

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

CONFERENCE FINAL PROGRAM

Monday April 9th, 2012

16.00 - 18.00 Registration

Tuesday April 10th, 2012

8.30 - 9.30 Registration & Poster hanging 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 (Cairs: **Daide 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

10.46

Sub-session 1.1 – Bacterial biodegradation of organics and inorganics

11:15 – 11:30 Biodegradation of sodium laureth sulfate by facultative anaerobic bacteria, *AMS Paulo, Laboratory of Microbiology, Wageningen University, The Netherlands*

11:30 – 11:45 Acclimation of a complex microbial community to degrade a combination of organochlorine herbicides in a biofilm reactor, *HM Poggi-Varaldo, CINVESTAV, Escuela Nacional de Ciencias Biologicas, Mexico*

11:45 – 12:00 Induction mechanism of biphenyl/PCB-degradation pathway in a *Rhodococcus degrader*, *M Fukuda, Dept. of Bioengineering, Nagaoka University of Technology, Japan*

12:00 – 12:15 Kinetics of reductive dechlorination of chlorinated ethenes: dynamics, abundance and activity of dechlorinating populations, *B Matturro, IRSA-CNR, Italy*

12:15 – 12:30 Synergistic action of azoreductase and laccase leads to maximal decolourization and detoxification of model dye-containing wastewaters, *LO Martins, ITQB-UNL, Portugal*

12:30 – 12:45 Evolutionary insights into nickel tolerance in bacteria. Where do *nre* genes come from?, *F Pini, Dept. of Evolutionary Biology, University of Florence, Italy*

13.00 - 14.30 Lunch & Poster viewing

Sub-session 1.1 – Bacterial biodegradation of organics and inorganics (continued)

14:30 – 14:45 Metabolism of sulfonated aromatic compounds in *Novosphingobium subarcticum* sa1 strain, *G Rákhely, Dept. of Biotechnology, University of Szeged, Hungary*

14:45 – 15:00 Ability of alkalophilic cyanobacterial strains to degrade phosphonate xenobiotics, *H Studnik, Dept. of Chemistry, Opole University, Poland*

15:00 – 15:15 Sediment-free consortia anaerobically dechlorinating Aroclor 1260, *V Dudková, Dept. of Biochemistry and Microbiology, Institute of Chemical Technology, Czech Republic*

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

15:30 - 16:00 Main Lecture: “Engineering environmental catalysts: from trial-and-error to Synthetic Biology”, **Victor de Lorenzo**, CSIC Spain & EFB

16:00 – 16:15 Microbial community structure shifts in response to different biotic and abiotic conditions, *M Mackova, Dept. of Biochemistry and Microbiology, Institute of Chemical Technology, Czech Republic*

16:15 – 16:30 *GenoRem*: improving bioremediation of polluted soils through environmental genomics, *M Hijri, Sciences Biologiques, University of Montreal, Canada*

16:30 – 16:45 Gene for degradation of organomercurial compounds and its application to bioremediation of mercury contamination, *G Endo, Dept. of Engineering, Tohoku Gakuin University, Japan*

17.00 - 17.30 Coffee break & Poster viewing

17:30 – 17:45 Bioremediation assessment on linear alkylbenzene-polluted aquifer, *E Martinez Pascual, Dept. of Microbiology, University of Barcelona, Spain*

17:45 – 18:00 Biodegradation and sorption of 17 α -ethinylestradiol in submerged membrane bioreactor: effect of initial ammonium concentration, *A Rollon, Environmental Engineering, University of the Philippines Diliman, Quezon city, Philippines*

18:00 – 18:15 Insights in the bioremediation of aromatic compounds by *C. necator*, *N Berezina, Green Chemistry, Materian nova, Belgium*

18:15 – 18:30 Operation of hybrid fluidized bioreactors for *on site* bioremediation of water polluted with high concentration of PCE, *LM Breton-Deval, CINVESTAV, Escuela Nacional de Ciencias Biologicas, Mexico*

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 & IMAW; **Ludo Diels**, VITO, Belgium & EFB)

10:00 - 10:45 Keynote lecture: “Wastewater Biorefinery”, **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 – 11:30 Exploitation of starch industry by-product to produce bioactive peptides from rice protein hydrolysates, *A Tassoni, Dept. of Experimental Evolutionary Biology, University of Bologna, Italy*

11:30 – 11:45 Systems for biohydrogen and bioelectricity generation: a crucial component of biorefineries, *HM Poggi-Varaldo, CINVESTAV, Escuela Nacional de Ciencias Biologicas, Mexico*

11:45 – 12:00 Engineering amino acid producing *Corynebacterium glutamicum* for access to alternative carbon sources, *C Matano, Genetics of prokaryotes, University of Bielefeld, Germany*

12:00 – 12:15 Improved orange peel waste pretreatments for bioethanol production, *G Santi, DIBAF, University of Tuscia, Viterbo, Italy*

12:15 – 12:30 The use of a vegetable waste-derived fermentation product for H₂ production by anoxygenic phototrophic bacteria, *A Adessi, Dept. of Agricultural Biotechnology, University of Florence, Italy*

12:30 – 12:45 Upgrade of waste glycerol to short-chain polyhydroxyalkanoates co-polymers, *MMR da Fonseca, Institute for Biotechnology and Bioengineering, Lisboa, Portugal*

13.00 - 14.30 Lunch & Poster viewing

Sub-session 2.2 – Organic waste and effluent biorefinery (Chairs: **Fazilet Vardar Sukan**, Ege University, Turkey & IMAW, **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 – 15:15 From wastewater treatment plants to biorefineries: waste activated sludge and other WWT by-products valorisation through polyhydroxyalkanoate (PHA) production, *D Cirne, Dbb-bia, Veolia, France*

15:15 – 15:30 Bio-hydrogen and bio-methane co-production by sequential two-phases dark fermentation from agro-industrial wastes (IMERA*), *G Lustrato, DISTAT, University of Molise, Italy*

15:30 – 15:45 Investigation of the microbial community in biogas plants by metaproteome analysis, *R Heyer, Dept. of Process Engineering, University of Magdeburg, Germany*

15:45 – 16:00 Enhanced anaerobic digestion performances: effect of sludge ultrasound pre-treatment and role of the microbial population dynamics, *CM Braguglia, IRSA-CNR, Italy*

16:00 – 16:15 Industrial by-products as a source of volatile fatty acids by anaerobic digestion, *LS Serafim, Dept. of Chemistry, University of Aveiro, Portugal*

16:15 – 16:30 Analysis of microbial diversity of inocula used in a microbial fuel cell, *AC Ortega-Martinez, CINVESTAV, Escuela Nacional de Ciencias Biologicas, Mexico*

16:30 – 16:45 Biotechnological process for the valorisation of residual glycerol from the biodiesel industry. Broadening the biorefinery, *X Turon, Dept. of Bioengineering, IQS, Barcelona, Spain*

16:45 – 17:00 Coupling wastewater treatment to methane generation in bioelectrochemical systems, *M Villano, Dept. of Chemistry, University of Rome La Sapienza, Italy*

17.00 - 17.30 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)

17:30 - 18:00 Main lecture: “Bioplastics science from a policy vantage point”, **James Philp**,
OECD, Paris

18:00 – 18:15 Novel eco-friendly multi-block copolymers poly(butylene/triethylene succinate): effect of block length on mechanical properties and biodegradability, *M Gigli, DICAM, University of Bologna, Italy*

18:15 – 18:30 Biobased feedstock valorisation through polyhydroxyalkanoate production: from excess cheese whey to eco-efficient bioplastics, *CSS Oliveira, Dept. of Chemistry, Fct - Universidade Nova de Lisboa, Portugal*

18:30 – 18:45 Innovative value chain development for sustainable plastics in central europe (PLASTiCE), *M Scandola, Dept. of Chemistry, University of Bologna, Italy*

19.00 - 20.30 Welcome buffet

Wednesday April 11th, 2012

8.00 - 9.00 Registration & Poster hanging up

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: "Biocatalytic weapons against micropollutants", **Spyros Agathos**,
University of Louvain, Belgium

9:30 – 9:45 Aptamers for small molecule targets and nano-materials for biomonitoring and environmental applications, *MB Gu, School of Life Sciences and Biotechnology, Korea university, Republic of Korea*

