



Participant Profile

for the
Turkish-German Strategy Workshop 2006
TÜBİTAK Marmara Research Center,
Istanbul- Gebze Turkey
13 – 15 December 2006



International Bureau (IB)
of the Federal Ministry of
Education and Research
(BMBF)

charged surfaces by means of the surface complexation theory, *Uspechii Khimii / Russ. Chem. Rev.* 73 (2004), 351 – 370

C. Namasivayam, W. H. Höll: Chromium(III) removal in tannery wastewaters using Chinese Reed (*miscanthus sinensis*), a fast growing plant, *Holz Roh. Werkst.* 63 (2004) 74 – 80

C.-F. Chang, C.-Y. Chang, W. H. Höll: Investigating the adsorption of 2-mercaptothiazoline on activated carbon from aqueous systems, *J. Coll. Interface Sci.* 272 (2004) 52 – 58

C. Namasivayam, W. H. Höll: Quaternized biomass as an anion exchanger for the removal of nitrate and other anions from water, *J. of Chemical Technology and Biotechnology* 80 (2005), 164 – 168

E. Deschamps, V. S. T. Ciminelli, W. H. Höll: Removal of As(III) and As(V) from water using a natural Fe and Mn enriched sample, *Water Research* 39 (2995), 5212 – 5220

G. Akcin, G. Cetin, S. Kocaoba, W. H. Höll: Removal of chromium from tannery waste waters, In: *Ion Exchange Technology for Today and Tomorrow, Proc. IEX 2004*, Editor: M. Cox, Soc. Chem. Ind., Information Press, 193 -200

R. Hausmann, C. Reichert, M. Franzreb, W. H. Höll: Liquid-Phase Mass Transfer of Magnetic Ion Exchangers in Magnetically Influenced Fluidized Beds. II. AC Fields, *Reactive & Functional Polymers*, 60 (2004), 17-26

C. Hoffmann, M. Franzreb: A novel repulsive-mode high gradient magnetic separator – I. Design & experimental results, *IEEE Transactions on Magnetics*, 40 (2004), 456-461, II. Separation model”, *IEEE Transactions on Magnetics*, 40 (2004), 462-468

D. Bozhinova, B. Galunsky, Y. Guan, M. Franzreb, R. Köster, V. Kasche: Evaluation of magnetic polymer micro-beads as carriers for immobilised biocatalysts for selective and stereoselective transformations, *Biotechnology letters*, 26 (2004), 343-350

M. Franzreb, N. Ebner, M. Siemann-Herzberg: *Magnettechnologie in der Bioproduktaufreinigung*, transkript Sonderband Biokatalyse, (2003) 112-115

W. H. Höll, R. Kiefer, C. Stöhr, C. Bartosch: Metals separation by pH-driven parametric pumping, *Ion Exchange and Solvent Extraction*, Vol. 16 (A. Sengupta, Ed.), Marcel Dekker, Inc., New York, N.Y., 2003, 211 – 266

U. Berg, D. Donnert, P. Weidler, E. Kaschka, G. Knoll, R. Nüesch: Phosphorus removal and recovery from wastewater by Tobermorite-seeded crystallisation of calcium phosphate, *Wat. Sci. Technol.* 53 (2006), 131 - 138



Participant Profile

for the
Turkish-German Strategy Workshop 2006
TÜBİTAK Marmara Research Center,
Istanbul- Gebze Turkey
13 – 15 December 2006



International Bureau (IB)
of the Federal Ministry of
Education and Research
(BMBF)

