The Subnstitute Structural Biochemistry (IBI-7) of the Institute of Biological Information Processing studies the function of proteins that are relevant for neurobiological processes at all levels of brain organization and play an important role in neurological and neurodegenerative diseases. Nils-Alexander Lakomek’s research group develops and applies novel solution and solid-state NMR methods to elucidate the structure and dynamics of membrane proteins and intrinsically disordered proteins, with a focus on proteins that play a key role for neurotransmitter release at the neuronal synapse.

We are offering a

2020D-050 - PhD Position - Development of new NMR methods for the study of the molecular basis of neurotransmitter release

Your Job:
Fusion of synaptic vesicles with the pre-synaptic plasma membrane at the neuronal synapse (neuronal exocytosis) is a key process for the release of neurotransmitters. The membrane proteins involved in this process undergo a cascade of dynamic structural transitions. Those structural transitions will be elucidated by novel solution and proton-detected solid-state NMR methods. Your future work will involve:

• Biochemical production of membrane proteins that play a key role in neuronal exocytosis
• Analysis of the three-dimensional structure, dynamics and lipid interactions of those proteins
• Development and application of new solution- and solid-state NMR methods
• Fusion assays of synaptic vesicles

Your Profile:
M.Sc. in Biochemistry, Chemistry, Biology, Biophysics or related field
Knowledge in the expression and purification of proteins is a plus
Good knowledge in physics and / or biochemistry
Good English and computer skills
Social competence and good communication skills for collaborative work in an interdisciplinary research team

Our Offer:
- An interesting and innovative PhD research topic at the interface of molecular biophysics and neurobiology
- Strong training in NMR-based structural biology, biophysics and protein biochemistry
- Outstanding scientific and technical infrastructure – ideal conditions for successfully completing a doctoral degree
- A highly motivated research team and an international and interdisciplinary environment based on one of the biggest research campuses in Europe, located in the city triangle Cologne, Aachen and Dusseldorf
- Continuous training and support by your scientific advisor
- Doctoral degree awarded by the University of Dusseldorf
- Participation at national and international conferences
- Further development of your personal strengths, e.g. via a comprehensive further training programme
- Usually a contract for the duration of 3 years
- Pay in line with 50 % of pay group 13 of the Collective Agreement for the Public Service (TVöD-Bund).
- Information on employment as a PhD student at Forschungszentrum Jülich can be found here http://www.fz-juelich.de/gp/Careers_Docs

Forschungszentrum Jülich promotes equal opportunities and diversity in its employment relations.

We also welcome applications from disabled persons.