

PhD Studentships - Organic and Organometallic Chemistry

Project: Novel Transition Metal-Catalyzed Methods for Organic Synthesis

Applications are invited for a **Ph.D. studentship** available to start in **Spring 2020 (January 2020)** at the Department of Chemistry at Rutgers University, Newark, USA working on *Synthetic Organic Chemistry & Transition Metal Catalysis* under the supervision of **Prof. Michal Szostak**.

The student will receive extensive training in organic synthesis and organometallic chemistry in new laboratories housed in the Olson Hall. The student will gain expertise in small and large-scale synthesis, inert gas techniques (Schlenk, glove box), design, optimization and validation of reaction conditions, analysis techniques (NMR, GC, GC-MS, LC-MS, HPLC), mechanistic, kinetic studies, X-ray crystallography.

Students in the Szostak group regularly publish research papers in top organic chemistry journals (*Angew. Chem., J. Am. Chem. Soc., ACS Catal., Nat. Commun.*). On average, each student publishes >2 papers/year (check <http://szostakgroup.com/publications>). As an example, Guangrong Meng, a 5th year Ph.D. student (PhD started in Fall 2014) has published >25 research papers (15 as the first author): 2 x *Angew. Chem.*, 1 x *J. Am. Chem. Soc.*, 3 x *ACS Catal.*, 8 x *Org. Lett.*, 1 x *Chem. Sci.*, 2 x *Chem. Commun.*, 1 x *Chem. Eur. J.*, 4 x *J. Org. Chem.*, 1 x *Org. Biomol. Chem.*, 1 x *Synlett*. We further expect several high impact papers from the last year of his PhD. His profile can be found in our *Synlett* account, which features mostly his own work from the first two years of his PhD (*Synlett* **2016**, 27, 2530.).

Send your **CV**, together with a **covering letter** and contact details of **three** academic referees to Prof. Szostak at michal.szostak@rutgers.edu **GRE and TOEFL scores are required for application.** Candidates with initial high **TOEL (initial score around 80)** will receive preference. **IELTS scores (6.0 or higher)** can be used instead of TOEFL. Applications from candidates with **prior experience in organic synthesis and organometallic chemistry** are preferred. **The deadline for applications is 30th September 2019. Please, send your application as soon as possible. Applications from students who completed Masters are strongly preferred. Candidates who have already published research papers as first authors will receive preference.**

The studentship covers fees and an annual stipend. All projects are in the hot-topic areas (N–C activation, C–O activation, C–H activation, visible light photoredox catalysis, NHC-transition-metal-catalysis). For some background information on recent work by Prof. Szostak see:

- J. Am. Chem. Soc.* **2015**, 137, 14473 (*the first graphene-catalyzed alkylation*)
- Angew. Chem. Int. Ed.* **2015**, 54, 14518. (*the first Heck reaction of amides*).
- Angew. Chem. Int. Ed.*, **2016** 55, 6959. (*Biaryl coupling, Highlighted in Synfacts, 2016, 12, 731*).
- ACS Catal.* **2016**, 6, 4755. (*Ru-catalysis, one of the most accessed papers in ACS Catal. in June 2016*)
- ACS Catal.* **2016**, 6, 7335. (*Cooperative catalysis, Highlighted in Synfacts, 2017, 13, 84*)
- Chem. Sci.* **2017**, 8, 6525. (*the first RT amide and ester activation, Highlighted in Synfacts, 2017, 13, 1189*)
- Angew. Chem. Int. Ed.* **2017**, 56, 12718. (*the first phosphorylation of amides, Hot Paper*).
- Acc. Chem. Res.* **2018**, 51, 2589. (*personal account of N-C and O-C activation*).

The Chemistry Department at The State University of New Jersey, features state-of-the-art facilities and equipment (<http://chemistry.rutgers.edu/>), and is located in a vibrant Newark campus at the heart of metropolitan New York area (**15 min to Manhattan and Newark airport**). The Szostak labs are located in a brand-new LSC-II building (opened in Nov 2017, <https://www.newark.rutgers.edu/tags/lsc-ii>).

Prof. Michal Szostak <http://chemistry.rutgers.edu/szostak/> Webpage: <http://szostakgroup.com/>