POLITECNICO DI TORINO

Compagnia di San Paolo

GITISA Gruppo Italiano di Ingegneria Sanitaria Ambientale

11-12 July 2016

DIATI - Door 3
Meeting room 1st floor

Politecnico di Torino
corso Duca degli Abruzzi 24

NANOPARTICLES AND WATER RESOURCES

The workshop addresses the most recent advances in the field of the applications and implications of nanoparticles to water resources. On the one hand, industrial applications of nanotechnologies are leading to increasing quantities and types of NPs being released in the environment. On the other hand, NPs are being successfully used in a number of environmental applications, in particular for the cleanup of contaminated sites and wastewater treatment. The workshop address both aspects.
The most advanced techniques for NP detection and characterization are presented. Highlights on NP polymer coating and reactivity are also included. Particle transport in porous media is discussed, including processes and modeling approaches for the prediction of NP mobility in the subsurface enviroment. The afternoon of Day 2 is dedicated to a hands-on training on the use of MNMs, a software for the simulation of solute and colloid transport in 1-D and radial domains. The workshop is organized in the framework of the internationalization project "Impact of emerging contaminants and engineered nanoparticles on water quality" involving Politecnico di Torino and McGill University - with the support of the Compagnia di San Paolo and the patronage of GITISA.

Lecturers

Subhasis Ghoshal, Nathalie Tufenkji - McGill University, Montreal (CA);
Rajandrea Sethi, Alberto Tiraferri, Barbara Bonelli, Tiziana Tosco, Carlo Bianco - Politecnico di Torino;
Marco Coisson - INRIM

PROGRAM

11 July 2016

9.00/9.30	***R. Sethi:*** Introduction to nanoparticles in the environment
9.30/11.00	***N. Tufenkji:*** Characterization of nanoparticle deposition using QCM-D 11.00-11.30 break
11.30/13.00	***M. Coïsson:*** Magnetic properties of iron nanoparticles
13.00/14.30	lunch
14.30/16.00	***S. Ghoshal:*** Characterization of nanoparticles using single particle ICP-MS, FFF and NTA
16.00/17.30	***A. Tiraferri:*** Characterization and behavior of particles coated by polymers

12 July 2016

9.00/10.30	***B. Bonelli***: Catalytic and photocatalytic abatement of N-containing organic pollutants from wastewater
10.30/11.00	break
11.00/12.00	***R. Sethi:*** Solute transport in porous media
12.20/13.00	***T. Tosco:*** Colloid transport in porous media
13.00/14.30	lunch
	Modeling lab: colloid transport using MNMs
14.30/17.30	***T. Tosco, C. Bianco:*** Introduction to modeling colloid transport in porous media using MNMs

Registration

Registration for the course is requested and is free of charge. For registering, send an email to **tiziana.tosco@polito.it**.
Participants should also indicate if they are interested in participation in the Modeling Lab (afternoon 12th July).
Part 1 of the course has no limitation on the number of participants. Part 2 is limited to 30 registered participants.
Registration closes on the 7th July. Participants to the Modeling Lab are requested to bring their own laptop.

The workshop is also available for PhD students of Politecnico as a regular **PhD course** for A.A. 2015/2016 (to obtain credits registration through the student portal is requested).