9:45 – 10:00 Design of recognition biological elements to immobilise on a label-free biosensor platforms for detection of endocrine disruptor pollutants in water, *T Lettieri, European Commission, Joint Research Centre, Institute for Environment and Sustainability, Ispra, Italy*

10:00 – 10:15 Bioremediation of emerging pollutants from sewage sludge by fungal bioaugmentation, *CE Rodriguez-Rodriguez, Dept. of Chemical Engineering, Universitat autonoma de Barcelona, Spain*

10:15 – 10:30 Could co-enzyme Q₁₀ be considered a detoxifying agent towards nitrogen oxides?, *L Greci, DICAM, University of Bologna, Italy*

10.30 - 11.00 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)

11:00 – 11:15 High reactivity of nanosized iron oxides in microbial iron reduction and BTEX oxidation: from lab to technological application, *J Bosch, Institute of Groundwater Ecology, Helmholtz Zentrum Munchen, Germany*

11:15 – 11:30 Effect of hydrophobic organic pollutants bioavailability on ecotoxicity of historically contaminated soils, *M Čvančarová, Institute of Microbiology, Prague, Czech*

11:30 – 11:45 Biosurfactant production from an isolated marine bacterial community, *E Korkakaki, Dept. of Environmental Engineering, Technical University of Crete, Greece*

11:45 – 12:00 Polychlorinated biphenyl (PCB) microbial reductive dechlorination potential in contaminated marine sediments of the Venice lagoon, *A Nuzzo, DICAM, University of Bologna, Italy*

12:00 – 12:15 Selection of a desorption treatment for bioremediation of an agricultural soil polluted with lindane, *IV Robles-Gonzalez, CINVESTAV, Escuela Nacional de Ciencias Biologicas, Mexico*

12:15 – 12:30 Preliminary characterization of TCE and TeCA co-metabolising aerobic cultures under suspended and immobilized form, *S Fraraccio, DICAM, University of Bologna, Italy*

12:30 – 12:45 Studies on the fate and behaviour of some contaminants in soils as a prerequisite in bioremediation, *M Gavrilesco, Gherorghe Asachi Technical University of Iasi, Romania*

12:45 – 13:00 Microcosm evaluation of autochthonous bioaugmentation to combat marine oil-spills, *M Nikolopoulou, Dept. of Environmental Engineering, Technical University of Crete, Greece*

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-nanoparticle interactions", **Pedro J. Alvarez**, Rice University, USA

15:15 – 15:30 Preparation of novel Ag nanoparticles dispersed activated carbon micro and carbon nanofibers for anti-bacterial applications, *N Verma, Dept. of Chemical Engineering, Indian institute of technology Kanpur, India*

15:30 – 15:45 Biotransformation of carbon-based nanomaterials by horseradish peroxidase, *DX Flores-Cervantes, Environmental microbiology - Environmental chemistry, Eawag, Zurich, Switzerland*

15:45 – 16:00 Microbial production of selenium nanoparticles: roadmap to recovery and reuse, *M Lenz, Institute for ecopreneurship, FHNW, Muttenz, Switzerland*

16.00 - 16.30 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)

16:30 - 17:00 Main Lecture: "Industrial wastewater treatment: innovative and integrated technologies", **Antonio Lopez**, CNR, Bari, Italy

17:00 – 17:15 Nitrogen removal from piggery manure digestate supernatant and characterization of microbial communities in different anammox reactors, *I Gandolfi, Dept. of Environmental Sciences, University of Milano Bicocca, Italy*

17:15 – 17:30 Innovative combined process for the biological exploitation of olive mill wastewater, *C Pintucci, ISE-CNR, Sesto Fiorentino, Italy*

17:30 – 17:45 Olive mill wastewater valorisation for the production of phytotherapies by intensified biocatalytic membrane reactor/membrane emulsificator system, *R Mazzei, ITM-CNR, Rende, Italy*

17:45 – 18:00 Removal of phenolic pollutants from municipal wastewater through immobilized laccase enzymes, *CA Gasser, Iec, FHNW, Muttenz, Switzerland*

18:00 – 18:15 Combining biological processes with membrane filtration for textile wastewater recovery, *A Spagni, Environmental Department, ENEA, Italy*

18:15 – 18:30 Enzymatic treatment of phenolic industrial wastewaters, *A Sukan, Dept. of Bioengineering, Ege University, Turkey*

18:30 – 18:45 Determination of optimal conditions for the degradation of micropollutants by laccase from *Trametes versicolor*, *J Margot, Institute of Environmental Engineering, Ecole polytechnique federale de Lausanne, Lausanne, Switzerland*

Room No. 2 (Parallel session)

Session 1 – Advances in biodegradation of organics and inorganics, phytoremediation and mycoremediation (continued)

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

9:00 – 9:15 The popular endophyte *Pseudomonas putida* w619 as a key to a successful phytoremediation of volatile organic contaminants: from the lab to the field, *N Weyens, Centre for Environmental Sciences, Hasselt University, Belgium*

9:15 – 9:30 GM plants expressing bacterial dioxygenases for enhanced phytoremediation of organic pollutants, *M Novakova, Dept. of Biochemistry and Microbiology, Institute of Chemical Technology, Czech Republic*

9:30 – 9:45 Spatial and temporal characterization of bacterial communities in a phytoremediation pilot plant aimed at decontaminating polluted sediments dredged from Leghorn harbor area, *C Chiellini, Dept. of Biology, University of Pisa, Italy*

9:45 – 10:00 Removal of phenolic compounds in constructed wetlands mesocosms treating sugar cane stillage at high surface organic load rates, *EJ Olguin, Biotechnological Management of Resources Network, Institute of Ecology, Xalapa, Mexico*

10:00 – 10:15 Assessing the ability to treat nitrogen compounds in domestic wastewater of a constructed wetland with different aquatic plant species, *TL Nguyen, Environmental Technology, Vietnam National University, Hanoi, Vietnam*

10:15 – 10:30 Anaerobic digestion of corn stover as sustainable soil management concept for metal contaminated agricultural land, *F Velghe, OWS - Organic Waste Systems NV, Gent, Belgium*

10:30 – 10:45 Mycoremediation of contaminated soil in field scale, *M Tuomela, Dept. of Food and Environmental Sciences, University of Helsinki, Finland*

10:45 – 11:00 Inoculation of poplar with arbuscular mycorrhizal fungi exerts a protective role on heavy metal stress by transcriptome modulation, *A Ciatelli, Dept. of Biology, University of Bologna, Italy*

11.00 - 11.30 Coffee break & Poster viewing

Session 7 – Microbial fixation of CO₂ and other climate change inducing gases in soils and via biotechnological processes (Chairs: **Marco Paolo Nuti**, University of Pisa, Italy & SIMTREA; **Roberto De Philippis**, University of Florence, Italy & SIMGBM)

11:30 - 12:00 **Main lecture:** “Climate change and microorganism genetic resources for food and agriculture: state of knowledge, risks and opportunities”, **Anna Benedetti**, CRA, Italy

12:00 - 12:30 **Main Lecture:** “Biorefinery for the production of biodiesel based on the use of microalgae treating wastewater”, **Eugenia Olguin**, Instituto de Ecologia, Mexico & ISEB

12:30 – 12:45 Photoelectrochemical NADH regeneration for enzymatic CO₂ reduction: increasing efficiency at metal-modified semiconductors, *P Stufano, Dept. of Chemistry, University of Bari, Italy*

12:45 – 13:00 Carbon dioxide from alcoholic fermentation as a carbon source for fed-batch cultivation of *Arthrospira platensis*, *JC Montero de Carvalho, Dept. of Biochemical and Pharmaceutical Technology, University of Sao Paulo, Brazil*

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**, CNR, Rome, Italy & EFB

15:00 – 15:15 Exploring challenges and opportunities in the characterisation and exploitation of microorganisms from environmental niches within extreme wastewater processes, *AV Piterina, Carbolea, University Limerick, Ireland*

15:15 – 15:30 A new osmotolerant *Azospirillum brasilense* NH restoring the wheat growth under saline conditions, *EH Nabti, Dept. of Microbiology, University of Bejaia, Algeria*

