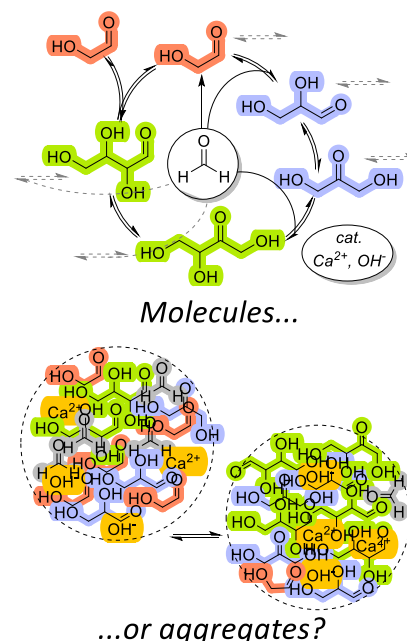


PhD position in Physical Organic (Systems) Chemistry

We are seeking to hire an outstanding PhD student to join the Laboratory of Systems Chemistry at the University of Strasbourg, France. The successful candidate will work on **aggregation in chemical reaction networks** in a project funded by the ITI SysChem. The start date would be ideally in October 2025 but is somewhat flexible.

Background: In absence of typical signs for heterogeneity (i. e. turbidity, visible particle or droplets), compounds that are part of reaction mixtures are assumed to be in solution-phase. However, this can be treacherous: recent work in our laboratory shows that some small molecules (as opposed to macromolecules found e. g. in coacervates or biomolecular condensates) aggregate into sub-micron droplets that are difficult to detect. Such aggregation is most likely the reason why some chemical reaction networks (CRNs), such as the Formose reaction, are not understood to date: the introduction of additional phases severely affects chemical equilibria, a factor that has been overlooked so far. A correct understanding of CRNs is primordial as these play a key role in the emergence of new properties and behaviours (e. g. autocatalysis), up to the emergence of life itself (prebiotic metabolism).

Project: the goal of this PhD position will be to **characterise nanodroplets** issued from small molecules (size, properties, composition) and to **study their impact on the composition of chemical reaction networks**. This will involve physico-chemical measurements (DLS, NTA, NMR...), monitoring the composition of chemical reaction network (GC, HPLC) and applying advanced data treatment to the obtained kinetic data. In addition, the **rate and selectivity** of organic transformations will be probed for in presence or absence of aggregates.



Candidate profile:

- M. Sc. in molecular or physical chemistry (**grades and ranking** must be provided)
- Hands-on knowledge of any of the mentioned analytical techniques are assets
- Good communication skills (at least B1 in written/spoken English)
- Excellent work ethic, scientific curiosity and a drive to learn

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 3-year contract, salary of €2200/month gross

Prospective candidates are invited to submit an application (CV + a maximum one-page personal statement outlining why you are a good fit for this position + contact information for at least one referee) to Yannick Geiger (y.geiger@unistra.fr) before **June 30, 2025**. Only complete applications will be considered. Auditions will take place in early July.