

BioBio 2017

6th International Symposium on Biosorption
and Biodegradation/Bioremediation



UNIVERSITY OF
CHEMISTRY AND TECHNOLOGY
PRAGUE



EUROPEAN FEDERATION OF
BIOTECHNOLOGY

Prague, Czech Republic
June 25 – 29, 2017

PROGRAM

www.biobio.vscht.cz

6th International Symposium on Biosorption and Biodegradation/Bioremediation - BioBio 2017

Since 1995 this symposium has served as a platform for researchers interested in the remediation of contaminated environments to exchange knowledge, establish new contacts across disciplines, and foster international collaborations. Each three to five years, this meeting highlights the newest scientific advancements and cutting edge methodological approaches in bioremediation and biodegradation research. The program committee strives to include trends in research that are at the forefront of the field and encourage participation of young scientists in the early stages of their careers.

Known for its historical beauty and iconic architecture, Prague has been a venue for scientific innovation since King Charles IV founded the first university in Central Europe in 1348. The BioBio symposium has continued this tradition of scientific exploration and encouraged and educated the future generations of environmental scientists. We look forward to continuing this legacy through communication of high quality scientific research from researchers worldwide – whether at the talks, poster session, or at our social events over a coffee or mug of famous Czech beer.

Welcome in Prague,

Kateřina Demnerová and local organizers

MAIN ORGANIZER



**UNIVERSITY OF
CHEMISTRY AND TECHNOLOGY
PRAGUE**

UNDER THE PATRONAGE OF



COMMITTEES

LOCAL ORGANIZING COMMITTEE

Prof. Kateřina Demnerová (Conference Chair)

Prof. Tomáš Macek

Dr. Ondřej Uhlík

Dr. Petra Lovecká

Dr. Hana Stiborová

INTERNATIONAL SCIENTIFIC COMMITTEE

Mary Beth Leigh (University of Alaska, Fairbanks, USA)

Nicolas Kalogerakis (Technical University of Crete, Greece)

Kelly Pennell (University of Kentucky, USA)

Liz Rylott (University of York, GB)

Pieter Van Dillewijn (Spanish High Council for Scientific Research, Spain)

Kim Yrjälä (University of Helsinki, Finland)

Tomáš Cajthaml (Institute of Microbiology of the Czech Academy of Sciences, Czech Republic)

Birthe Kjellerup (A. James Clark School of Engineering, University of Maryland, USA)

GENERAL INFORMATION

DATE / CONFERENCE VENUE

June 25 – 29, 2017 (Sunday – Thursday)

Balling Hall of the National Library of Technology

Technická 6/2710, Prague 6, Czech Republic

REGISTRATION

On-site registration takes place on Sunday, **June 25, 2017**, from 15:00 and will be open during the entire symposium.

The registration fee includes access to all scientific sessions, conference materials, welcome reception, coffee breaks and lunches (VAT included).

The registration and information centre will be available in front of the entrance to the meeting hall.

REFRESHMENTS

Coffee breaks and buffet lunches are included in all types of delegate registrations, served in the foyer of the meeting hall.

SECRETARIAT OF THE SYMPOSIUM

AMCA, spol. s r.o.



Academic and Medical Conference Agency

Vyšehradská 320/49, 128 00 Prague 2, Czech Republic

T: +420 221 979 351 | M: +420 737 357 159

E: biobio@amca.cz | www.amca.cz

EMERGENCY TELEPHONE NUMBERS

General emergency: 112

Medical ambulance service: 155

Police: 158

SOCIAL PROGRAM

WELCOME RECEPTION

Sunday, June 25, 18:30 – 20:30

Welcome reception will be provided at the symposium venue in the foyer of the meeting hall.

SIGHTSEEING TOUR OF PRAGUE & SOCIAL DINNER

Wednesday, June 28

Sightseeing tour of Prague & Social dinner are not included in the registration fee.

Tickets can be purchased for 1650 CZK (60 EUR).

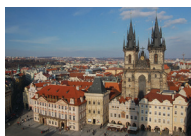
Please, make the reservation in advance at biobio@amca.cz or at the registration desk until Tuesday, June 27, 10.00.

Sightseeing Tour of Prague, 17:30 – 19:30

Meeting point: 17.30, symposium venue – registration desk

Places of interest:

Strahov Monastery, Hradčanské Square, South Gardens of the Prague Castle, Prague Castle, Cathedral of St. Vitus at Prague Castle, Nerudova Street, Charles Bridge, Old Town Square, etc.



Old Town Square

The most significant square of historical Prague. It originated in the 12th century. The square has several dominant features, the baroque St. Nicholas

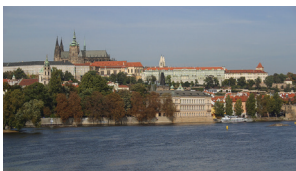
Church (K. I. Dienzenhofer, 1732-1737), the rococo Kinský Palace housing the National Gallery exhibition hall, the Stone Bell House – a gothic city palace from the 14th century – now the Municipal Gallery concert and exhibition hall, and the Memorial to Master Jan Hus sculptured by Ladislav Saloun (1915). The very place where the 27 Czech noblemen were executed on 21 June, 1621, is marked in the square pavement.



Charles Bridge

The oldest Prague bridge built in place of Judita's Bridge that had been badly damaged by a flood in 1342. The Stone or Prague

Bridge renamed Charles Bridge in 1870, was founded by Charles IV in 1357. According to the latest research the construction was started by Master Otto and finished by Peter Parler in 1402. Both ends of the bridge are fortified by towers (Lesser Town Bridge Tower, Old Town Bridge Tower). From 1683 to 1928 thirty sculptures and sculptural groups of the saints were gradually set on the bridge piers (M. Braun, F. M. Brokof, etc.). The bridge is 515 meters long and 10 meters wide.



