13 PhD scholarships in the MOI-IV Manchot Graduate School

The Manchot Graduate School *Molecules of Infection IV* (MOI-IV) offers an innovative, structured training and research program in a both stimulating and interdisciplinary field of medicine and biology. Highly motivated and excellent candidates holding a MSc degree in biology, biochemistry or related subjects are strongly encouraged to apply. The scholarship comprises inter alia a monthly allowance of 1,900 € over a period of 3.5 years as well as a budget for material expenses and financial support for the attendance of national and international conferences and for a temporary stay abroad.

**Closing date: 17.04.2020**

**Job profile:**
The research program of the *MOI-IV* Manchot Graduate School focuses on the characterization and functional dissection of selected host-pathogen interactions at the molecular level and the mechanism that control immunological responses to infectious diseases. In doing so, it follows the highly successful approach adopted in the previous funding periods for MOI-I, MOI-II and MOI-III.

The 13 PhD scholarships are assigned to four topics:

**A) Mechanisms of viral infection**

- **P2:** Interaction of the Hepatitis C virus protein NS5A with tyrosine kinase SRC in the context of the viral replication complex (Priv. Doz. Weiergräber/Prof. Willbold)
- **P3:** Interference of HCV with chemokine-mediated intercellular communication processes of the host (Prof. Bode)

**B) Bacterial proteins in infection and infection control**

- **P5:** Functional and structural characterization of putative substrates of type I secretion systems (Prof. Schmitt)
- **P6:** Characterization of human receptors for the bacterial pathogen *Chlamydia trachomatis* (Prof. Hegemann / Dr. Mölleken)
- **P7:** Characterization of the role of hydrolases in the resistance of *Mycobacterium tuberculosis* against hydroxamic acid derivatives (Prof. Kalscheuer)
- **P8:** High-throughput characterization of *Pseudomonas aeruginosa* genes of unknown function (Prof. Jaeger /Dr. Kovacic)
- **P9:** How can a eukaryote control a bacterial endosymbiont? - Studies on the cellular functions of the endosymbiont-associated host proteins ETP5 and ETP6 in the trypanosomatid *Angomonas deanei* (Jun. Prof. Nowack)
C) Molecular regulatory mechanisms in fungi
   P10: Phosphate-nutrient control of the fungal cell cycle (apl. Prof. Fleig)
   P11: The role of m^6A mRNA modification during infection of *Ustilago maydis* (Prof. Feldbrügge)

D) Control of immune response to infection
   P13: Role of Tryptophan 2,3-dioxygenase during murine Toxoplasmosis and Neosporosis (Prof. Däubener)
   P14: Modulation of anti-parasitic immune reactions by intestinal chemosensing receptors (Prof. Förster / PD Dr. Weighardt)
   P17: Characterization of vaccinia virus-encoded autophagy inhibitors (Prof. Drexler)
   P18: New Molecules of Infection of the Central Nervous System (Prof. Lang)

The dissertation projects are cross-linked both in content and methodology. Within the scope of the MOI-IV qualification program, lectures, seminars and a lab rotation will provide the PhD students with thorough insight into the infection biology of the three big pathogen groups of viruses, bacteria and fungi/protozoa as well as into the host’s immune response. In the course of the study program, the students will be enabled to acquire extensive professional key competences. A temporary stay abroad is an integral part of each dissertation project. Yearly MOI symposia offer a platform for presenting own research results and intensive scientific exchange. An international scientific advisory board accompanies MOI-IV and supports the PhD students during their projects.

The Heinrich-Heine-University with more than 34,000 students forms the core of the university town Düsseldorf. As a full university with its five faculties law, economics, humanities, medicine, and mathematics & natural sciences, the HHU promotes close interdisciplinary cooperation on the regional, national and international scale. The HHU has, already for the third time, been awarded with the certificate “TOTAL E-Quality”.

Further information about the graduate school can be found on our website: [www.moi.hhu.de](http://www.moi.hhu.de).
Please download the relevant documents for your application.

If you have got further questions, please contact the scientific coordinator, Dr. Sabrina Zander, via E-mail ([moi@hhu.de](mailto:moi@hhu.de)).