Exceed - Excellence Center for Development Cooperation  
- Sustainable Water Management in Developing Countries -

Call for Application as Research Fellows

Within the Exceed Project an international research team will be established in the winter term 2010/2011 at TU Braunschweig that will be chaired by the International Guest Professor, **Prof. Dr. Erol Pehlivan**. Together, they will conduct research during a six months period on the

**“Production of Biosorbents from Agricultural by-product and theirs Adsorption Characteristics for Metal ions”**

After returning to the home institutions the whole team will continue working for the completion of the started research topics and for building a sustainable network within the Exceed community.

The project concerns to adsorptive elimination of heavy metal ions from aqueous solution, namely to synthesis, modifying, studying of properties and to application combined biosorbents on the base of materials from agricultural by products. The main purpose is **preparation of effective biosorbents for elimination of heavy metals ions from aqueous systems**.

Prospective Master and Doctoral students and Postdoctoral research fellows from the regional partner institutions of Exceed are invited to submit research proposals for a six months period. The research proposal should clearly give an insight into the study, objectives and scope of the work, methodology to be followed, activities to be undertaken and the outcomes expected including a brief outlook about the period after returning to their home institution. A research supervisor from the respective institutions should be identified for co-advising and guiding all the activities together with Prof. Pehlivan. The research proposal should be limited to five pages A4 or US Letter format and submitted with the approval and endorsement of the research co-supervisor at home. Some guidelines on framing specific study and research activity are provided in the following section.

The objectives of this study are
1) to develop the adsorbents from agricultural wastes for sorption/recovery heavy metals from aquatic medium.
2) to characterize in detail untreated and chemically modified agricultural by products using elemental and porosity analysis, Fourier transform infrared spectroscopy (FTIR).
3) to examine the sorption/desorption behaviors of metal ions with untreated and chemically modified agricultural by products.
4) to examine the effect of initial metal concentration, pH, and temperature, amount of adsorbent and time on the equilibrium.
5) Investigation of physico-chemical properties of all combined biosorbent components—sorptive pore volume, specific surface area, ion-exchange capacity, different isotherms.
6) Application of self-prepared biosorbents for pollutants removal from water and wastewater inclusive residue analytical determination of their efficiency.
For the research fellows, scholarships for short term internships are available:
Within the DAAD Exceed Project at TU Braunschweig the monthly grants amount to 750 Euro per months for Master Students and 1000 Euro per months for Ph.D. Students and Post-doctoral Research Fellows. Additionally, the flight costs will be covered.

The deadline for the application is August 31, 2010.

Please apply under www.exceed.tu-bs.de

For further information, please contact the Scientific Coordinator:
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