



MEDIZINISCHE  
UNIVERSITÄT  
INNSBRUCK

## PhD position in FWF-funded project HOROS on the topic "Small proteins and peptides promise the development of new effective antimicrobial drugs" under supervision of F. Marx

### Project AMP

#### Antimicrobial proteins and peptides (Supervisor: Prof. Florentine Marx)

Microbial infections pose a severe global health threat in humans, animals and plants mainly due to a plethora of manmade reasons: over-prescription and/or inadequate consumption of antibiotic drugs, which provoke a highly selective pressure on drug resistance development, invasive medical treatments, intensive farming and climate change. Nature is a rich source of antimicrobial compounds with therapeutic potential. We are specifically interested in antimicrobial proteins and peptides (AMPs) and have a long-standing experience in (i) the characterization of their mode of action, (ii) their mechanistic function and (iii) their applicability in novel antimicrobial strategies. (iv) We further study their expression regulation to decipher their role in the producing organism itself. Our research integrates a multidisciplinary approach, including techniques in protein chemistry, molecular biology, microbiology and cell biology. Protein and peptide design, recombinant protein expression and purification, gene manipulation in bacteria and fungi, viability assays with AMP-exposed microorganisms (bacteria and fungi), microscopy as well as the AMP application in *in vitro* 3D cell culture infection models are only some of the methods used to address our objectives.

The successful candidate should be dedicated, inquisitive, creative, independent and collaborative. Highly motivated candidates trained in one or more of the applied techniques and devoted to microbial/fungal biology are especially welcome to apply. We offer a broad and stimulating environment covering different disciplines since the institute hosts labs for protein-chemistry, molecular biology, microbiology, cell culture and infection biology. Additional access to specialized facilities of the Medical University of Innsbruck for protein microanalysis and bio-optics is provided.

#### Why HOROS?

The FWF project HOROS (HOst Response in Opportunistic infectionS) is funded as doctoral programme of excellence at the Medical University of Innsbruck. Its focus lies on education of young researchers in the field of opportunistic infections. This interdisciplinary doctoral programme is supported by a strong faculty from clinic and research. HOROS fellows will have a fully financed PhD position and many other benefits

#### Benefits of the HOROS programme:

- Individual supervision and monitoring (individual thesis steering committee)
- A highly structured HOROS-specific educational programme
- Retreats and social activities
- Guaranteed salary as suggested by the [Austrian Science Fund](#) for the proposed 3-years (ca. 2.200 Gross salary/month + 13&14 month salary)
- Health insurance and social benefits
- State-of-the art facilities and resources

The position is advertised on [www.horos.at](http://www.horos.at). Please **apply** via this homepage until 06<sup>th</sup> June 2021.