15:30 – 15:45 Comparison of a chemical and an electrochemical enrichment methods of inocula for microbial fuel cells, *K Sathish Kumar, CINVESTAV, Escuela Nacional de Ciencias Biologicas, Mexico*

15:45 – 16:00 Symbiont resource management in honeybee health protection, *E Crotti, DISTAM, University of Milan, Italy*

16:00 – 16:15 New food for an old mouth: new enzyme for an ancient archaea, *E Oztetik, Dept. of Biology, Anadolu University, Eskisehir, Turkey*

16:15 – 16:30 Inoculation with "effective microorganisms" of *Lolium perenne* L.: evaluation of plant growth parameters and endophytic colonization of roots, *L Baffoni, DISTA, University of Bologna, Italy*

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 – 17:45 Bioactive volatile organic compounds from antarctic sponges bacteria, *R Fani, Dept. of Evolutionary Biology, University of Florence, Italy*

17:45 – 18:00 *Rhodococcus* biosurfactants: physicochemical properties and environmental applications, *MS Kuyukina, Institute of Ecology and Genetics of Microorganism, Perm, Russia*

18:00 – 18:15 Diversity, ecological role and potential biotechnological applications of marine fungi associated to mediterranean seagrasses and algae, *GC Varese, Dept. of Life Science and Systems Biology, University of Turin, Italy*

18:15 – 18:30 Extracellular cellulolytic enzymes produced under extreme conditions of salt and pH by bacteria isolated from desert soil of douz and the saline lake Chott El Fedjej-Tunisia, *N Raddadi, DICAM, University of Bologna, Italy*

18:30 – 18:45 Biodegradation of polycyclic aromatic hydrocarbons by indigenous fungi isolated from petroleum contaminated soils, *A Jaouani, Laboratory of Microorganisms and Active Biomolecules, Faculty of Science of Tunis, Tunisia*

18:45 – 19:00 *Azotobacter vinelandii* biofilm genesis in response to endogenously induced oxidative stress, *F Villa, DISTAM, University of Milan, Italy*

19:00 - 20:00 Poster removal

Thursday, April 12th, 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** Biotechnology in FP7 and Horizon 2020, **A. Aguilar-Romanillos**, Head of Unit Biotechnologies, DG Research and Innovation, European Commission, Brussels
- 9.20 - 9.40** BACSIN (Targeted applications of bacterial strains for pollutant bioremediation), **J.R. van der Meer**, University of Lausanne, Switzerland
- 9.40 - 10.00** 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** ULIXES (Unravelling and exploiting mediterranean sea microbial diversity and ecology for xenobiotics' and pollutants' clean-up through the FP7 EU project ULIXES), **D. Daffonchio**, University of Milan, Italy
- 10.20 - 10.40** MINOTAURUS (MINOTAURUS: Microorganisms' Immobilization: NOvel Techniques and Approaches for Upgraded Remediation of Underground- and wastewater and Soils), **P. Corvini**, University of Applied Sciences Northwestern Switzerland, Switzerland
- 10.40 - 11.00** BIOTREAT (Biotreatment of drinking water resources polluted by pesticides, pharmaceuticals and other micropollutants), **J. Aamand**, GEUS, Denmark

11.00 - 11.20 Coffee break

11.20 - 11.40 GREENLAND (The greenland project: gentle remediation of trace element contaminated land), **J. Vangronsveld**, Universiteit Hasselt, Limburg, Belgium

11.40 - 12.00 PROSPARE (PROSPARE: an european project for the valorization of the leftovers of poultry industry), **A. Dossena**, University of Parma, Italy

12.00 - 12.20 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

TUESDAY, April 10th, 2012

Project Access2Canada

13:30 – 14:00

Room 3 (ground floor)

Supporting EU Access to Canadian Research and Innovation Programs

Dr. Nadia Khelef

WEDNESDAY, April 11th, 2012

EcoBioCap FP7 Project

15:00 – 16:00

Room 3 (ground floor)

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

From April 11th, 16:30 to April 13th, 13:00

Group Meetings (for project partners only)

Room EcoBiocap 1, Room EcoBiocap 2, Room EcoBiocap 3,

International Society of Environmental Biotechnology (ISEB)

13:30 – 14:30

Room 8 (first floor)

ISEB annual meeting (for invited people only)

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

18:00 – 19:30

Room 8 (first floor)

Meeting of the Experts Group of “Environmental Biotechnology” section

(for experts group’s members only)

THURSDAY, April 12th, 2012

15:00 – 16:00

Room 8 (first floor)

General Assembly of the “Environmental Biotechnology” section

POSTER SESSION

Tuesday April 10th, 2012

Session 1 - Advances in biodegradation of organics and inorganics, phytoremediation and mycoremediation

SUBSESSION 1.1 - Bacterial biodegradation of organics and inorganics

Panel nr.

1. *Evolution of bacterial community in isopropanol-degrading biotrickling filters by Fluorescence In Situ Hybridization (FISH)*, Pérez Gill MC, Álvarez-Hornos FJ, San-Valero P, Gabaldón C
2. *Degradation of sulfamethoxazole by pure strains isolated from an acclimated membrane bioreactor*, Kolvenbach BA, Ricken B, Bouju H, Corvini PFX
3. *Anaerobic treatment of mezcál vinasses in fluidized bed bioreactors*, Robles-González V, Galíndez-Mayer J, Ruiz-Ordaz N, López-López E, Martínez-Jerónimo F, Ortega-Clemente A, Rinderknecht-Seijas N, Poggi-Varaldo HM
4. *Carboxylation is the initial enzyme reaction in the anaerobic degradation of the polycyclic aromatic hydrocarbon naphthalene*, Mouttaki H, Meckenstock R
5. *Regulation of styrene catabolism in Pseudomonas fluorescens ST: functional characterization of the StyS sensor kinase*, Massai F, Rampioni G, Ascenzi P, Leoni L, Zennaro E
6. *Investigation of nanoparticles as potential activators for the optimization of PAH biodegradation*, Masy T, Wannoussa W, Hilgsmann S, Thonart P
7. *Bioaugmentation potential of Novosphingobium sp. PP1Y in natural and artificial soils contaminated by PAHs and heavy metals*, Cafaro V, Notomista E, Izzo V, Troncone L, Donadio G, Tedesco P, Di Donato A

8. *An extensive analysis of the hydrocarbon degrading abilities of bacteria belonging to the species Acinetobacter venetianus*, Fani R, Fondi M, Maida I, Perrin E, Papaleo MC, Emiliani G, Galardini M, Mara K, Decorosi F, Viti C, Giovannetti L, Baldi F, Mengoni A, Orlandini V
9. *Biodegradation of ETBE and BTEX by a bacterial consortium*, Gunasekaran V, Stam L, Constantí M
10. *Microcosms study of anaerobic bioconversion of hexachlorocyclohexane in heavily contaminated soils*, Verdini R, Riccardi C, Pierro L, Petrangeli Papini M, Majone M
11. *Characterization of n-hexadecane-degrading biosurfactant-producing Acinetobacter spp. isolated from petroleum hydrocarbon polluted soil*, Aguila Torres P, Fuentes S, Bravo C, Palma H, Seeger M
12. *Isolation and characterization of biosurfactant-producing bacteria*, Olivas Tarango AL, Nevárez Moorillón GV, Ballinas Casarrubias ML, Rivera Chavira BE, Orrantia Borunda E
13. *Utilization of chitinous substances for the optimized bioproduction of antifungal chitinase by Paenibacillus tylopili*, Swiontek Brzezinska M, Jankiewicz U
14. *Electricity production and nitrogen removal from digestate by microbial fuel cells*, Di Domenico EG, Petroni G, Mancini D, Di Palma L, Geri A, Ascenzioni F
15. *Application of an electro-biochemical slurry reactor for the treatment of a soil contaminated with lindane*, Camacho-Pérez B, Vazquez-Larios AL, Ríos-Leal E, Garcia-Mena J, Solorza-Feria O, Rinderknecht-Seijas N, Poggi-Varaldo HM
16. *Remediation of oils spill impacted soil by bioaugmentation with free living nitrogen fixing bacteria*, Perez Vargas J, Carmona SV, Rivera Casado NA, Calva Calva G
17. *Application of nitrifying bacteria as an indirect approach to reduce stress of transported zebrafish*, Dhanasiri A, Fernandes JMO, Kirana V
18. *Effect of redox mediators and various media on the decolourisation of the azo dye Methyl Red and its biodegradation by Providencia rettgeri strain ODO*, Olukanni OD, Adekola AA, Sunmola DB, Osunmuyiwa O
19. *Bioremediation of aquifers polluted by chlorinated aliphatic hydrocarbons: selection and characterization of an indigenous microbial consortium for a packed bed reactor on-site process*, Bucchi G, Ciavarelli R, Doria F, Salviulo R, Zanaroli G, Fraraccio S, Frascari D, Pinelli D, Fava F

