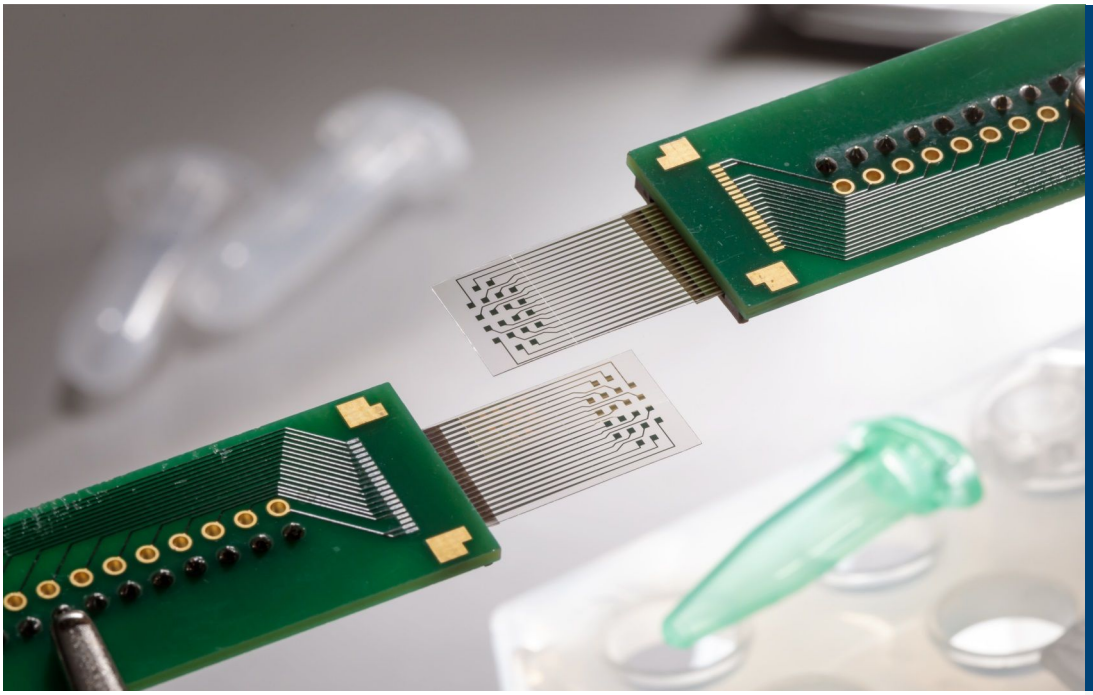

Conducting research for a changing society: This is what drives us at Forschungszentrum Jülich. As a member of the Helmholtz Association, we aim to tackle the grand societal challenges of our time and conduct research into the possibilities of a digitized society, a climate-friendly energy system, and a resource-efficient economy. Work together with around 7,500 employees in one of Europe's biggest research centres and help us to shape change!

At the Institute of Bioelectronics (IBI-3) at Forschungszentrum Jülich, physicists, chemists, biologists and engineers work together to investigate the scientific principles of the functional connection between biological and electronic components. This collaboration has led to the development of platforms for microfluidics, micro- and nano-patterning, neural implants, and electronic biosensors. These latter technologies are being developed not only to understand biological processes, but also to pave the way for their application in sensing and point-of-care diagnostics.
To help control the spread of respiratory diseases such as COVID-19, we are developing a next-generation biosensor capable of detecting multiple viral targets in a single test. Our ultimate goal is to advance our biosensor technology platform into a point-of-care (PoC) device that is high-performance yet easy to use. Creating such a powerful diagnostic tool will strengthen our healthcare system and enable it to control future pandemic outbreaks.

**We offer you to the next possible date an exiting**

# Master Thesis - Automation of high-precision biofunctionalization of a flexMEA biosensor

**Your Job:**

- Translate the manual biofunctionalization methods of our flexMEA biosensor into an automated hardware process using a state-of-the-art micro-pipetting robot
- Streamline the workflow to efficiently biofuctionalize multiple flexMEA chips in a single run
- Optimize the design of flexMEA chips to improve the performance of our in-house portable electronic measuring device
- Support the characterization of the optimized flexMEA biosensor using electrochemical (CV, DPV, EIS) and mechanical tests

Further information on the project is available at:

The job will be advertised until the position has been successfully filled. You should therefore submit your application as soon as possible. We look forward to receiving your application via our **Online-Recruitment-System!**

**Questions about the vacancy?**
Get in touch with us by using **our contact form.**
Please note that for technical reasons we cannot accept applications via email.
www.fz-juelich.de

https://www.fz-juelich.de/de/ibi/ibi-3/forschung/aptamer-sensors

**Your Profile:**

- Bachelor`s degree (or equivalent) in the field of biomedical engineering, biotechnology, chemistry, or similar
- Hands on lab experience developing biosensors/sensors is required
- Previous experience in electrochemistry is an advantage
- Basic knowledge of electronics is an advantage
- Willingness to familiarize yourself with new concepts/methods
- Well-structured and systematic research approach
- High degree of independence and motivation
- Statistical, analytical, and conscientiously working style

**Our Offer:**

We work on a highly relevant and innovative topic and offer you the possibility to actively shape the change. We support you with:

- An interesting and socially relevant topic for your thesis with future-oriented themes
- Multifaceted work in an interdisciplinary and international setting
- Excellent technical equipment and the newest technology
- Ideal conditions for applying  your experience in the field of biosensors
- The chance to independently prepare and work on your tasks
- Qualified support through your scientific colleagues
- Forschungszentrum Jülich located close to the interface between Belgium, the Netherlands, and Germany and with strong links to the ABCD Region (Aachen, Bonn, Cologne, Düsseldorf) which is one of the leading high-tech regions in Europe.

In addition to exciting tasks and a collaborative working atmosphere at Jülich, we have a lot more to offer: https://go.fzj.de/benefits

We welcome applications from people with diverse backgrounds, e.g. in terms of age, gender, disability, sexual orientation / identity, and social, ethnic and religious origin. A diverse and inclusive working environment with equal opportunities in which everyone can realize their potential is important to us.

Further information on diversity and equal opportunities: https://go.fzj.de/equality