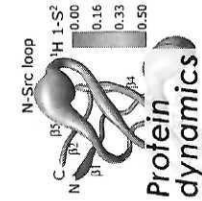
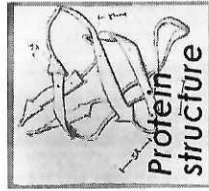
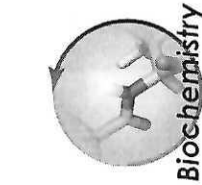


Postdoc in combined ultra-fast MAS and solution NMR – Linser group



We are looking for a postdoc (PhD degree) experienced in protein NMR and respective sample preparation. Our group has developed cutting-edge proton-detected solid-state NMR methods in the past, and combined with solution NMR approaches, we are now starting applying these methods to large molecular machines.

Our focus is the characterization of protein structure, dynamics and interactions. In the past, we have committed ourselves to the development of innovative NMR methodology as well as application of such methods to enable a more detailed understanding of the behavior of proteins. In particular, our lab has been quite successful regarding solid-state NMR methods development, which has been taking huge steps in the last years. In the future, we will apply such methodology for challenging (= high molecular-weight) protein targets and continue innovating NMR methodology. Current interests are the protein dynamics playing a role for enzymatic function and as well as protein-small molecule interactions, some recent examples for (postdoc) work in the group are:

2019:

- H. Singh, S. K. Vasa, H. Jangra, P. Rovó, C. Päsliack, C. K. Das, H. Zipse, L. V. Schäfer, R. Linser, "Fast-microsecond dynamics of the protein-water network in the active site of human carbonic anhydrase II by solid-state NMR spectroscopy", *J. Am. Chem. Soc.*, 141 (49), 19276-19288 (2019); **Cover: J. Am. Chem. Soc.** 141 (49) (2019).
- S. K. Vasa, H. Singh, K. Grohe, R. Linser, "Assessment of a large enzyme-drug complex by proton-detected solid-state NMR without deuteration", *Angew. Chem., Int. Ed.*, 58 (17), 5758-5762 (2019); **Cover: Angew. Chem., Int. Ed.**, 58 (17), 5465 (2019).
- P. Rovó, C. A. Smith, D. Gauto, B. L. de Groot, P. Schanda, R. Linser, "Mechanistic insights into microsecond timescale motion of solid proteins using complementary ¹⁵N and ¹H relaxation dispersion techniques", *J. Am. Chem. Soc.*, 141 (2), 858-869 (2019).

2018:

- S. K. Vasa, P. Rovó, R. Linser, "Protons as versatile reporters in solid-state NMR spectroscopy", *Acc. Chem. Res.*, 51 (6), 1386-1395 (2018).
- S. K. Vasa, H. Singh, P. Rovó, R. Linser, "Dynamics and interactions of a 29-kDa human enzyme studied by solid-state NMR", *J. Phys. Chem. Lett.* 9, 1307-1311 (2018).

Our lab has new 800 and 700 MHz high-field NMR magnets set up for both competitive solution NMR as well as for solids with an excellent range of proton-detected fast-MAS solid-state NMR equipment. The lab constitutes the newly founded chair for biomolecular NMR at the TU Dortmund, where - in conjunction with the MPI for molecular physiology - excellent research opportunities, great collaboration opportunities with really interesting proteins and functional contexts (TU as well as well the MPI for molecular physiology across the road) and a very generous and cozy setting for our group in general have been opening up. The lab is part of the new Excellence Cluster RESOLV, the SFB

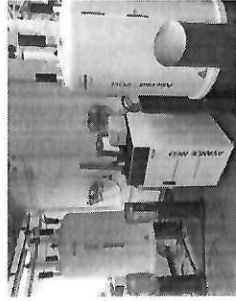
1309 on epigenetics, and the IMPRS graduate school of the Max-Planck society. For some glimpse into who we are and what life is like with us, you can check out our homepage:

linser-lab.com

The city Dortmund (around 600 000 inhabitants), apart from being famous for football and beer, is the 8th largest city in Germany, part of the vibrant and multi-cultural Rhine-Ruhr metropolitan region, the largest metropolitan region in Germany with over 10 million inhabitants, and harbors attractive suburbs like the Kreuzviertel close to the university (35 000 students).

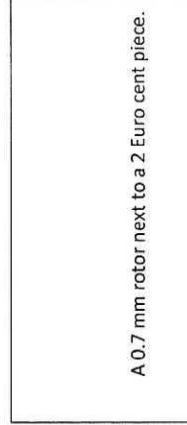
Ideal candidates would have theoretical and practical experience with NMR spectrometers, pulse sequences, related software for assignments, structure calculation, NMR relaxation and biochemistry using *E. coli* recombinant expression, in addition to a creative, constructive and congenial personality. If you feel like you meet (most of) the above criteria, I would be very happy to get in touch informally simply via email (rasmus.linser[at]tu-dortmund.de). Please include a CV from which your scientific trajectory becomes apparent, a digital collection of your final school, master's and PhD certificate, and potential contacts within the NMR community for reference. Please don't forget to explain in your email what kinds of expertise you have and what are your interests for your postdoc endeavor.

Best regards and looking forward to getting in touch,
Rasmus Linser



700 MHz (solids: 0.7 mm, 1.3 mm, 2.5 mm MAS probes, right)

And 800 MHz spectrometers (shared solution/solids: 0.7, 1.3 mm MAS and cryo H-F/C/N probes, left)
(Another 800 MHz will come in ca. 2-3 years.)



A 0.7 mm rotor next to a 2 Euro cent piece.



The group (in July '19).