20. *Bioslurry treatment of a clayish soil polluted with lindane by sequential methanogenic-sulfate reducing bioreactors*, Camacho-Pérez B, Ríos-Leal E, Vazquez-Landaverde PA, Garcia-Mena J, Barrera-Cortés J; Fava F, Rinderknecht-Seijas N., Poggi-Varaldo HM
21. *Predictive evaluation of bioremediation potential of chlorinated solvents contaminated sites*, Matturro B, Rossetti S
22. *Metabolisation of chlorobenzoic acids by plant-bacteria associations*, Vrchatová B, Macková M, Macek T
23. *Uranium reduction by bacteria*, Baiget M, Constantí M, Medina F, Lopez MT
24. *Isolation, selection and improvement of a Methylobacterium spp. strain for the bioremediation of anthropogenic organic compounds*, Ventorino V, Sannino F, Piccolo A, Pepe O
25. *Bioremediation with probiotics in shrimp farming*, Mayer E, Gössl EM, Santos GA, Mohnl M
26. *Comparative growth studies of the hyperthermophilic archaeon Sulfolobus solfataricus P2 on sulfur compounds found in fossil fuels*, Gun G, Yurum Y, Dinler G
27. *Bioremediation of harbour sediments contaminated with organic compounds: microbial response and biodegradation efficiency*, Rocchetti L, Beolchini F, Renzi P, Gabellini M, Dell'Anno A
28. *Utilization of a respirometric technique for the aerobic treatment of industrial wastewater*, Colussi I, Cortesi A, Gallo V, Vitanza R
29. *Metabolic and protein-protein interactions of sulfanilic acid catabolism in Novosphingobium subarcticum SA1*, Hegedus B, Perei K, Magony M, Laczi K, Tóth A, Kovács KL, Rákhely G
30. *Bacterial biosynthesis of selenium nanoparticles by environmental isolates of Stenotrophomonas maltophilia*, Lampis S, Zonaro E, Santi C, Ferrari A, Vallini G

SUB-SESSION 1.2 - Microbial biodegradation assessment and improvement

31. *Oil product degradation in the polluted soil*, Bocharnikova E

32. *Development of a biological biobarrier for in situ treatment of gasoline-contaminated groundwater*, Daglio M, Franzetti A, Gandolfi I, Bestetti I
33. *The Use of Biolog EcoPlates™ to Measure the Effects of Temperature and Moisture on Microbial Communities in Roadside Gully Pot Contents*, Scott K, Coulthard TJ, Adams, JD
34. *Genotoxicity of 4-nonylphenol and nonylphenol ethoxylate mixtures with the use of Saccharomyces cerevisiae D7 mutation assay and use of this test to evaluate the efficiency of biodegradation treatments*, Frassinetti S, Caltavuturo L, Fava F, Di Gioia D
35. *Effect of pre-treatment and Biosurfactants on the enzymatic hydrolysis of lignocellulose*, Khvedelidze R, Kvesitadze G, Urushadze T, Kutateladze L, Potschishvili V
36. *Aminophosphonate xenobiotics as a nutritive phosphorus source for mycelial fungi capable for C-P bond biodegradation*, Wieczorek D, Kafarski P, Lipok J
37. *Role of the H-NS family proteins in cooperative function of carbazole degradative plasmid pCAR1 and host chromosome*, Suzuki C, Yun CS, Horita S, Terada T, Tanokura M, Yamane H, Nojiri H
38. *Microbial populations during bioremediation of PAHs in wood sleepers treated with creosote oil*, Slavik B, Cajthamlová K, Čvančarová M, Křesinová Z, Cajthaml T
39. *A multivariate statistical analysis of the performance of fluidized bed bioreactors used for ad situ remediation of water polluted with PCE*, Moreno-Medina CU, Bretón-Deva¹ LM, Fava F, Ponce-Noyola MT, Barrera Cortés J, Rinderknecht-Seijas N, Galíndez-Mayer J, Poggi-Varaldo HM
40. *Comparison of ozonation and fungal treatment for the depuration of an anaerobically pretreated mezcal vinasse*, Robles-González V, Ruiz-Ordaz N, Galíndez-Mayer J, Rinderknecht-Seijas N, Poggi-Varaldo HM
41. *A designed and tailored compost for different applications: innovative procedure applied to different compost property characterization*, Bonoli A, Dall'Ara A, Serranti S
42. *Hormonal activities of novel brominated flame retardants and their biodegradation by white rot fungi*, Ezechiáš M, Svobodová K, Cajthaml T
43. *Removal of polycyclic aromatic hydrocarbons (PAHs) by selected microbial strains isolated from highly contaminated soil*, Sannino F, Ventorino V, Pepe O, Piccolo A

44. *Interaction between degradative plasmid and host chromosome differ between three pseudomonas hosts*, Takahashi Y, Shintani M, Takase N, Kazou Y, Kawamura F, Hara H, Nishida H, Yamane H, Nojiri H
45. *Identification of cultivable and non-cultivable rhizosphere bacteria from long term contaminated soil by PCBs using molecular genetic*, Stursa P, Prouzova P, Macek T, Mackova M
46. *Level of environmental pollution triggers colonizing Miscanthus sinensis by endobacteria possessing genes coding for 2,3-dioxygenase*, Gawronski SW, Kacprzyk A
47. *Transgenic plants in rhizoremediation of PCB-contaminated soil*, Kurzawova V, Novakova M, Chovancova M, Macek T, Mackova M
48. *Stimulation of bacterial chlorobiphenyl metabolism through the addition of plant secondary metabolites*, Musilova L, Uhlik O, Strejcek M, Lovecka P, Dudkova V, Vlcek C, Ridl J, Hroudova M, Macek T, Mackova M, Demnerova K
49. *Looking in the environment for new enzymes as a tools for biocatalysis and bioremediation*, Sobczak A, Krawczyk P, Tokarska D, Adamska D, Kamiński M, Błaszkiwicz M, Ostajewski M, Gołębiwski M, Lipiński L, Dziembowski A

Session 2 - Organic waste multipurpose biorefineries for the conversion of high environmentally impacting matrices and effluents into bio-based chemicals, materials and fuels

SUBSESSION 2.1 - Food processing and agro-industrial waste biorefinery

50. *Commercialization of new value chains in the bioeconomy*, Kircher M, Marx A
51. *Process intensification in biotechnology: towards an integrated biorefinery*, Diels L, Van Hecke W, De Wever H, Lemmens B, Van Ginneken L, Vanbroekhoven K
52. *New advances in the integrated management of food processing by-products in India and Europe: sustainable exploitation of fruit and cereal processing by-products with the production of new foods and feeds (NAMASTE EU)*, Fava F, Waldron K, Bald C, Sebők A, Broeze J, Garijo VM, Brendle HG

