403.