

Environmental Microbiology and Biotechnology
in the frame of the Knowledge-Based Bio and Green Economy

Bologna, April 10-12, 2012

Faculty of Engineering, *Alma Mater Studiorum* - University of Bologna

Via Terracini, 28. I- 40131 Bologna, Italy

Tentative Conference Program

Monday April 9th, 2012

16.00 - 18.00 Registration

Tuesday April 10th, 2012

8.30 - 9.30 Registration & Poster posting up

Room No. 1

9.30 - 10.00 Welcome and Opening remarks

Room No. 1 (Parallel session)

Session 1 – Advances in biodegradation of organics and inorganics, phytoremediation and mycoremediation (Chairs: **Davide Zannoni**, University of Bologna, Italy & SIMGBM; **Murray Moo Young**, University of Waterloo, Canada & ISEB)

10:00 - 10:45 Keynote lecture: “Bacteria with an unusual appetite for the Fuel Oxygenate Methyl tert-Butyl Ether (MTBE)”, **Max Haggblom**, Rutgers University, USA & FEMS

10.45 - 11.15 Coffee break & Poster viewing

Sub-session 1.1 - Bacterial biodegradation of organics and inorganics

11:15 - 13:05 6 communications selected among the abstracts submitted

13.00 - 14.30 Lunch & Poster viewing

Sub-session 1.2 – Microbial biodegradation assessment and improvement (Chairs: **Eliora Ron**, Tel Aviv University, Israel & FEMS; **Victor de Lorenzo**, CSIC Spain & EFB)

14:30 - 15:00 Main Lecture: “Engineering environmental catalysts: from trial-and-error to Synthetic Biology”, **Victor de Lorenzo**, CSIC Spain & EFB

15:00 - 16:30 4 communications selected among the abstracts submitted

16.30 - 17.00 Coffee break & Poster viewing

Sub-session 1.3 - Phytoremediation & Mycoremediation (Chairs: **Katerina Demnerova**, ICT Prague, Czech Republic & EFB; **Sergio Casella**, University of Padua, Italy & SIMTREA)

17:00 - 19:00 6 communications selected among the abstracts submitted

19.00 - 20.30 Welcome buffet

Room No. 2 (Parallel session)

Session 2 – Organic waste multipurpose biorefineries for the conversion of high environmentally impacting matrices and effluents into bio-based chemicals, materials and fuels (Chairs: **Jose Duarte**, LNEG, Portugal & IAMAW; **Ludo Diels**, VITO, Belgium & EFB)

10:00 - 10:45 Keynote lecture: “ZeroWasteWater: Short-cycling of wastewater resources for sustainable factories and cities of the future”, **Willy Verstraete**, Ghent University, Belgium & EFB

10.45 - 11.15 Coffee break & Poster viewing

Sub-session 2.1 - Food processing and agroindustrial waste biorefinery

11:15 - 13:00 6 communications selected among the abstracts submitted

13.00 - 14.30 Lunch & Poster viewing

Sub-session 2.2: - Organic waste and effluent biorefinery (Chairs: **Fazilet Vardar Sukan**, Ege University, Turkey & IAMAW, **Jose Osvaldo Beserra Carioca**, Federal University of Ceará, Brazil & EFB)

14:30 - 15:00 Main lecture: “Biotechnology for sustainable supply and use of phosphorus”, **Hisao Ohtake**, University of Osaka, Japan & AFOB

15:00 – 16:30 6 communications selected among the abstracts submitted

16.30 - 17.00 Coffee break & Poster viewing

Session 3 – Biological transformation of conventional and biobased polymers in the environment (Chairs: **Fulvio Uggeri**, Bracco, Italy, **James Philp**, OECD, Paris)

17:00 - 17:30 Main lecture: “Future Prospects for Biopolymers”, **James Philp**, OECD, Paris

17:30 - 19:00 4 communications selected among the abstracts submitted

19.00 - 20.30 Welcome buffet

Wednesday April 11, 2012

Room No. 1 (Parallel session)

