



Interuniversity Consortium "Chemistry
for the Environment" (INCA)



Alma Mater Studiorum
University of Bologna



FIRSTFARADAY

Oxford Centre for
Environmental Biotechnology



Water & Soil Remediation

European Summer School

"INNOVATIVE APPROACHES TO THE BIOREMEDIATION OF CONTAMINATED SITES"

Faculty of Engineering, University of Bologna, Bologna, Italy

September 7-11, 2004

Directors:

Prof. Fabio Fava, University of Bologna
Prof. Pietro Canepa, University of Genova & Vice-President of INCA

Organized by:

University of Bologna & Consortium INCA

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PROGRAM

TUESDAY SEPT. 7, 2004

Introductory remarks

15.00-15.45 Welcome and opening remarks

Prof. Fabio Fava (Summer School Co-Director, University of Bologna, Bologna, Italy)

Prof. Guido Masetti (Dean of the Faculty of Engineering of the University of Bologna, Bologna, Italy)

Prof. Pietro Canepa (Vice-Director of INCA & Summer School Co-director, University of Genoa, Genoa, Italy),

Prof. Davide Zannoni (Chairman of the Italian Society of General Microbiology & Microbial Biotechnologies, University of Bologna, Italy).

15.45-17.15 "State-of-the-art" of the contaminated sites in Europe. Risk Assessment of contaminated sites in the development of the EU Soil Policy

Dr. Francesca Quercia (EEA/European Topic Centre Terrestrial Environment, Roma, Italy).

17.15-17.45 Coffee break

Modern approaches to site characterization

17.45-18.45 Biological tools for the soil ecotoxicity evaluation

Prof. Katalin Gruiz (Budapest University of Technology and Economics, Budapest, Hungary)

Get together party (kindly offered by Ultra Scientific-Italia & MicroBiotech, Italy)

WEDNESDAY SEPT. 8, 2004

Modern approaches to site characterization (continued)

9.00-10.00 Recent bioanalytical tools for the screening of organic and inorganic pollutants

Prof. Aldo Roda (University of Bologna, Italy)

New aspects of bioremediation fundamentals

10.00-11.00 New insights on the aerobic biodegradation of organic xenobiotics

Prof. Enrica Galli (University of Milan, Milan, Italy)

11.00-11.30 Coffee break

11.30-12.30 New insights on the anaerobic biodegradation of organic xenobiotics

Prof. Alfons Stams (Wageningen University, Wageningen, The Netherlands)

12.30-14.00 Lunch

14.00-14.30 Poster viewing

14.30-15.30 New approaches to the microbial transformation of heavy metals

Prof. Franco Baldi (University of Venice, Venice, Italy)

15.30-16.30 Evolution/construction of new pollutant biodegradation pathways in bacteria

Prof. Walter Reineke (Bergische Universität, Wuppertal, Germany)

16.30-17.00 Coffee break

17.00-18.00 Role of fungi in the remediation of contaminated soil: problems and solutions

Dr. Václav Sasek (Academy of Sciences of the Czech Republic, Prague, Czech Republic)

THURSDAY SEPT. 9, 2004

New aspects of bioremediation fundamentals (continued)

9.00-10.00 Plant potential in the field remediation of inorganic and organic pollutants

Prof. Gian Attilio Sacchi (University of Milan, Milan, Italy)

10.00-11.00 Integrated microbial and plant systems in the rhizosphere bioremediation

Prof. Katerina Demnerova (Institute of Chemical Technology, University of Prague, Prague, Czech Republic)

11.00-11.30 Coffee break

11.30-12.30 Molecular tools to track complex microbial populations in polluted environment and during reclamation

Prof. Daniele Daffonchio (University of Milan, Milan, Italy)

12.30-14.00 Lunch

14.00-15.00 Surveying the biodegradation landscape of polluted sites

Dr. Teca Calcagno Galvao (Centro Nacional de Biotecnología CSIC, Madrid, Spain)

Natural Attenuation

15.00-16.00 Monitoring of natural or enhanced biogeochemical processes in contaminated groundwater.

Prof. Andreas Dahmke (Christian-Albrechts Universität Kiel, Kiel, Germany)

16.00-16.30 Coffee break

16.30-17.30 Natural attenuation and enhanced natural attenuation of an anaerobic groundwater contaminated by chlorinated solvents

Prof. Mauro Majone (University of Roma "La Sapienza", Roma, Italy)

17.30-18.30 Natural attenuation: case of the MTBE bioremediation

Dr. Jens Fahl (Dresden University of Technology, Pirna, Germany)

FRIDAY SEPT. 10, 2004

Ex-situ active bioremediation of contaminated sites

9.00-10.00 Innovative slurry-phase and solid-phase technologies for soil bioremediation

Prof. Nicolas Kalogerakis (Technical University of Crete, Chania, Greece)

10.00-11.00 Improvement of the ex-situ bioremediation techniques: the approach by the deep landfarming vs. biopile and standard landfarming approaches

Dr. A. Prandi/ Dr. G. Di Luise (Water & Soil Remediation, Mantova, Italy)

11.00-11.30 Coffee break

11.30-12.30 Assessing and overcoming constraints to bioremediation

Dr. Simon Jackman (FirstFaraday, University of Oxford, Oxford, UK)

12.30-14.00 Lunch

14.00-14.30 Poster viewing

14.30-15.30 Biogenic agents for improving the bioavailability and biodegradation of hydrophobic organic pollutants in soil

Prof. Fabio Fava (University of Bologna, Bologna, Italy)

Innovative aspects of in-situ bioremediation

15.30-16.30 Modern in situ clean up biotechnologies

Dr. Alette Langenhoff (TNO Environment, Energy and Process Innovation, AH Apeldoorn, The Netherlands)

16.30-17.00 Coffee break

17.00-18.00 Bioaugmentation as a strategy for in situ bioremediation

Prof. Spyros Agathos (Catholic University of Louvain, Louvain-la-Neuve, Belgium)

SATURDAY SEPT. 11, 2004

Innovative aspects of in-situ bioremediation (continued)

8.30-9.30 Bioventing - an efficient in-situ technology for remediating the vadose zones

Prof. Andreas Loibner (IFA-Tulln, Universität für Bodenkultur Wien, Wien, Austria)

9.30-10.30 Bioremediation of unconfined aquifers

Prof. Gijs Breedveld (University of Oslo, Oslo, Norway)

10.30-11.00 Coffee break

11.00-12.00 Biobarriers for the management of (chlorinated) hydrocarbon contaminated sites

Dr. Ludo Diels (Flemish Institute for Technological Research, VITO, Mol, Belgium)

12.00-13.00 Remediation of chlorinated solvent-contaminated groundwater through in situ cometabolic process stimulation

Prof. Massimo Nocentini (University of Bologna, Bologna, Italy)

13.00-14.30 Lunch

14.30-15.30 Development and in situ implementation of a biological and chemical process for immobilisation of the chromate contained in an industrial ground

Dr. Ioannis Ignatiadis (BRGM, BRGM, Environment and Process division, Orleans, France)

15.30-16.30 Bioremediation of heavy metal contaminated sites

Dr. Ludo Diels (Flemish Institute for Technological Research, VITO, Mol, Belgium)

16.30-17.00 Coffee break

Poster section and conclusive remarks

17.00-18.30 Selected Poster presentation

18.30-19.00 Panel section and Conclusive Remarks

(coordinators: Prof. Katerina Demnerova, Dr. Diana Di Gioia, Prof. Fabio Fava, Prof. Pietro Canepa)

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