

PhD student position in Photonics: *On chip optical spectroscopy*

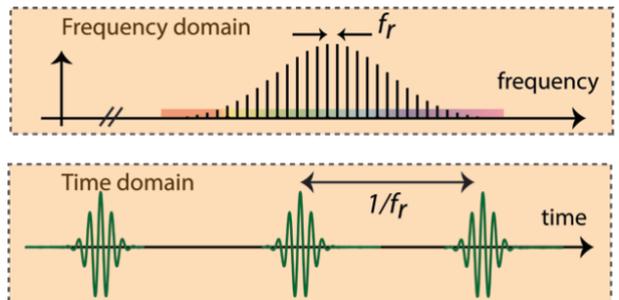
Chalmers University of Technology, Gothenburg, Sweden
RISE Research Institutes of Sweden, Borås, Sweden

Application deadline: **2018-May-15**

The project

Laser spectroscopy is an invaluable technique for unravelling the atomic and molecular structure of matter. It is a widely used diagnosis tool in several industrial applications, such as the monitoring of combustion processes, remote sensing of greenhouse gases and pharmaceutical quality control.

A laser frequency comb is a special type of laser that holds great promise for precision spectroscopy because it allows to probe multiple species at once. This project will investigate a new and emerging laser frequency comb platform on a chip, the so-called microresonator comb, for applications in spectroscopy. This technology could enable precision spectroscopy in a portable and robust platform that renders more suitable for “real-life” applications outside the well-controlled laboratory environment. The project will be done in close collaboration with the RISE institute in Borås and the laser company Thorlabs in Mölndal.



The laboratory

The Photonics laboratory at the Microtechnology and Nanoscience Department (MC2) is a dynamic and creative group with about 30 members working in an international and collaborative atmosphere. We perform both curiosity-driven and applied-research in the areas of optoelectronics, nanophotonics, and fiber optic systems. We enjoy a state-of-the-art laboratory for fiber-optic communications and have access to in-house cleanroom facilities to manufacture photonic devices. Please visit: www.vtc-lab.com

Job description

You will get training in advanced ultrafast laser technology. The work involves numerical modeling and hands-on experiments with laser frequency comb systems. You will have room to develop and contribute with your own ideas. Although most of the work will be carried out at Chalmers, it is expected that you will have a close collaboration with the partners from RISE in Borås.

The PhD student position is a full-time employment position limited to 4 years. You will have a contractual relation with RISE, but your PhD studies and the research will be mainly carried out at Chalmers. The majority of your working time is devoted to your own research project. In addition, the position will normally include 10% departmental work, mostly teaching duties.

Qualifications

You should have a Master's degree (or equivalent) in Applied Physics, Engineering Physics, Electrical Engineering or similar. Experience with ultrafast lasers (modelocked fiber lasers, frequency combs, etc.) is a merit. **Fluency in English is required.**

Application material

For electronic submission, go to www.chalmers.se and click on vacancies (at the bottom of the page).

For more information, please contact

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