PhD position at the University of Regensburg, Department of Biochemistry III headed by Prof. Neva Caliskan

Caliskan Lab investigates functions and dynamics of RNA molecules in non-canonical translation events, which can affect the interplay between the host and pathogen during infections or during cellular differentiation (Zimmer and Kibe et al, Nature Comm. 2021, Hill, Pekarek et al. Nature Comm. 2021). Current project interests include developing new tools and methods for monitoring translation and RNA:protein dynamics to enable:

- Probing dynamics of RNA-protein complexes at the molecular level
- Single molecule (fluorescence assisted optical tweezers) and ensemble analysis of translation
- High throughput profiling (Ribo-seq, RNA-seq) to decipher RNP functions during HIV infection

Ultimately, Caliskan lab seeks to illuminate mechanisms of recoding and employ its cis- and trans-regulators as new tools for synthetic biology and RNA-centric antiviral drugs and immunotherapies.

Project description

The project will identify and characterize novel regulatory RNPs and carry out functional, and biochemical assays to decipher molecular and regulatory details of translational recoding. Also CRISPR, Ribo-seq, RNA-seq and iCLIP techniques will be employed to decipher protein functions in the global scale. The project will be carried out in a highly international, collegial, collaborative, and interdisciplinary work environment, with a range of possibilities to develop new skills.

Requirements

- Master's degree/Diploma in the field of biochemistry, molecular biology, biophysics or a related field of the life sciences engineering
- Strong interest and enthusiasm for understanding role of RNA binding proteins in translation
- Readiness of mind and willingness to familiarize themselves with new topics
- Solid understanding of lab techniques and workflows in RNA and protein biochemistry, CRISPR, RNA biology, ribosome and translation mechanisms, and/or analysis of RNP complexes
- Experience with Python, MatLab or R for data analysis is preferred
- High motivation, problem solving and good organizational skills
- Ability to work independently and as part of an international team
- Strong written and spoken English language communication skills

Please send your application including CV and transcripts until January 15, 2025 to neva.caliskan@ur.de