

AIT Austrian Institute of Technology, the Austrian research institute with European format which focuses on the key infrastructure issues of the future, is looking to strengthen its team in the department Health & Environment with the immediate appointment of a

PhD student for the Development of bacteria formulations for seed coating and seed production

within the m-era.net project BAC-COAT, an international project with Austrian and Swedish partners.

In BAC-COAT we will develop principally new surface coating solutions for the protection of biocontrol microorganisms based on self assembly of mineral nanoparticles and poly(electrolyte) complexes that fulfill the following requirements, constituting a pre-requisite for successful and sustainable application of biological solutions for plant protection:

- increased life time and storage stability (≥ 6 months)
- tailored material properties to ensure controlled release, rapid activation and plant colonization when brought to the field and are compatible with conventional processes and equipment for seed production

Within this project we offer the position of a PhD student to work on the fabrication, characterization and field application of encapsulated biocontrol bacteria in close cooperation with the BAC-COAT partner institutions.

Work description:

- Test of suitable material combinations for seed coating
- Fabrication of granular particles to protect plant growth promoting bacteria from adverse environmental effects
- Preparation of microbial microspheres using poly(electrolytes) spray-dried or deposited by the layer-by-layer (LbL) technique.
- Characterization of the bacteria-capsule interface in terms of mechanical stability, particle size, germination, solvent properties, seed load, shelf life at 20°C and plant colonization
- Taking the lab-scale fabrication to industrial scale
- Field trial

Requirements:

- Master degree in chemistry or materials engineering
- Experience in materials surface chemical modifications and characterization
- Experience in scientific working
- Strong interest for microbiology
- Excellent English

Begin: December 2013

Work Place: Tulln

We are pleased to invite interested persons who wish to contribute their knowledge and their ideas to the field of applied research. Please attach meaningful application documents, including certificates and photos.

Ms. Maria Leonhard-Maurer, MSc
Head of Human Resources
2444 Seibersdorf
Tel.: +43(0) 50550 – 2032
E-Mail: maria.leonhard-maurer@ait.ac.at

AIT Austrian Institute of Technology GmbH

Donau-City-Straße 1 | 1220 Wien, Austria | T +43(0) 50550-0 | F +43(0) 50550-2201
office@ait.ac.at | www.ait.ac.at