WaterNanoEnv

Technical Seminar

Engineered Nanoparticles (ENPs) in the environment: Fate and Risk

Location: International Iberian Nanotechnology Laboratory (INL)
City: Braga (Portugal)
Room: Auditorium
Date: Monday 6th February 2017
Local time: 08.30h -15.00h

Program		
08:30	*Reception*	
09.00	Welcome	Paulo Freitas (INL)
09:10	Introduction. Scope of Seminar	Juan M. Lema (USC)
Physic-Chemical characterization of ENPs		
09:15	Separation Techniques for the Analysis of Nanomaterials	Francisco Laborda (U. of Zaragoza)
09:45	ICP-MS and Micelle-based separation for nanoparticle analysis	Pilar Bermejo (USC)
10:15	Debate	
10:30 – 11:00	*Coffee/Tea break*	
11:00	Fate of engineered nanomaterials in urban (water) systems	Ralf Kägi (EAWAG)
11:45	Debate	
12:00	Eco-Toxicology. Non-vertebrate model organisms and nanoparticles	Arno Gutleb (LIST)
12.45	Debate and conclusions	
13:00– 14:00	*Lunch*	
14.00	Guided visit to INL	

INL INTERNATIONAL IBERIAN NANOTECHNOLOGY LABORATORY   itg instituto tecnológico de galicia   USC UNIVERSIDADE DE SANTIAGO DE COMPOSTELA   XUNTA DE GALICIA CONSELLERÍA DE ECONOMÍA E INDUSTRIA

Speakers

Francisco Laborda
University of Zaragoza. Zaragoza, Spain

Francisco Laborda is professor in Analytical Chemistry at the University of Zaragoza since 2012. He graduated in Chemistry in 1986 and received his PhD in 1991. His research focuses on the development of novel approaches and analytical methods for detection, characterization and quantification of natural and engineered nanomaterials in complex samples. Most of his work involves the use of ICP-MS based methods: Single particle detection ICP-MS and hyphenation of continuous separation techniques (Field Flow Fractionation and Hydrodynamic Chromatography) to ICP-MS. Dr. Laborda belongs to the Group of Analytical Spectroscopy and Sensors (GEAS) of the Institute of Environmental Sciences (IUCA) at the University of Zaragoza.

Pilar Bermejo
University of Santiago de Compostela. Santiago, Spain

Pilar Bermejo-Barrera is a Professor in the Department of Analytical Chemistry, Nutrition and Bromatology, University of Santiago de Compostela (USC), Spain. She is the director at the Trace Elements, Spectroscopy and Speciation Group (GETEE). The main investigations are led the development of new methods for the study of trace element determination/speciation in environmental, biological and clinical materials, as well as trace elements bioavailability studies from foodstuff. Moreover, the use of metal nanoparticles for the simplification of analytical methods and the nanoparticle analysis is other research aim. She published about 350 papers related with the Trace Element research and she was the director of 35 PhD. She is the Dean of the Faculty of Chemistry of the University of Santiago de Compostela, Spain

Ralf Kägi
Particle Laboratory at Eawag. Dübendorf, Switzerland

Dr. Ralf Kägi is a senior scientist at the Swiss Federal Institute of Aquatic Science and Technology (Eawag) where he is currently leading the particle laboratory. His main research interests are focused on the fate and transformation of engineered nanoparticles in urban (waste) water systems. This includes the investigation of rate constants and mechanisms of sulfidations reaction of chalcophile nanoparticles as well as the development of new analytical methods to detect and quantify engineered nanoparticles complex matrices.
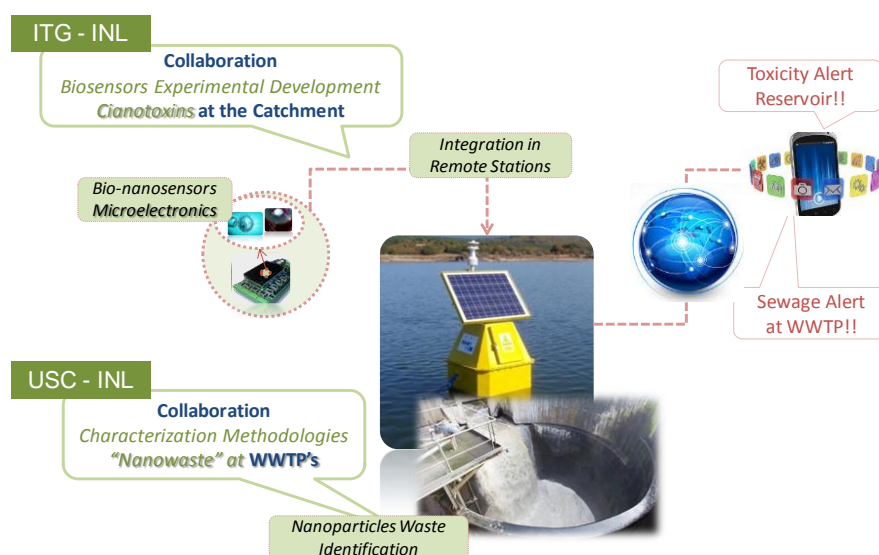
Arno Gutleb

Luxembourg Institute of Science and Technology (LIST), Luxembourg

Dr. Arno Gutleb graduated from the University of Veterinary Medicine Vienna, Austria and holds a Dr. env. sci. with specialization in toxicology from Wageningen University, The Netherlands and is a European Registered Toxicologist (ERT). He is Associate Professor at the University Iuliu Hatieganu, Cluj, Romania and Visiting Professor at the Universidad Andrés Bello, Santiago de Chile. Currently he is employed as Group Leader for Environmental Health at the Luxembourg Institute of Science and technology (LIST). Dr. Gutleb has successfully developed a range of different in vitro and in vivo assays and applied these assays to study mainly effects of nanomaterials and endocrine disrupting chemicals.

About WaterNanoEnv Project

WaterNanoEnv project is about the use/effect of nanoparticles in the water cycle. A first subproject, carried out by ITG and INL aims at developing solutions based on nanotechnology for the early detection of contaminants in water reservoirs (see figure). Particularly the project considers the detection of cyanobacterial toxins, E. coli and enterococci. The second subproject, by USC and INL, tackle with fate and influence of representative ENPs in municipal and industrial wastewaters (TiO2, Ag, ZnO) in the WWTPs, including both the water and the sludge lines. The activities include the characterization of the ENPs throughout real Sewage Treatment Plants and the acute and long-term effects of nanoparticles on bacterial (heterotrophic, anoxic and anaerobic) activities.

Website waternanoenv.eu