**Postdoctoral Position in Bioencapsulation and Bioremediation**

*University of Minnesota*
*Biostabilization Laboratory*
*Mechanical Engineering Department*

“Bioencapsulation Technology Development for Bioremediation”

A post-doctoral position is available at the Biostabilization Laboratory (http://www.me.umn.edu/labs/biostabilization/) in the Department of Mechanical Engineering at the University of Minnesota. *This position is available immediately.*

The position focuses on design, development and production of bioreactive silica gels (though encapsulation of reactive enzymes and bacteria) to be used in bioremediation of industrial wastewaters. The position will focus on designing biocompatible silica-polymer gels to be manufactured by emulsion, electrospinning and molding. Furthermore, the structure, properties and the activity of the produced gels will be characterized. A significant emphasis will be given to; a) exploring the structure-function relationship in the bioreactive gels, b) understanding the interactions at the biointerface (cell-gel interface) to guide the gel design process, and c) understanding the transport phenomena in the bioreactive gels exposed to complex hydrocarbon-laden waters. This multidisciplinary project is at the intersection of the emerging fields of synthetic ecology, bioremediation and bioencapsulation and is the product of an ongoing synergistic collaboration with the researchers in microbiology, bioremediation, and biochemistry at the BioTechnology Institute in U of MN. This project is unique in the sense that the solutions developed in the laboratory will immediately be translated to applications to meet the existing need in the energy, agriculture and food industries through exiting contacts.

The suitable candidate must have a Ph.D. in Biomedical or Chemical Engineering or Biochemistry, with specific emphasis on biomaterials, organosilica/polymer chemistry or polymer chemistry. The candidate must have excellent experimentation skills: No candidate without experimental experience in his/her Ph.D. studies will be considered for this position. Experience with analytical chemistry techniques (spectroscopy, microscopy, etc.) and spectroscopic and microscopic characterization techniques (including FTIR, RAMAN, UV-Vis Spectroscopy and fluorescence microscopy), SEM, TEM, HPLC as well as ELISA, and MS are highly desired.

Interested candidates should contact Prof. Alptekin Aksan by e-mail (aaksan@me.umn.edu). In your message, please include a detailed resume, electronic reprints of recent publications, and the names, and contact information for at least three references.