53. *Production of polyhydroxyalkanoates (PHAs) from used frying oils and polymer recovery using different strategies*, Scandola M, Martino L, Scoma A, Cruz M, Freitas F, Gouveia AR, Reis MAM
54. *Characterization of PHA-producing microbial populations from fermented molasses: link between phylogeny and substrate preference*, Carvalho G, Albuquerque MGE, Kragelund C, Silva AF, Barreto Crespo MT, Nielsen PH, Reis MAM
55. *Influence of carbon sources on the production and characterization of the exopolysaccharide (EPS) by Bacillus sphaericus 7055 strain*, Yilmaza M, Celikb GY, Aslimc B, Onbasili D
56. *Metabolic engineering in Enterococcus faecalis for its use in bio-ethanol production from whey*, Rana N, Gente S, Laplace JM, Auffray Y
57. *A new approach on the biohydrogen production process via methane generated from effluents*, Carioca JOB, Araújo O, Morais C, Macambira S, Galdino S, Siqueira A, Lima E, Furlan J
58. *Bio-hydrogen production by Escherichia coli WDHL and Bacillus sp. using wheat straw hydrolysate as substrate*, Cuevas ZDA, Sánchez A, Ordoñez LG, Salas JTO, De León Rodríguez A
59. *Cheese whey waste as raw material for the bio-hydrogen production by Escherichia coli WDHL: importance of amino acids availability*, Cuevas ZDA, Ordóñez KG, Salas JTO, De León Rodríguez A
60. *Biochemical Methane Potential (BMP) test of residual biomass from agro-food industry*, Soldano M, Labartino N, Fabbri C, Piccinini S
61. *Bioethanol production from dairy effluents: improvement of the process efficiency*, Zoppellari F, Bardi L
62. *Batch tests of biological hydrogen production from food industry wastes by four Thermotoga thermophilic strains in 0.12-L microcosms and in a 19-L fermentor*, Alberini A, Mendes SJ, Bucchi G, Manfreda C, Cappelletti M, Pinelli D, Fedi S, Fava F, Frascari D
63. *Comparison of biohydrogen production in fluidized bed bioreactor at room temperature and 35°C*, Muñoz- Páez KM, García-Mena J, Ponce-Noyola MT, Ramos-Valdivia A, Robles González IV, Ruiz-Ordáz N, Villa-Tanaca L, Rinderknecht-Seijas N, De Philippis R, Poggi-Varaldo HM
64. *Synthesis of biodiesel from hydrolysates of Arundo donax*, Pirozzi D, Yousuf A, Zuccaro G, Aruta R, Sannino F

65. *Evaluation of carob pulp as fermentation substrate for biohydrogen and organic acids production: sugars richness vs. toxicity potential*, Lima M, Ortigueira J, Alves L, Paixão SM, Moura P
66. *Robust yeasts for the conversion of lignocellulosic hydrolysates into ethanol*, Favaro L, Trento A, Basaglia M, Casella S
67. *Bioenergy from lignocellulosic wastes: pretreatment, enzymatic hydrolysis and ethanol productivity*, Ribeiro B, Alves S, Baeta-Hall L, Duarte L, Carvalheiro F, Duarte JC
68. *Computer-based artificial intelligence strategies in modelling and optimization of microbial bioprocesses. Optimization case of biogas generation from wastes*, Evariste Bosco GKana
69. *Bioethanol production from mixed sugars using Scheffersomyces stipites*, De Bari I, De Canio P, Cuna D, Liuzzi F, Romano P, Capece A
70. *Biomethane production from tobacco plants with modified cell wall*, Villano M, Francocci F, Cervone F, De Lorenzo G, Majone M
71. *Si-microbial symbiotic effect on the root formation of the cultivated plants*, Matichenkov V
72. *Optimization of production conditions for Trichoderma sp. P25 as a biocontrol agent by using solid state fermentation*, Sözer S, Sargan S, Eltem R, Vardar Sukan F
73. *A high-added value product from tomato pomace conversion: α -L-arabinofuranosidase from Pleurotus ostreatus for lignocellulose conversion*, Amore A, Amoresano A, Birolo L, Faraco V
74. *Vanillin production from wheat bran with Pseudomonas fluorescens BF13-1p*, Dal Bello E, Rebecchi S, Negroni A, Zanaroli G, Di Gioia D, Ruzzi M, Fava F
75. *Increasing the feed value of olive oil cake by solid state cultivation of the white-rot fungus Fomes fomentarius*, Neifar M, Ayari A, Boudabous A, Cherif A, Jaouani A
76. *Biotransformation of agricultural wastes with innovative enzymes*, Morana A, Paixão SM, Ladeira SA, Alves L, Ionata E, La Cara F
77. *Screening of novel yeast inulinases and further application to bioprocesses*, Paixão SM, Teixeira PD, Silva T, Teixeira AV, Alves L
78. *Recent advances in the biorefinery of olive mill wastewater*, Scoma A, Bertin L, Monti M, Fava F

79. *Olive-mill waste as potting substrate for olive tree cultivation: effects on the microbiota of soil and rhizosphere*, Fidati L, Scargetta S, Nasini L, Gigliotti G, Proietti P, Cenci G, Federici E
80. *Morphological analysis of yeasts bioprospected from the Brazilian savannah*, Chiarelli Perdomo I, Zanoni Camargo J, Graciano Fonseca G
81. *Growth kinetics of yeast strains isolated from the Brazilian savannah*, Zanoni Camargo J, Chiarelli Perdomo I, Oenning da Silva R, Pascoli Cereda M, Graciano Fonseca G
82. *Evaluation of the capacities of assimilation and fermentation of several yeasts strains isolated from exotic fruits from the Brazilian savannah*, Zanoni Camargo J, Avelino Gonasalves F, Chiarelli Perdomo I, Graciano Fonseca G
83. *Comparison of bacteriocins production from Enterococcus faecium strains in cheese whey and optimized commercial MRS medium*, Favaro L, Schirru S, Comunian R, Basaglia M, Casella S, Paba A, Daga E, Gombossy de Melo Franco BD, Pinheiro de Souza Oliveira R, Todorov SD
84. *Production of enzymes from grape stalks and wheat bran in solid state fermentation*, Masutti DC, Borgognone A, Setti L
85. *Agricultural wastes for production of lovastatin: optimization of mixed substrate co-culture solid state fermentation using Monascus ruber and Aspergillus terreus*, Seraman S, Aravindan R, Mahin Basha S, Thangavelu V

SUBSESSION 2.2 - Organic waste and effluent biorefinery

86. *Mutagenic activity of biochars obtained from pyrolysis biorefinery processes in Salmonella typhimurium TA 100 and TA 98 tester strains with and without metabolic S9 mix activation*, Piterina AV, Chipman K, Leahy JJ, Pembroke JT, Hayes MH
87. *Chlorella vulgaris growth on digested urban sludge*, Casazza AA, Aliakbarian B, Perego P, Converti A
88. *Isolation and characterization of potential biosurfactants produced by Bacillus strains growing on agroindustrial wastes*, Poliwoda A, Krzosok E, Wiczorek PP, Kafarski P, Płaza G

89. *Selection of cellulase producer micromycetes of the South Caucasus for the production of high technology sweeteners from agrarian wastes*, Kvesitadze E, Urushadze T, Khvedelidze R, Kutateladze L
90. *Influence of the type of alkali used for pH correction of acid growth media on methane production by Acetoclastic methanogens*, Vasmara C, Sghedoni L, Faeti V, Marchetti R
91. *Effect of total solids content of the feedstock, temperature and mass retention time on the performance of biohydrogenic solid substrate fermentation of organic waste*, Escamilla-Alvarado C, Ponce-Noyola MT, Ríos-Leal E, Poggi-Varaldo HM
92. *A study on the influence of activated sludge as nitrogen source on hydrogenic batch dark fermentation of the organic solid waste*, Escamilla-Alvarado C, Ponce-Noyola MT, Poggi-Varaldo HM
93. *Series hydrogenesis-methanogenesis of OFMSW: operation and energetic feasibility of the process*, Escamilla-Alvarado C, Ponce-Noyola MT, Ríos-Leal E, Poggi-Varaldo HM
94. *Biomethane production from co-digestion of sewage sludge and crude glycerol from biodiesel production*, Salomoni C, Caputo A, Bonoli M, Francioso O, Rodriguez-Estrada MT, Palenzona D
95. *Effect of glycerol on biomethane production and volatile organic compounds in anaerobic digestion of urban sewage sludge*, Francioso O, Rodriguez-Estrada MT, Pisi A, Savioli S, Salomoni C, Caputo A, Bonoli M, Palenzona D
96. *Characterization of a five-face parallelepiped microbial fuel cell equipped with sandwich electrodes*, Ortega Martínez AC, Solorza-Feria O, Ponce-Noyola MT, Rinderknecht-Seijas N, Poggi-Varaldo HM
97. *Application of $Ru_xMo_ySe_z$ for oxygen reduction reaction in a microbial fuel cell*, Vázquez-Larios, AL, Solorza-Feria O, Ríos-Leal E, Rinderknecht-Seijas, N, González-Huerta RG, Poggi-Varaldo HM
98. *Effect of anodic material on the performance of a single chamber microbial fuel cell*, Vázquez-Larios AL, Ponce-Noyola MT, Barrera-Cortés J, González-Huerta RG; Solorza-Feria O, Poggi-Varaldo HM
99. *Effect of anodic material on the internal resistance of a single chamber microbial fuel cell*, Hernández-Flores G, Solorza-Feria O, Ponce Noyola MT, Rinderknecht-Seijas N, Poggi-Varaldo HM
100. *Production of oxidative enzymes by *Trametes ochracea* on the high-molecular weight fraction of olive-mill wastewater*, Petruccioli M, Stella T, Carota E, D'Annibale A
101. *Acidogenic digestion of deproteinized cheese whey*, Scoma A, Bertin L, Fava F

