



Research assistant (PhD)

Project: Antiadhesive Bionic Comb for Handling of Nanofibers (BioComb4Nanofibers)

Junior research group Spider Silk, Institute for Zoology (Biology II), RWTH Aachen University

Our profile:

The junior research group Spider Silk studies how cribellate spiders produce, process and use their nanofibrous silk (use: capture threads). We study the morphology and movement of the spinnerets and spigots, the adhesion of the nanofibres onto prey and why spiders do not stick to the nanofibres themselves, though van der Waals forces let nanofibres stick to everything.

This last aspect of our research will be focus in the project “BioComb4Nanofibers”. The biological model will be studied and biomimetically transferred to technical surfaces. We are seeking a highly motivated PhD student to work on this project.

More information about the research group are provided at spider.rwth-aachen.de

Your profile:

- University degree (Master or equivalent) in Biology, Biomimetics, Material Science, Nanotechnology or similar
- General interest in biomimetic research
- Fine motor skills e.g. to micro manipulate living spiders, experience in adhesion and force measurements and electron microscopy
Enthusiasm for the topic of research and the motivation to learn different methods will be more important in case of doubt than previous experience
- No fear of spiders and insects
- High sense of responsibility and the according care for your living research animals. This includes coming in on weekends or the big holidays (Christmas and Eastern) to care for the animals.
- You are willing to go for longer working trips (> 1 week) for several times a year (~1-4 times), not only within the EU but also Australia
- You are creative when it comes to setup design, self-initiated, you have a high dedication to your work and like challenges
- You have very good communication skills and the ability to work in a (international) team
- You speak and write English and are at least highly motivated to learn German

Your responsibilities:

- Self-reliant work on the project BioComb4Nanofibers, including e-mail- and phone communication as well as personal visits to the (inter)national cooperation partners (Germany, Austria, Greece, Romania, Czech Republic and Australia)
- Analysis of the biological model, via e.g. SEM, TEM, Adhesion measurements, as well as validation of technical replications, produced by cooperation partners
- Organisation and performing (global) field trips to collect animals used for experiments (including the paperwork which unfortunately is part of each trip)
- Giving lectures and supervision of student's theses, also in German
- Participation at conferences
- Publication of project results

Depending on your interests, there will probably arise more/other topics to study during your PhD. We are doing a very diverse research (admittedly most of the time linked to cribellate spiders) and you are welcome to join us!

What we offer:

Aachen is a small and old city with a very student-oriented atmosphere, including bars, pubs and clubs and a beautiful Christmas market with hot wine you can (almost) enjoy (personal opinion).

Our junior research group is embedded in the Institute of Zoology (Biology II) at the RWTH Aachen University. Besides cooperating with the other labs on various topics, we (all or parts of the group) are also regularly going out after work for drinking, go-carting, BBQ, ... and thus keep our welcoming and cordial working atmosphere alive.

The PhD position (the German "Dr.rer.nat.") we offer would start at the 01.10.2019 and run for at least three years.

Your contact person for further details:

Dr. Anna-Christin Joel

0241-8026554

joel@bio2.rwth-aachen.de

If you are interested in this project, please contact Dr. Joel as soon as possible, no later than the 01.08.19, via mail, including a short introduction of yourself/motivation letter (in English or German), your CV and two contacts for references.