Session 4 – Innovative approaches and tools for the tracking and bioremediation of emerging pollutants in soils, sediments and groundwaters

Sub-session 4.1 - Detection and biodegradation of emerging pollutants (Chairs: **Andrea Franzetti**, University of Milano-Bicocca, Italy & SIMGBM; **Man Bock Gu**, Korea University, Korea & AFOB)

9:00 - 9:30 **Main Lecture:** "Biocatalysis weapons against micropollutants", **Spyros Agathos**, University of Louvain, Belgium

9:30 - 10:45 *4 Communications selected among the abstracts submitted*

10.45 - 11.15 **Coffee break & Poster viewing**

Sub-session 4.2 - Research and Innovation in the ex-situ and in-situ microbial remediation of contaminated soils, aquifers, sediments and marine habitats (Chairs: **Mauro Majone**, University of Rome, Italy & SusChem-Italy, **Andreas Loibner**, BOKU University, Austria & EFB)

11:15 - 13:00 *6 communications selected among the abstracts submitted*

13.00 - 14.30 **Lunch & Poster viewing**

Session 5 – Nanomaterials for biotreatments & nanoparticle impacts on the environment (Chairs: **Carlo Viti**, University of Florence, Italy & SIMTREA, **Philippe Corvini**, FHNW, Switzerland & EFB)

14:30 - 15:15 **Keynote lecture:** "Environmental implications and applications of nanotechnology: lessons learned from microbial-nanomaterial interactions", **Pedro J. Alvarez**, Rice University, USA

15:15 - 16:30 *4 communications selected among the abstracts submitted*

16.30 - 17.00 **Coffee break & Poster viewing**

Session 6 - Wastewater valorisation, bioremediation, purification and reuse (Chairs: Franco Cecchi, University of Verona, Italy & INCA, Jens Aamand, GEUS, Denmark & EFB)

17:00 - 17:30 Main Lecture: “Industrial Wastewater Treatment: Innovative and Integrated Technologies”, **Antonio Lopez**, IRSA-CNR, Bari, Italy

17:30 - 18:15 4 communications selected among the abstracts submitted

Room No. 2 (Parallel session)

Session 7 – Microbial fixation of CO₂ and other climate change inducing gases in soils and via biotechnological processes

Sub-session 7.1 - CO₂/GHGs biofixation in arid/degraded soils to combat climate changes and soil losses (Chairs: Laura Bardi, CRA, Italy; Marco Paolo Nuti, University of Pisa, Italy & SIMTREA)

9:00 - 9:30 Main lecture: “Climate change and microorganism genetic resources for food and agriculture: state of knowledge, risks and opportunities”, **Anna Benedetti**, CRA, Italy

9:30 - 10:45 4 communications selected among the abstracts submitted

10.45 - 11.15 Coffee break & Poster viewing

Sub-session 7.2 - CO₂/GHGs biofixation in biotechnological processes (Chairs: Eugenia Olguin, Instituto de Ecologia, Mexico & ISEB, Roberto De Philippis, University of Florence, Italy & SIMGBM)

11:15 - 11:45 Main Lecture: “Biorefinery for the production of biogas and biodiesel based on the use of plants and microalgae treating wastewater”, **Eugenia Olguin**, Instituto de Ecologia, Mexico & ISEB

11:45 - 13:00 4 communications selected among the abstracts submitted

13.00 - 14.30 Lunch & Poster viewing

Session 8 - Exploitation of microbes from non-conventional (arid environments, deep sea, etc.) and contaminated habitats

Sub-session 8.1 - Microbial community management in biotechnological processes, aquifer natural attenuation, and in cultural heritage protection/restoration (Chairs: **Nicolas Kalogerakis**, TUC, Greece & EFB, **Annamaria Bevivino**, ENEA, Italy & SIMGBM)

14:30 - 15:00 Main Lecture: “Linking microbial metabolism to electrodes: a strategy to improve the efficiency of bioremediation and bioproduction systems”, **Federico Aulenta**, IRSA-CNR, Rome, Italy & EFB

