

Position Profile for Chinese Applicants running for 2019 Helmholtz – OCPC – Program

PART A (Info about the Position)

Helmholtz Centre and institute: Helmholtz Centre for Infection Research (HZI)

Title of the project: Molecular switches in RNA virus replication

Project leader: Jun.-Prof. Redmond Smyth

Web-address: https://www.helmholtz-hzi.de/en/research/research_topics/bacterial_and_viral_pathogens/genome_architecture_and_evolution_of_rna_viruses_garv/redmond_smyth/

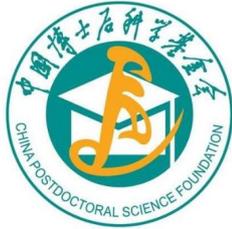
Description of the project (max. half page):

The Smyth lab's mission is to dissect the molecular role of RNA in viral replication at the whole pathogen scale and to exploit this knowledge in drug discovery and vaccine design. To this end, we use state-of-the-art unbiased mutational and functional screens (see <https://www.nature.com/articles/nmeth.3490>) coupled with high-throughput RNA structural probing methodologies to identify and characterize these RNA structures.

We are seeking a highly motivated post-doctoral fellow to study the role of **RNA structural switches** in virus replication. RNA structural switches play a very prominent role in regulating gene expression in bacteria, and can also shape gene expression in viruses. Due to their requirement for precise folding, RNA structural switches are thought to be one of the more tractable RNA targets for therapeutic intervention, but their identification and characterization is a difficult and long-standing problem in RNA biology.

The project will be to establish a novel method to study RNA structure at the single molecule level. The goal is to identify RNA structural switches in long viral RNAs in physiologically relevant environments (viruses and cells). Using molecular virology, the candidate will then characterize the cellular and viral factors (proteins, small molecules and nucleic acids) binding to these molecular switches to identify new targets of therapeutic value.

Experience working with RNA viruses, such as HIV and influenza, is an advantage, but not essential.



Required qualification of the post-doc:

- PhD in molecular biology, molecular virology
- Experience with RNA sequencing
- Additional skills in bioinformatic analysis would be advantageous

PART B (Materials and Procedures)

The applicants shall submit the following documents to a Chinese postdoc station affiliated to a research institution or a university, after passing through the internal selection, the qualified application shall be forwarded to OCPC, and then to Helmholtz for evaluation:

- Detailed description of the interest in joining the project (motivation letter)
- Curriculum vitae, copies of degrees
- List of publications
- 2 letters of recommendation
- Proof of command of English language

PART C (General Conditions)

Additional requirements on the postdoctoral fellows:

- Chinese citizenship from Mainland China (allows application while staying abroad)
- Max. age of 35 years, PhD degree not more than 5 years by submission of application
- Very good command of English language
- Strong ability to work independently and in a team