102. *Improvement of butyric acid production in Clostridium tyrobutyricum by surfactant for detoxification of lignocellulose hydrolysates*, Lee KM, Kim KY, Han SO, Sang BI, Um Y
103. *Effect of different carbon sources on exopolysaccharide production by Enterobacter A47*, Freitas M, Gouveia AR, Torres CAV, Reis MAM

SESSION 3 - Biological transformation of conventional and biobased polymers in the environment

104. *Thermophilic microbial communities degrading selected synthetic polymers*, Husarova L, Stloukal P, Commereuc S, Verney V, Koutny M
105. *Synthesis of textile dyes by laccase biotransformations*, Spinelli D, Martorana A, Baratto MC, Basosi R, Pogni R
106. *Antimicrobial activity of PHB based polymeric compositions*, Gonta S, Savenkova L, Krallish I, Kirilova E
107. *Biosynthesis of biotin and selenobiotin in biotin-independent S. cerevisiae strain cultivated in molasses medium*, Patelski P, Pielech-Przybylska K, Balcerek M, Diowksz A, Nowak A, Dziekonska U
108. *Photodegradation of aliphatic polyesters and their composites with TiO₂*, Sullalti S, Totaro G, Askanian H, Celli A, Marchese P, Verney V, Commereuc S
109. *Production of hollocellulolytic enzymes using agro-industrial residues: selection of type of pretreatment and substrate*, López-Nevarez A, Poggi-Varaldo HM, Cristiani-Urbina E, Ponce-Noyola MT
110. *Enzymatic processing of chitinaceous wastes for N-acetyl-D-glucosamine production*, Das S, Ramkrishna S, Debasis R
111. *Bio-oil as feedstock for the production of biopolymers by aerobic mixed cultures*, Moita Fidalgo R, Lemos PC
112. *Hyaluronic acid from biofermentation - Molecular weight < 10 kDa*, Janson J

113. *Bacterial production of original polyhydroxyalkanoates under nitrogen free cultural conditions*, Shahid S, Corroler D, Mosrati R
114. *Polyhydroxyalkanoate (PHA) biosynthesis from structurally unrelated carbon sources by Hydrogenophaga pseudoflava DSM1034*, Povolo S, Romanelli MG, Basaglia M, Ilieva VI, Chiellini E, Casella S
115. *Agroindustrial wastes as potential feedstock for the production of bio-based chemicals and biopolymers*, Bertin L, Scoma A, Fava F
116. *Decision support system for designing biodegradable packaging for fresh produce: a knowledge engineering approach*, Buche P, Guillard V, Guillaume C, Gontard N, Menut L
117. *Management tools for developing biodegradable packaging specifications and input for the decision support systems*, Sebők A, Baár C, Gyuró A
118. *Quantification of mass transfer properties for engineering MAP design of fresh produce*, Gallagher MJS, Mahajan PV

Wednesday April 11th, 2012

Session 1 – Advances in biodegradation of organics and inorganics, phytoremediation and mycoremediation (continued)

SUBSESSION 1.3 - Phytoremediation & mycoremediation

Panel nr.

1. *Effect of combined pollution of chromium and benzo (a) pyrene on seed growth of Lolium perenne*, Onyema CC, Batty LC, Chigbo C
2. *Using biosurfactants in phytoremediation of soil polluted with petroleum hydrocarbons*, Kvesitadze G, Karpenko E, Khatishashvili G, Vildanova R, Sadunishvili T, Gagelidze N, Adamia G, Amiranashvili L, Pruidze M, Kuprava N

3. *Molecular biodiversity of arbuscular mycorrhizal fungi (AMF) in trace metals contaminated soils and their role in soil phytoremediation*, Hassan SE, St-Arnaud M, Hijri M
4. *Biodegradation of 17 α -ethinylestradiol by edible white rot fungus - a mechanistical study*, Kresinova Z, Ezechias M, Cajthaml T
5. *Utilization of arbuscular mycorrhizal fungi for the protection of tomato plants (*Solanum lycopersicum*) of Cr(VI) toxic concentrations*, Carreón-Abud Y, Martínez-Trujillo M
6. *Using arbuscular mycorrhizal fungi to enhance plant growth in maize (*Zea mays*) in soils with high concentrations of aluminum*, del Rocío Madrigal-Pedraza M, Gavito ME, Martínez-Trujillo M, Carreón-Abud Y
7. *Bioreactor optimization for the treatment of industrial wastewaters by means of a fungal strain*, Spina F, Anastasi A, Romagnolo A, Tigini V, Prigione V, Varese GC
8. *New insight into fungal degradation of polychlorinated biphenyls*, Cajthaml T, Čvančarová M, Křesinová Z, Filipová A, Stella T, Covino S
9. *Mycoremediation of PCBs dead-end metabolites: in vivo and in vitro degradation of chlorobenzoic acids by the white rot fungus *Lentinus tigrinus**, Stella T, Covino S, Křesinová Z, D'Annibale A, Petruccioli M, Cajthaml T
10. *Selection of microfungi with high lipolytic activity and their lipase characterization*, Chinaglia S, Chiarelli LR, Valentini G, Picco AM
11. *Degradation of endocrine disrupting chemicals and removal of estrogenic activity by *Lentinus tigrinus* and its extracellular enzymes*, Covino S, Stella T, Křesinová Z, D'Annibale A, Petruccioli M, Cajthaml T
12. *Eco-efficiency analysis of a fungal bioremediation method*, Räsänen M, Winqvist E, Tuomela M, Leisola M, Sorvari J
13. *Evaluation of mycrocistin biodegradation by wild yeasts for application in water treatment*, Miguel TA, de Andrade de Nobrega G, Lopes DD, Yokoyama CL, Pagnocca FC, Kuroda EK, Tsuji K, Coelho AR, Hashimoto EH, Garcia S, Paccola-Meirelles LD, Kawamura O, Harada KI, Hirooka EY
14. *Enzyme activities and respiration as bioindicators of the biological quality of Pb-Cd-contaminated soil under aided phytostabilization*, Krzyżak J, Płaza G, Margesin R, Wasilkowski D, Mroziak A

15. *Laser stimulation of native Trichophyton mentagrophytes var. granulosum as a new method for the enhancement biodegradation of petrochemical hydrocarbons*, Dobrowolski JW, Budak A, Trojanowska D, Rymarczyk M, Macuda J
16. *Phenolic metabolites, oxidative enzymes and microbial activity in the rizosphere of Cyperus laxus in phytoremediation oil spill impacted-sites process*, Rivera Casado NA, del Carmen Montes Horcasitas M, Rodríguez Vázquez R, Esparza García FJ, Ariza Castolo A, Pérez Vargas J, Gómez Guzmán O, Calva Calva G
17. *Phyto-mycoremediation: morphological and molecular characterization of arbuscular mycorrhizal fungi from a heavy metal polluted ash dump downtown Venice*, Turrini A, Bedini S, Argese E, Giovannetti M
18. *Halophytes present new opportunities in heavy metal phytoremediation*, Manousaki E, Kalogerakis N
19. *Connections between rhizobacterial communities of reed sediments and land-use in Zhangye City area (Gansu Province, China)*, Borruso L, Köbbingb J, Yub LL, Ottb K, Thevsb N, Pingc H, Zerbea S, Brusetti L
20. *Combined biological and physicochemical processes for treatment of baker's yeast wastewater*, Shayan SI, Hosseini M, Rostami S, Ebrahimi S
21. *High concentration of copper and zinc influences microbial biodiversity of Zea mays L. rhizosphere and selects multimetal resistant bacteria strains*, Matrella S, Vigliotta G, Cicatelli A, Castiglione S
22. *Anti cancer drug from algae and wastewater treatment: a double winner*, Mohammadreza Harsini F, Sarrafzadeh MH, Mohammadabadi MD, Farazandeh mehr SSE, Haghighi AS
23. *nirK-type denitrifier community composition and denitrification activity in a buffer strip*, Boz B, Bottegal M, Rahman Md M, Fontana F, Basaglia M, Gumiero B, Casella S
24. *Preparation of transgenic plants with enhanced heavy metal accumulation*, Fiser J, Neumannova E, Viktorova J, Novakova M, Vrbova M, Kotrba P, Mackova M, Macek T
25. *Plant - microbe interactions in PCB contaminated soil*, Prouzova P, Hoskovcova E, Bedrlíkova E, Stursa P, Demnerova K, Mackova M
26. *Enhancement of phytoremediation ability of Medicago sativa by the mycorrhizal fungus Glomus intraradices*, Bedini S, Argese E, Giovannetti M

