

## A three-year postdoctoral researcher position in Systems Chemistry

Systems Chemistry stands at the frontier of research in molecular sciences. Unlike the traditional chemistry that works on single molecular entities, it focuses on chemical systems consisting of multi-components with multi-functions, trying to get insights into complex chemical systems of interacting molecules and their system-level properties. These properties are not simply the sum of the attributes of the individual components, but emerge from the whole system through the collective performance of the system's components.

The Li's laboratory, at the University of Turku (Finland), has used the tool of Dynamic Combinatorial Chemistry to fabricate the research framework for Systems Chemistry<sup>1</sup>, and in particular investigated the self-assembly in complex chemical systems from thermodynamically<sup>[2-4]</sup> to kinetically<sup>[5,6]</sup> controlled systems. We have demonstrated that, in a dynamic molecular network, self-replication could be driven by self-assembly whose outcome is a self-synthesizing material. This discovery reveals that self-assembly not only can construct beautiful and intriguing structures i.e. catenanes<sup>[3]</sup> and "Russian-doll"-like supramolecular architectures<sup>[3]</sup>, but also can promote the molecules to make copies of themselves as the living matters in nature<sup>[5,6]</sup>. We have also found that the morphologies of the self-assemblies may be able to decide the occurrence of self-replication (*manuscript in preparation*), which has shown the complex interplay between molecular and colloidal aspects of the dynamic systems.

To attract more researchers into the emerging field of Systems Chemistry, we sincerely invite excellent candidates to join us by winning a three-year postdoctoral fellowship (**\$200,000 USD**).

### Eligibility

1. You must show your academic productivity! We will give preference to candidates working in the related areas such as supramolecular chemistry, materials chemistry and/or soft matter chemistry.
2. Please note that: **you should not have your PhD degree**, but you will complete your graduate training in late 2017 or in 2018.

### Contact & Deadline

If you are interested in this opportunity, please send your cover letter, CV and your current research summary (less than 2 pages) to our e-mail: [turku.chempostdoc@gmail.com](mailto:turku.chempostdoc@gmail.com) no later than 10<sup>th</sup> May 2017!

### References

- (1) **Li, J.**; Nowak, P.; Otto, S. *J. Am. Chem. Soc.* **2013**, *135*, 9222.
- (2) **Li, J.**; Nowak, P.; Fanlo-Virgos, H.; Otto, S. *Chem. Sci.* **2014**, *5*, 4968.
- (3) **Li, J.**; Nowak, P.; Otto, S. *Angew. Chem. Int. Ed.* **2015**, *54*, 833.
- (4) **Li, J.**; Cvrtila, I.; Colomb-Delsuc, M.; Otten, E.; Otto, S. *Chem. Eur. J.* **2014**, *20*, 15709.

- (5) **Li, J.**; Carnall, J. M. A.; Stuart, M. C. A.; Otto, S. *Angew. Chem. Int. Ed.* **2011**, *50*, 8384.
- (6) Nowak, P.; Colomb-Delsuc, M.; Otto, S.\*; **Li, J.**\* *J. Am. Chem. Soc.* **2015**, *137*, 10965.