15:00 - 16:30 4 communications selected among the abstracts submitted

16.30 - 17.00 Coffee break & Poster viewing

Sub-session 8.2 - Industrial exploitation of microbes from deep seas, arid/contaminated environments (Chairs: **Ameur Cherif**, University of Tunis, Tunis & EFB, **Anna Rosa Sprocati**, ENEA, Italy & SusChem-Italy)

17:00 - 17:30 Main Lecture: “The microorganisms from marine and terrestrial extreme ecosystems: which potential for applied biotechnology?”, **Daniele Daffonchio**, University of Milan, Italy & SIMTREA

17:30 - 18:45 4 communications selected among the abstracts submitted

Thursday, April 12, 2012

Room No. 1

Session 9 – FP7 funded projects in the area of Environmental Biotechnology

(Chairs: **Alfredo Aguilar-Romanillos** & **Danuta Cichocka**, European Commission, Brussels)

9.00 - 9.20 From FP7 to Horizon 2020: funding opportunities in Biotechnology and in the Bioeconomy in the European Union, **A. Aguilar-Romanillos**, Head of Unit Biotechnologies, DG Research and Innovation, European Commission, Brussels

9.20 - 9.40 FP7 Project BACSIN (Targeted applications of bacterial strains for pollutant bioremediation), **J.R. van der Meer**, University of Lausanne, Switzerland

9.40 - 10.00 FP7 Project MAGICPAH (Molecular approaches and metagenomic investigations for optimizing clean-up of pah contaminated sites), **D.H. Pieper**, Helmholtz Institute for Infection Research, Braunschweig, Germany

10.00 - 10.20 FP7 Project ULIXES (Characterization and exploitation of microbial communities occurring in contaminated sediments of the Mediterranean area), **D. Daffonchio**, University of Milan, Italy

10.20 - 10.40 FP7 Project MINOTAURUS (Innovative and intensified technologies for the bioremediation of actual site ground and wastewasters), **P. Corvini**, University of Applied Sciences Northwestern Switzerland, Switzerland

10.40 - 11.00 FP7 Project BIOTREAT (Biotreatment of drinking water resources polluted by pesticides, pharmaceuticals), **J. Aamand**, GEUS, Denmark

11.00 - 11.20 Coffee break

11.20 - 11.40 FP7 Project GREENLAND (Gentle remediation of trace element contaminated land), **J. Vangronsveld**, Universiteit Hasselt, Limburg, Belgium

11.40 - 12.00 FP7 Project PROSPARE (Progress in saving proteins and recovering energy), **A. Dossena**, University of Parma, Italy

12.00 - 12.20 FP7 Project BAMMBO (Sustainable production of biologically active molecules of marine based origin), **D. Walsh**, Limerick Institute of Technology, Ireland

12.40 - 13.00 Closing ceremony

Satellite Events

EcoBioCap FP7 Project

April 11th, 15:00 – 16:00 EcoBioCAP public workshop “Eco-efficient bio-polymers based packaging derived from food industry by-products: a focus on knowledge transfer and engineering for packaging specifications and decision support system”

- ✦ Presentation of the FP7 project EcoBioCap: Eco-efficient biodegradable advanced composite packaging: Exploitation of food processing by-product for the production of innovative bio-constituents for food packaging applications, by Nathalie Gontard
- ✦ Presentation and discussion of WP1 main results. Integrated analysis of packaging specifications, knowledge engineering and decision support system. Chairs: Andras Sebok, Nathalie Gontard

April 11th, 16:30 - April 13th, 13:00 Meetings of the project (for project partners only)

International Society of Environmental Biotechnology (ISEB)

April 11th, 13:30 – 14:30 ISEB annual meeting (for invited people only)

“Environmental Biotechnology” section of the European Federation of Biotechnology (EFB)

April 11th, 18:00 – 19:30 Meeting of the Experts Group of “Environmental Biotechnology” section (for experts group’s members only)

April 12th, 15:00 – 16:00 General Assembly of the “Environmental Biotechnology” section