



BioTechMed-Graz is a cooperative initiative between the University of Graz, the Medical University of Graz and the Graz University of Technology at the interface of basic biomedical research, technological developments and medical applications with the goal of conducting joint health research.

Within the cooperative project BioTechMed-Graz, the three partner universities are pursuing the goal of joining the forces of their existing competences within the four major research areas of 'Molecular Biomedicine', 'Neurosciences', 'Pharmaceutical and Medical Technologies' and 'Quantitative Biomedicine and Modelling' through the establishment of a joint cooperative platform.

BioTechMed-Graz is – besides other projects – focusing on the Postdoc-Pool, which aims at promoting young scientists with international background and integrating them in the framework of BioTechMed-Graz in order to support innovative research in Graz.

For the project ***“Role of oral biological barriers in functional drug delivery”*** the [Institute of Pharmaceutical Sciences](#), at the University of Graz is seeking to appoint a

Postdoc

(fixed-term employment for the period of 2 years; position to be filled as of now)

Contact Person

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Research partners

Priv.-Doz. Dipl. Biochem. Dr.med. Eleonore Fröhlich, Center for Medical Research (ZMF), Core Facility Microscopy, Medical University of Graz
Univ.-Ass. Priv.-Doz. Mag. Dr.rer.nat. Gerd Leitinger, Institute of Cell Biology, Histology and Embryology, Medical University of Graz
Univ.-Prof. Dipl.-Ing. Dr.techn. Johannes Khinast, Institute of Process and Particle Engineering, Graz University of Technology

Research topics

Our group is working in the field of biological barriers and nanotechnology. In particular we are interested in understanding the relationship between human oral biological barriers (oral cavity, intestinal follicle associated epithelium), nanoparticle uptake/interactions and possible adverse effects to deliver the real therapeutic potential of nanocarriers and perform adequate risk assessment. Taking this type of research to the next level will require careful physical characterization of the main barriers involved.

Thus, your research focus should be:

Developing a fundamental understanding of the role of functional nanoparticle properties in mucosal uptake in the oral cavity. The focus will be based on physical characterization of the main barriers in the oral cavity that impact nanoparticle uptake (i.e., saliva, mucus layer and epithelial cell morphology). Investigations of the viscoelasticity and rigidity of the barrier systems will be performed, transcytosis of nanoparticles - taking into account distinct particle properties - will be studied, and data will be used to simulate the exact mechanism via novel particle-based system simulations. Additionally, insights into the uptake routes of nanoparticles and the involved uptake processes shall be gained. High-quality scientific outputs in the form of top-level journal publications are expected.

Professional qualifications

The successful applicant will hold a Ph.D. in a relevant area such as pharmacy, biology or molecular biology and have a strong track record of accomplishments. The applicant should have a keen interest in nanoparticle behavior at the cellular interface. We expect experience in tissue/cell culture, particle characterization methods and rheological measurements. Basic skills in visualization techniques (e.g., electron microscopy and fluorescence microscopy) are essential. Familiarity with Atomic Force Microscopy is appreciated. A sound understanding of cellular structure and biological uptake mechanisms is obligatory. Experience with scientific publications and excellent oral and written communication skills in English are required.

Personal profile

The applicant should show high motivation, very good organizational skills, and an interest to work in an interdisciplinary team.

The minimum salary as stated in the collective agreement for universities and according to the classification scheme (B1) is EUR 3,483.30 gross/month (Postdoc).

Application Deadline: **October 21, 2014**

Please submit a CV, a letter summarizing research interests, experience and goals to:
eva.roblegg@uni-graz.at.

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If you have any questions please contact Priv.-Doz. Dr. Eva Roblegg, Institute of Pharmaceutical Sciences, E-mail: eva.roblegg@uni-graz.at, Phone: +43 (0)316 380 – 8888.

Further information can be found at www.biotechmedgraz.at