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

SUBSESSION 4.1 - Detection and biodegradation of emerging pollutants

27. *Novel Technological Solutions for current challenges in biotechnological, environmental, diagnostic device and sensors industries sectors: effective delivery of temperature-sensitive biologically active materials (enzymes, cells, biotherapeutics, phages) and polymers on the metal surfaces and substrate*, Piterina A, Pembroke T, McGloughlin T, Kennedy B, Haverty D
28. *In vitro validation of a microarray DNA-chip for the detection of dechlorinating bacteria*, Negroni A, Bucchi G, Zanaroli G, Castiglioni B, Consolandi C, Severgnini M, De Bellis G, Fava F
29. *Characterization of estrogen receptor ligand binding domain, a biological element to immobilize on a label-free biosensor platforms for detection of endocrine disruptor pollutants in water*, Ferrero V, Aiello V, Calzolari L, Colpo P, Varani L, Rossi F, Lettieri T
30. *Environmental impact of organochlorinated pesticides*, Lovecka P, Janu P, Uhlík O, Macková M, Demnerová K
31. *Laccases immobilized on mesoporous silica particles and their application in a continuous stirred reactor for the elimination of endocrine disrupting chemicals*, Nair R, Demarche P, Junghanns C, Agathos SN
32. *Antibiotic resistance pollution in pharmaceutical wastewater biological treatment systems*, Zhang Y, Yang M, Liu M, Liu R, Li D, Ren L
33. *The microbial arsenic cycle in groundwater of Lombardia (Italy)*, Corsini A, Colombo M, Mulotto P, Cavalca L, Zaccheo P, Muyzer G, Andreoni V
34. *Mobilization of polycyclic, alkylated and heterocyclic tar oil contaminants from industrial soils using lipid extraction*, Scherr KE, Hasinger M, Loibner AP

SUBSESSION 4.2 - Research and innovation in the ex-situ and in situ microbial remediation of contaminated soils, aquifers, sediments and marine habitats

35. *Characterization of a mixed culture that reductively dechlorinates mixed chlorinated ethenes and ethanes*, Maffione V, Verstraete H, Verstraete W, Boon N
36. *Comparison of triphasic aerobic and anaerobic slurry bioreactors for the bioremediation of lindane-impacted soil*, Varo-Argüello WE, Camacho-Perez B, Rios-Leal E, Vázquez-Landaverde P, Ponce-Noyola MT, Barrera-Cortés J, Rindernknecht-Seijas NF, Poggi-Varaldo HM
37. *Studies on Trametes versicolor tolerance to parathion and lindane, and the interaction fungus-denitrifying microflora in the perspective of fungal remediation of soils*, Cruz-Gómez E, Alarcón A, Ponce-Noyola MT, Ríos-Leal E, Barrera-Cortés J, Rinderknecht-Seijas N, Poggi-Varaldo HM
38. *A microcosm study of degradation of chlorinated solvents from a contaminated area in Central Italy*, Matteucci F, Santacecilia A, Sprocati A, Chiavarini S, Cacchio P, Del Gallo M
39. *Methane aerobic bioconversion in contaminated soils by untreated paper sludge: critical issues and durability*, Bonoli A, Dall'Ara A
40. *Suppression of greenhouse gas emissions from sediment by bio-electrochemical system*, Ueno Y, Kitajima Y
41. *Native microorganisms from hydrocarbon polluted soils in Ecuador potentially useful for bioremediation*, Delgado E, Cando M, Tosi S, Picco AM
42. *Innovative environmental biotechnology - driven by education for sustainable development*, Dobrowolski JW

SESSION 5 - Nanomaterials for biotreatments & nano particle impacts on the environment

43. *Effect of stabilizers on the antibacterial properties of silver nanoparticles placed into natural water*, Burkowska A, Sionkowski G, Walczak M
44. *An innovative and eco-friendly technology for the remediation of highly polluted soils by oxidative biomimetic catalysis*, Sannino F, Piccolo A
45. *Novel poly(butylene succinate) nanocomposites with organo modified layered double hydroxide*, Totaro G, Coelho C, Fiorini M, Sisti L, Verney V, Leroux F
46. *Reductive dechlorination of polychlorinated biphenyls (PCB) by means of Nanoscale ZeroValent Nickel-Iron (NZVNI) particles*, Zanaroli G, Vignola M, Negroni A, Fava F, Shu HY
47. *Impact of Ag, CeO₂, Fe₃O₄, SnO₂ nanoparticles on soil microbial community*, Carbone S, Baffoni L, Gaggia F, Di Gioia D, Vittori Antisari L

SESSION 6 - Wastewater valorization, bioremediation, purification and reuse

48. *Aqueous two-phase micellar systems (ATPMS) applied to separate virus contamination from aqueous solution*, Dutra Molino JV, Bonafini Junqueira L, Lopes T, Viana Marques DA, Da Silva JL, Hirata MH, Mazzola PG, Gatti MS, Pessoa Júnior A
49. *Effect of cell immobilization on the production of 1,3-propanediol*, Gungormusler M, Gonen C, Azbar N
50. *Development of a biofilm technology for the production of 1,3-propanediol (1,3-PDO) from crude glycerol*, Casali S, Gungormusler M, Bertin L, Fava F, Azbar N
51. *Adaptation of immobilized Rhodococcus cells to increasing petroleum concentrations in a column bioreactor*, Serebrennikova M, Kuyukina MS, Ivshina IB
52. *Chromium(VI) removal from aqueous solutions by Trichoderma viride fungal biomass*, Hlihor RM, Diaconu M, Tavares T, Gavrilescu M
53. *Chromium sorption and Cr(VI) reduction to Cr(III) by Litchi chinensis seeds*, Sánchez-García D, Suazo-Madrid EA, Cristiani-Urbina E
54. *Decolorization of aqueous effluents using agro waste*, Apostol LC, Pereira L, Alves M, Gavrilescu M

55. *Environmental assessment and rehabilitation of the Lerma river meander in La Piedad, Michoacan, Mexico*, Martínez-Trujillo M, Carreón-Abud Y
56. *Reuse of wastewaters stored in facultative ponds: flow conditions and refinement by algal and bacterial biomass*, Mancini ML
57. *Potential for methane and hydrogen production from wetland biomass*, Vasmara C, Florio G, Borin M, Orsi A, Marchetti R
58. *Pilot scale bioaugmentation for removing nitrous oxide (N₂O) using a denitrifying bacterium Pseudomonas stutzeri strain TR2: a case study*, Ikeda-Ohtsubo W, Miyahara M, K Sang-Wan, Watanabe A, Fushinobu S, Wakagi T, Shoun H, Miyauchi K, Ginro E
59. *Anti-inflammatory drugs removal through wastewater disinfection*, Noutsopoulos C, Mamais D, Samaras V, Bouras T, Antoniou K, Kokkinidou D
60. *Mycoremediation of olive oil mill wastewater using free and immobilized cell cultures*, Neifar M, Penninckx MJ, Jaouani A
61. *Isolation and characterization of microorganisms from wastewater samples collected from Hassa, Saudi Arabia*, Alshubaith I, Gilmour DJ
62. *Microbial responses to xenobiotic shock loads in activated sludges*, Negroni A, Marzorati M, Fava F, Boon N
63. *Biosorption of trivalent chromium from aqueous solutions by Pleurotus ostreatus biomass*, Puentes-Cárdenas IJ, Pedroza-Rodríguez AM, Suazo-Madrid EA, Navarrete-López M, Villegas-Garrido TL, Cristiani-Urbina E
64. *Treatment of a shopping mall wastewater using an attached growth anoxic-aerobic system*, Maceda CO, Rollon AP
65. *Improved strategy for identification of extracellular proteins in biological wastewater treatment systems*, Silva AF, Carvalho G, Soares R, Coelho AV, Barreto Crespo MT

