1 PhD Position in Phytopathology and Plant Protection

Institute of Agricultural and Nutritional Sciences (IAEW), Faculty of Natural Sciences III, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany

It is widely accepted that fungal pathogens have an enormous potential to affect plant, animal and human health. During the life time every fourth human (or ~ 1.7 billion) have at least one fungal infection. Of particular concern is the high rate of mortality (up to 95%) associated with invasive fungal mycosis, which often cannot be treated with several available antifungal drugs. Those antifungal drugs are not only used in human healthcare but also in agriculture. But during the last decade a decrease of efficiency of diverse antifungal compounds is observable. Further complications include the toxicity, undesirable drug interactions, and bioavailability in target tissue limiting the development and release of new therapeutic agents (Brown et al., 2012). Therefore is the development of an innovative strategy essential to fight against such pathogenic fungi.
High-affinity iron uptake systems are pathogenicity factors of phyto- and humanpathogenic fungi. Recent discoveries have shown that bacterial and fungal iron uptake systems are suitable targets for developing such antimicrobial drugs. The use of siderophore-drug-conjugates as “Trojan Horse” antimicrobial compound carrier has been described as a successful strategy to overcome resistant strains (Wencewicz et al., 2009).

The new team member will have the opportunity to engage in projects related to the application of such siderophore-drug-conjugates in human- and phytopathogenic fungi with particular interest in the determination of efficiency of these therapeutic agents. We are also interested in the phenotypic and functional characterization of fungicide adapted strains.

YOUR PROFILE

Highly motivated, enthusiastic applicants should have a M.Sc. in biology, biochemistry and/or agriculture and experience of common genetic, molecular and biochemical methods relevant to the position.
Ability to integrate within an international, highly motivated research team and collaboration partners working towards a common goal is essential.
Knowledge of phytopathology and microbiology, ideally experiences with *Colletotrichum graminicola* and other pathogenic fungi are desirable.

Previous experiences with infection analyses and fungicide tests are an advantage.

The PhD position also requires the participation and presentation of the research results on (inter)national conferences and the writing of manuscripts.

The working language is English and German, respectively.

THE ENVIRONMENT AND THE POSITION:

The **Martin Luther University Halle-Wittenberg (MLU)** is the biggest university in the state of Saxony-Anhalt cooperating with more than 200 institutions of higher education from around the world in study programs and joint research projects. With these cooperation our university offers you many and varied opportunities to take part in these international activities. Become part of our university community and enrich our university and city life alongside 2,100 other international students and 23,000 students from Halle. We are offering excellent working conditions and an international research environment. The candidate will be part of the Research Center Molecular Life Scienes as Force of knowledge-based Bioeconomy (Landesforschungsschwerpunkt "Molekulare Biowissenschaften als Motor der Wissensbasierten Ökonomie") funded project to study the Trojan horse strategy as an innovative tool to control human- and phytopathogenic fungi. The salary is in accordance to the Public Sector Collective Agreement on Länder and limited for three years. The position is available at the earliest possible date.

Application:

Applicants are requested to send a full CV including a complete list of publications and a description of their research experience as well as the names of at least 2 referees as a single PDF file by January 31st, 2017 to Dr. Anja Raschke, Email: anja.raschke@landw.uni-halle.de - Subject: Application “Trojan Horse” Reg.-Nr. **5-12398/16-D**.

For further information please contact Dr. Anja Raschke, Tel.:+49-345-55-22669, Fax: +49-345 55-27120 or by mail to E-Mail: anja.raschke@landw.uni-halle.de.

MLU is an equal opportunity employer. Qualified women are therefore particularly encouraged to apply. Applicants with disabilities are treated with preference given comparable qualification.