



The Kaiser Isotope Lab has an open position for a

Postdoc

Mass Spectrometry of proteins and RNA

Our lab is central to the SFB 1309 - Chemical Biology of Epigenetic Modifications (<https://www.sfb1309.de/>) where we study the interplay of natural RNA modifications and the proteome. We are located in Frankfurt, the heart of German academic and industrial (e.g. BioNTech) RNA research. The Kaiser lab (<https://www.cup.lmu.de/oc/kellner/>) is generously funded by the DFG through the Emmy Noether program, where we study the connection of RNA modifications and neurological disease. We use stable, non-radioactive, isotopes for metabolic labeling of RNA and proteins and are world-leading in the absolute quantification of modified nucleosides using our 2018 installed triple quadrupole mass spectrometer (Agilent 6470 with 1290 UHPLC). In addition, we run several high resolution orbitrap and time-of-flight mass spectrometers for analysis of oligonucleotides, proteins and peptides (e.g. Thermo QExactive Plus (2016) with Ultimate 3000 frontend (2022), MALDI-Orbitrap and starting 2022 MALDI-TOF/TOF)

In our lab, you will have the opportunity to apply our break-through concept NAIL-MS* in various biological contexts and decipher the dynamics of the epitranscriptome inside living cells. You will learn stable isotope labeling of RNA in cell culture and use it to answer important questions regarding RNA modification hierarchy and necessity under stress. You will be involved in the discovery of novel nucleosides and be part of the major effort to locate RNA modifications in their sequence using oligonucleotide mass spectrometry. You will connect your findings of RNA modifications to your analyses of cellular proteomes. In the vibrant research community of the Riedberg Campus, you will expand your professional network through collaboration with established colleagues in the field (e.g. H. Schwalbe, S. Knapp and A. Heckel).

You bring:

- a PhD and publications in the field of biomolecule mass spectrometry
- hand-on experience with shotgun proteome mass spectrometry using ThermoQExactive instruments
- an interest or even experience in RNA modification analysis and RNA handling
- good communication skills and a strong team spirit

Our lab offers:

- Modern analysis of nucleic acid modifications and substantial instrumentation
- Experience for absolute quantification of small compounds using isotope dilution mass spectrometry
- Great publication output
- Analytical skills in the demanded field of RNA drug analysis
- a supportive team
- a 24 month 100% E13 salary (Tarifvertrag der Länder (TV-GU))

Please apply by **19.04.2022** by sending **a single pdf** containing a cover letter stating your motivation, your CV with publication list, references and your degrees to Prof. Stefanie Kaiser bartussek@pharmchem.uni-frankfurt.de.

* Nucleic Acid Isotope Labeling coupled Mass Spectrometry

Heiss *et al.* RNA Biology 2017; Reichle *et al.* Nat. Commun. 2019; Heiss *et al.* Nat. Commun. 2021