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

66. *Response of soil bacterial community to agricultural land uses and seasonal changes*, Paganin P, Sampedro Pellicer M, Ledda L, Papaleo MC, Fani R, Benedetti A, Dalmastrì C, Bevivino A
67. *Microbial activities and GHGs emissions following different fertilization on maize*, Bardi L, Petruzzelli L, Zavattaro L, Bertora C, Rosso F, Zoppellari F, Grignani C
68. *Impact of perennial energy crops on chemical quality and microbial community of soil in the Po Valley*, Cattaneo F, Gioacchini P, Montecchio D, Giovannini C, Barbanti L, Labra M, Di Gennaro P, Marzadori C
69. *On the potential utilization of Nannochloris eucaryotum as feedstock for CO₂ capture and biofuels production*, Lutz GA, Concas A, Locci AM, Cao G
70. *Biotechnology of hydrogen production with the microalga Chlamydomonas reinhardtii cultures in laboratory and outdoor photobioreactors*, Torzillo G, Faraloni C
71. *Chlorella vulgaris growth in photobioreactor under different light intensities and dilution rates*, Aliakbarian B, Casazza AA, Ortiz Montoya EJ, Perego P, Converti A

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

SUBSESSION 8.1 - Microbial community management in biotechnological processes, aquifer natural attenuation and in cultural heritage protection/restoration

72. *Bacterial and fungal contamination of Saudi Arabian paper currency and cell phones*, Nasser L, Alwakeel S
73. *Methanogenesis from rumen fluid formulations by a Methanococcus maripaludis IB1 prevalent in the faeces of yak from Hesper glacier*, Ahmad B, Hamid A, Javed I, Ishtiaq Ali M, Bux Ghumro P

74. *Biological indicators to copper mediated stress in Aspergillus flavus*, Gomaa O, Azab KS
75. *Characterization of microbial communities in groundwater from Lombardia (Italy) polluted by arsenic*, Cavalca L, Zaccheo P, Corsini A, Abbas B, Mulotto P, Andreoni V, Muyzer G
76. *Quorum quenching bacterial enrichment cultures isolated from tobacco phyllosphere*, Lv D, Ma A, Zhuang G
77. *Marine fungi: a preliminary screening to detect new promising strains for biotechnological applications*, Garzoli L, Tosi S, Picco AM
78. *Greenhouse gas as a nutrient: methanotrophic activity in soils of hydrothermal systems*, Gagliano AL, Tagliavia M, D'Alessandro W, Parello F, Quatrini P
79. *Biohydrogen production improved with succinate supplementation using Rhodospseudomonas palustris and mixed cultures of non-sulfur purple bacteria*, Sánchez-Hernández G, Robledo-Narváez P; Ponce-Noyola MT, Ríos-Leal E, Rindernecht-Seijas N, Poggi-Varaldo HM
80. *Growth and toxin production of toxic Microcystis aeruginosa in the presence and dominance of a non-toxic strain*, Seingheng H, Rollon A, Uy D, Nakasaki K
81. *Guidelines for sampling from non polar glaciers for the isolation of psychrophiles*, Ahmad B, Hasan F, Hameed A
82. *Characteristics of bacterial and eukaryotic communities in faucet biofilms revealed by pyrosequencing analysis*, Liu R, Yang M, Yu Z, Zhang H
83. *Biofilm formation by endophytic bacteria*, Santacecilia A, Matteucci F, Cacchio P, Ercole C, Del Gallo M
84. *Biogenicity and characterization of moonmilk deposits in the Grotta Nera, a limestone cave in the Majella National Park (Abruzzi, Central Italy)*, Cacchio P, Ercole C, Matteucci F, Santacecilia A, Del Gallo M
85. *Exopolymeric substances involved in calcium carbonate biomineralization and their use to preserve and restore stone monuments*, Ercole C, Bozzelli P, Altieri F, Cacchio P, Santacecilia A, Del Gallo M

SUBSESSION 8.2 - Industrial exploitation of microbes from deep seas, arid/contaminated environments

86. *Evaluation of the properties of Trichoderma sp. isolates as biocontrol agent and biofertilizer*, Maral D, Sozer S, Gezgin Y, Kara C, Sargin S, Eltem R, Sukan FV
87. *Characterization of Bacillus strains producing biosurfactants*, Płaza GA, Pacwa-Płocieniczak M, Piotrowska-Seget Z, Brigmon R
88. *Biosurfactants-producing bacteria isolated from soils of Georgia*, Sadunishvili T, Kvesitadze G, Gagelidze N, Amiranashvili L, Burduli T, Tolordava L
89. *Surface active compound from marine microorganisms*, AL-Araji L, Kadum RHJ, Yassin L
90. *Characterization of Cr(VI)-hyper-resistant Pseudomonas alcaliphila 34 biofilm*, Santopolo L, Decorosi F, Marchi E, Frediani L, Giovannetti L, Zecchi S, Nosi D, Tani A, Viti C
91. *Antimicrobial activity of a moderate halophilic Actinomycete strain isolated from a saline soil in the region of Bejaia. Extraction and partial characterization of the produced bioactive compounds*, Djinni I, Kecha M, Souagui S, Benallaoua S
92. *Multi hydrolytic enzyme cocktail from the fungal isolate of Schizophyllum commune on pretreated Tamarix jordanis biomass*, Luziatelli F, Crognale S, Petruccioli M, Ruzzi M
93. *Filamentous fungi from chilean extreme environments screened for cold active xylanase*, Cianchetta S, Galletti S, Burzi PL, Cerato C
94. *Bioleaching of copper from black shale ore using mesophilic mixed populations in an air up-lift bioreactor*, Manivannan S, Rajasekar A, Karthikeyan OP, Balasubramanian R
95. *Immobilization of photofermentative bacteria in Lentikats® for biohydrogen production*, Keskin T, Azbar N
96. *Isolation of new photofermentative bacterial strains for biohydrogen production*, Keskin T, Azbar N, Hallenbeck PC

97. *Polyunsaturated fatty acids in bacteria, algae and fungi - a review*, Andrade Domínguez L, Cristiani Urbina E, Martínez Jiménez A, Flores Ortíz CM, Ríos Leal E, Esparza García FJ, Ponce Noyola MT, Poggi-Varaldo HM
98. *GH10 and GH11 xylanases produced from thermotolerant Streptomyces sp. SWU10 with high pH and thermal stability*, Deesukon W, Nishimura Y, Harada N, Sakamoto T, Sukhumsirichart W
99. *Hydrocarbonoclastic bacteria isolated from petroleum contaminated sites in Tunisia: isolation, identification and characterization of the biotechnological potential*, Mahjoubi M, Guesmi A, Jaouani A, Boudabous A, Cherif A
100. *Rhamnolipid production by bacteria isolated from contaminated soil*, Martins ACG, Lima AS, Domingues MRM, Coutinho JAP, Serafim LS
101. *Introducing a new bacterial strain capable of producing PHA from petrochemical industry wastewater*, Motamedi H, Mayeli N, Heidari Zadeh F
102. *Exopolysaccharidic matrix of biological soil crusts from arctic environments*, Rossi F, Mugnai G, Colica G, Ventura S, Sili C, Mascalchi C, De Philippis R
103. *Bacterial multicomponent monooxygenases for the biosynthesis of antioxidants of industrial interest*, Donadio G, Notomista E, Serpico A, Pezzella A, Di Donato A, Izzo V
104. *Solvent emissions controlled by bioreactor*, Civilini M, Cortella G