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2-Year Postdoctoral Fellow Position in Systems Chemistry and Microfluidics **TactoChem – Robotic Systems Chemistry**

QUICK FACTS

2-year funded Postdoctoral Fellow position

Embedded in the Lerch Lab

Stratingh Institute for Chemistry, Faculty of Science and Engineering, University of Groningen

Application deadline: December 15th, 2025

Ideal starting date: Spring 2026, but relatively flexible

Sought expertise in systems chemistry, microfluidics, and kinetic modelling

Apply [here](#)!

Watch overview video [here](#).

POSITION

A sense of touch allows us to handle objects with fine motor skills and navigate the complexities of everyday life. Robots struggle with even simple tasks, because their sensing capabilities remain limited. It is incredibly hard to achieve the level of sophistication and high-density integration of sensing, signal processing, and movement that comes so naturally to us. This project, funded by an European Starting Grant, aims to develop a new class of chemical touch sensors that can be incorporated into robotic prototypes.

As an experienced chemist with a track-record in systems chemistry and microfluidics, and skills in kinetic modelling, you will pioneer new concepts in chemically-driven robotics. In this 2-year project, you will develop innervated soft robotic hands and study how chemical reaction networks propagate signals within these robotic components. Work in a state-of-the-art laboratory together with experts in mechanochemistry, materials, and actuator design.

Your main tasks will include to:

- design reaction networks that propagate chemical signals to chemical actuators
- model and predict signalling dynamics
- develop robotic prototypes with built-in microfluidic channels
- build and maintain chemical and robotic setups
- train and supervise students
- excel in a top chemistry group with top-notch infrastructure

CANDIDATE PROFILE

We are looking for a collaborative, creative, and excellent colleague with:

- a Ph.D. degree in synthetic and systems chemistry or equivalent.
- a proven track-record in designing reaction networks, working with microfluidic setups, and kinetic modelling.
- proficiency in advanced analytical techniques and project management.
- motivation to learn about polymer chemistry and robotic design.
- excellent publication record, international visibility, and strong independent thinking skills.
- demonstrable leadership experience in supervising undergraduate students.
- motivation to develop grant writing skills.
- excellent communication skills for engaging with both professional and lay audiences.
- well-developed communication and collaboration skills and the ability to work independently in a multidisciplinary environment.

Postdoctoral researchers are expected to demonstrate scientific independence, complete own research projects within a larger research agenda, and co-supervise PhD and undergraduate students. They play an integral part in running the project, leading subgroups, staying abreast of developments across fields, and showcasing their work in the international community. We are looking forward for you to joining our team to develop signalling chemistry for touch sensing and create new robotic prototypes.

APPLICATION

For more information, please contact Michael Lerch at m.m.lerch@rug.nl. The application should include a **letter of motivation**, your **curriculum vitae**, a **list of publications**, a **research overview** (including techniques you master), and **contact details (name, telephone number, e-mail address, and affiliation) of at least two references** for a letter of recommendation. Applications received **before Dec. 15th, 2025**, will be considered for this position. First round (online) interviews will take place on: Dec. 17-19, 2025. Second round interviews mid January 2026. Preferred starting date is negotiable.

Applications by female scientists and candidates from underrepresented minorities are especially encouraged.

THE TEAM

Our team, led by Dr. Michael M. Lerch, aims to create a chemical operating system for robots, thereby developing novel chemistry and materials with unprecedented functions. We believe that chemistry can close the performance gap between living organisms and current electronic robots. Over the years, we have built a unique pipeline where we take newly synthesized molecules, incorporate them into materials, and shape them into functional devices. You will work in an international and interdisciplinary team in a fast-paced, creative, and collaborative research environment, based at the renowned Stratingh Institute at the Faculty of Science and Engineering at the University of Groningen. The functional materials we develop are societally relevant; as part of ARC CBBC and HTRIC, we work with industrial partners and clinical experts to develop next generation functional coatings and clinically relevant robots. The University of Groningen and the Lerch Research Group strive to create an equitable, inclusive, and respectful environment, where researchers of different backgrounds and disciplines can work at the forefront of science.