2. Past and present research collaborations

| | |
|--|--|
| <p>Are you familiar with the European Framework Programme?</p> | <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> with Framework Programme 5 <input checked="" type="checkbox"/> with Framework Programme 6 <input type="checkbox"/> with Framework Programme 7</p> |
| <p>EU-projects you are involved in:</p> <p style="padding-left: 20px;">Past projects</p> <p style="padding-left: 20px;">Present projects</p> | <p>Programme title / contract number / title / acronym / your function (coordinator / partner / contractor)</p> <p>Industrial & Materials Technologies / BRPR-CT96-0158 / Development of advanced ion exchange materials and methods for the removal of toxic metals from metallurgical waste effluents / partner</p> <p>NanoMatPro / NMP3-CT1005-013469 / Magnetic field assisted biomaterials processing / partner</p> |
| <p>Other international collaborations:</p> | <p>“Removal and recovery of chromium from tannery wastewaters”, Project TUR 01/001 (IB-FZ-Jülich) with Yildiz Techn. Univ., 2001 – 2005, “Entwicklung und Anwendung magnetischer Mikroharze ...”, German-Austr. project 02WT0012 (BMBF), 200 – 2004, „Elimination gesundheitsbedenklicher Schwermetalle ...”, German.-Chin. project FZK 9803 (BMBF), 1998 – 2001, „Removal of arsenic from drinking water in mining areas“, German.-Bras. WTZ project BRA 00/010 (IB-DLR), 2002001 - 2004, “Elimination von Fluorid aus Trinkwasser ...”, Coop. project 446 TAI 113/20/4-1 with Nat. Taiwan University, Taipei (DFG) 2003 – 2005, “Application of novel sorbents for elimination of pesticides ...”, Coop. project 446 TAI 113/31/0-1 with Nat. Taiwan University, Taipei (DFG), 2005 – 2007, “Development of novel chelating ion exchangers ...”, Coop. project 436 RUM 113/28/0-1 with Polytechn. Univ. Bucharesti and Inst. Macromol. Chem. Iasy (DFG), 2005 – 2007, “Entwicklung und Anwendung magnetischer anorganischer Mikrosorbentien ...”, Coop. project 447NSL-113/10/0-1 with Victoria University Wellington (DFG) 2005 – 2007</p> |
| <p>Name(s) and contact details of potential partners:</p> | <p>If you would like to suggest the participation of particular partners from the partner country based on existing contacts or collaboration experience, you are welcome to indicate their names and contact details below:</p> <p>Prof. R. Apak, Istanbul University, Engineering School, Chemistry Departm., Avcilar 34320 Istanbul, Prof. Ü. Beker, Yildiz Technical University, Chem. Eng. Departm., Prof. G. Akcin, Yildiz Technical University, Chemistry Departm., Davutpasa Campus, 34210 Merter, Istanbul, Prof. N. Kabay, Ege University, Chem. Eng. Departm. , 35100 Izmir, Prof. M. Ersöz, Selcuk University, 42031 Konya</p> |



Participant Profile

for the
Turkish-German Strategy Workshop 2006
TÜBITAK Marmara Research Center,
Istanbul- Gebze Turkey
13 – 15 December 2006



International Bureau (IB)
of the Federal Ministry of
Education and Research
(BMBF)

3. Presentation at the Workshop

I will give a presentation at the workshop (approx. 10 min.) to present my institution, my expertise, and my collaboration interests. The contents of my presentations is summarised below (max. 1 page).

Forschungszentrum Karlsruhe (Karlsruhe Research Center) is a member of the Helmholtz Society of research centers and is one of the biggest independent research laboratories in Germany. Its R&D programmes covers areas from pre-industrial research to the development of products and processes, providential and basic scientific research. Research work is subdivided into five principal areas “Structure of matter”, “Earth and environment”, “Health”, “Energy” and “Key technologies” with a total of ten different programmes.

The Institute for Technical Chemistry, Section WGT belongs to the areas “Environment” and “Key technologies”. It has the four research divisions “Microbiology at natural and technical surfaces”, “Physical, chemical interactions at boundaries”, Chemistry of mineral boundaries”, and “Nanomineralogy”, each of them with 2 – 3 research groups. In addition, there are further research groups on “Biofunctionalised surfaces”, “Precipitation/Crystallisation” and “Spectroscopy”. The institute staff comprises about 100 persons including five professors, twelve further academic coworkers, technical staff, apprentices, guest scientists, PhD and master degree students. It is equipped with a manifold of advanced analytical devices and has a technical hall to carry out large-scale experiments including facilities to prepare such experiments.

The interdisciplinary research work in the areas relevant for potential collaboration projects concentrates on problems related to the treatment of water of complex pollution. It aims at developing effective, robust, and inexpensive processes for the removal of pollutants and at recycling valuable materials. Conventional ion exchangers and adsorbents with selective properties and newly developed functionalised magnetic micro particles and their handling are the basis of innovative sorption, bio-catalysis and bio-product cleaning processes. Further objectives are the recovery of phosphate and valuable metals from waste streams. The respective research groups have excellent expertise on the areas of ion exchange / adsorption, magnetic sorbents, magnetic separation processes and crystallisation. On their areas they are the leading research groups in Germany and they have considerable international reputation. The research groups have been involved in a large number of national and international cooperation projects with partner institutions in e.g. Australia, Brazil, China, Denmark, Finland, New Zealand, Romania, Russia, Taiwan, Turkey, UK and USA.

Collaboration interests focus on the development and application of selective (magnetic micro) ion exchangers and adsorbents for removal of contaminants from aqueous solutions and for application in other environmental and industrial applications. Further collaboration interests comprise the recovery of phosphate and valuable heavy metals from waste streams.

I agree with the publication of my data on the Workshop website!

PLEASE FILL IN THIS FORM UNTIL 22 SEPT. 2006 AND RETURN IT TO:

Internationales Buero des BMBF
s.krummacher@fz-juelich.de;
Christian.schache@dlr.de

TÜBITAK-Marmara Research Center
Sunullah.Ozbek@mam.gov.tr;
Artac.Turker@mam.gov.tr