Job Advertisement
Open PhD position on “Bioinspired underwater adhesives using complex coacervation”

PhD Project funded by EU Marie Skłodowska-Curie Actions Program Horizon 2020
at Wageningen University

Background and objectives of the project

Bonding living tissues is challenging because of the wet environment and biocompatibility requirements. These challenges are similar to the adhesion problems solved by sandcastle worms and other marine organisms. Sandcastle worms secrete protein-based adhesive materials as cement to build protective shells. A key element in the adhesion processing of these natural underwater adhesives is polyelectrolyte complex formation, so-called complex coacervation. The resulting fluidic adhesive complexes are water immiscible which allows these complex coacervates to be secreted and positioned underwater, without loss of molecules to the seawater.

Analogous to the biological examples, in this project, we will synthesize functionalized polyelectrolytes that can form strong and tough complex coacervates. The physicochemical properties will be studied in detail and the adhesion performance will be optimized.

Requirements and duties

We are looking for an enthusiastic candidate with an MSc degree in chemistry, material science or a related field. The applicant should have experience with both polymer synthesis and physicochemical characterization techniques. A good command of the English language is required.

Applicants must also satisfy the eligibility requirements for ESR under the EC Horizon 2020 Innovative Training Network Programme; in particular they should be eligible to be appointed as ESR in the Netherlands:

- To have less than four years research experience after Undergraduate/Masters graduation (this is cumulative research experience and does not include management/industrial or other work experience).
- To not hold a PhD degree (PhD candidates under 4 years of registration and before completion may apply).
- To not have resided or carried out their main activity in the Netherlands for more than 12 months in the three years immediately prior to their recruitment.

Contact

To apply, please e-mail a detailed CV including at least two references along with a letter of application to Dr. Marleen Kamperman:

E-mail: marleen.kamperman@wur.nl