



PhD Positions Opening in microRNA medical technologies and applications

In the **RNApp Graduate College**, universities, clinics and Fraunhofer Institutes in the metropole region Hannover-Braunschweig-Göttingen (Northern Germany) develop pioneering innovations in basic research and open up the translation of the results into clinical practice. The focus is on RNA-based therapeutics and therapies that have the potential to exceed the possibilities of classical biopharmaceuticals but are not categorised as gene therapeutics. The challenges of therapeutic RNA variants include production, formulation, and stabilization as well as its transport into the target cell. RNApp is oriented to precisely this pathway. It pools and extends expertise on the most pressing manufacturing and delivery issues through R&D. Within the RNApp Graduate College, PhD candidates will receive particular training on biological and technical RNA-technologies, will do excellent research in biomolecular and engineering under the supervision of international experts and will acquire all prerequisites to pursue academic and industrial careers in this upcoming field of medical, pharmaceutical and engineering applications. Besides of this, scientific communicational and other personal training shall be provided to the selected candidates. Fluent English and daily-use German language skills (A2) are mandatory.

As part of the RNApp graduate college, the MHH Biomaterial Engineering group offers the following PhD position

Development of electronic xRNA Biosensors

Since mRNA have very different sizes, their sensor technology can only be realised with a flexible platform. Molecularly imprinted polymers (MIP) are ideal for this. The BME working group already has experience in the development of MIPs and utilises international and local collaborations, e.g. at NIFE. In the doctoral thesis, the handling of mRNA will be learnt and different routes for the production of MIP will be fundamentally tested. The most promising method will be trialed in collaboration with the Institute for Microelectronic Systems at LUH to test the possibility of remote reading of the sensor, as would be necessary for an implant.

You are a suitable candidate with the following profile: Completed studies, e.g. in nanotechnology, electrical engineering, mechatronics or physics with an additional affinity for chemistry or biochemistry and inclination towards medical engineering. Independent and at the same time team-orientated work is part of your profile. Friendly colleagues are available for the familiarisation phase.

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Please send your applications with introducing letter, C.V. and degree certificates directly to the individual contact partners. The RNApp Research Training Group will start in the period from August to October 2024 and aims to bring its candidates to the completion of their individual dissertations within 36 months. The position will initially be remunerated at 75% E 13 TVL.