Prague Castle

A national cultural monument, the symbol of more than a millennium of development of the Czech state.

Since its foundation in the last quarter of the 9th century it has been developing uninterruptedly throughout the past eleven centuries. It is a monumental complex of ecclesiastical, fortification, residential and office buildings representing all architectural styles and periods, surrounded by three castle courtyards and covering 45 hectares. Originally it was the residence of the princes and kings of Bohemia. Since 1918 it has been the seat of the President.



Social dinner, 19:30

Restaurant and Club Lávk
Novotného Lávk 1
Prague 1

PROGRAM AT A GLANCE

SUNDAY, JUNE 25, 2017

17:00	Opening
17:30	Plenary lecture
18:30	Welcome reception
20:30	Closing

MONDAY, JUNE 26, 2017

9:00	Microbial Diversity in Bioremediation I
11:10	Phytoremediation and Fungal Bioremediation I
14:00	Biosorption and Bioaccumulation of Heavy Metals
16:30	Poster session (odd-numbered posters)
18:00	Closing

TUESDAY, JUNE 27, 2017

9:00	Pollution, Toxicity and Bioremediation Monitoring
11:10	Organic Pollutants and Their Biodegradation
13:10	Closing

WEDNESDAY, JUNE 28, 2017

9:00	Electro/In Situ Bioremediation
10:50	Wastewater Treatment
13:30	Phytoremediation and Fungal Bioremediation II
15:30	Poster session (even-numbered posters)
17:00	Closing
17:30	Sightseeing tour of Prague
19:30	Social dinner

THURSDAY, JUNE 29, 2017

9:30	Microbial Diversity in Bioremediation II
11:30	Keynote Lecture
12:20	Closing

LECTURES

SUNDAY, JUNE 25, 2017

17:00 – 17:30 **OPENING CEREMONY**
Demnerová K. | University of Chemistry and Technology, Prague, Czech Republic

17:30 – 18:20 **PLENARY LECTURE**

Addressing Environmental Challenges Through Microbial and Human Community Building
Leigh M. B. | University of Alaska, Fairbanks, USA

18:30 – 20:30 **WELCOME RECEPTION**

MONDAY, JUNE 26, 2017

9:00 – 10:50 **MICROBIAL DIVERSITY IN BIOREMEDIATION I**

9:00 **INVITED LECTURE**
Behaviors of Plasmids in Soil Microcosms
Shintani M.^{1,2}, Nour E. H.³, Elsayed T.³, Blau K.³, Bziuk N.³, Jechalke S.³, Blau K.³, Sproer C.³, Bunk B.³, Overmann J.³, Smalla K.³ | ¹Shizuoka University, Japan, ²University of Vienna, Austria, ³Institute for Epidemiology and Pathogen Diagnostics, Braunschweig, Germany

9:40 **KEYNOTE LECTURE**
Metagenomic Analysis of a Diesel-Degrading Microbial Consortium
Garrido-Sanz D., Manzano J., Redondo-Nieto M., Martin M., Rivilla R. | Universidad Autónoma de Madrid, Spain

10:10 **Revealing Microbial Community Diversity and Function for Pollutant Removal in an Ecological Wastewater Treatment Process**
Bai Y.H., Huo Y., Liaokai L.L., Qu J.H. | Chinese Academy of Sciences, Beijing, China

10:30 **Functional Metagenomic Approach for Revealing of New Genes for Degradation of Aromatic Hydrocarbons**
Brennerova M. | Institute of Microbiology, Prague, Czech Republic

10:50 – 11:10 Coffee Break

11:10 – 12:30 PHYTOREMEDIATION AND FUNGAL BIOREMEDIATION I

11:10 Using Plant Growth Promoting Endophytic Bacterium to Facilitate Phytoremediation of Metal Polluted Soils
Ma Y.¹, Oliveira R.^{1,2,3}, Rocha I.¹, Freitas H.¹ | ¹University of Coimbra, Portugal, ²Universidade Católica Portuguesa, Porto, Portugal, ³Polytechnic Institute of Porto, Portugal

11:30 Bioremediation of Contaminated Land by Autochthonous Fungi: Life-Biorest Strategy
Spina F.¹, Spini G.², Poli A.¹, Romagnolo A.¹, Zanellati A.¹, Bentivegna G.N.¹, El-Nazhari N.³, Regnier T.³, Blieux A.-L.³, Echairi A.³, Prigione V.¹, Puglisi E.², Varese G.C.¹ | ¹University of Turin, Italy, ²Università Cattolica del Sacro Cuore, Italy, ³Satt Grand-EST, Dijon, France

11:50 Green Organisms to the Rescue: The Potential of Cyanobacteria, Algae, and Higher Plants for the Remediation of Radioactively Contaminated Waters
Janssen P., Vanhoudt N., Almahayni T., Leys N., Vandenhove H. | Belgian Nuclear Research Centre SCK•CEN, Mol

12:10 Removal and Transformations of Diclofenac and Sulfamethoxazole in Constructed Wetlands
Sochacki A.^{1,2}, Nowrotek M.¹, Felis E.¹, Kalka J.¹, Magiera S.¹, Kotlarska E.³, Łuczkiwicz A.⁴, Ziemińska-Buczyńska A.¹, Miksch K.¹ | ¹Silesian University of Technology, Gliwice, Poland, ²Czech University of Life Sciences Prague, Czech Republic, ³Institute of Oceanology Polish Academy of Sciences, Sopot, Poland, ⁴Gdansk University of Technology, Poland

12:30 – 14:00 Lunch

14:00 – 16:10 BIOSORPTION AND BIOACCUMULATION OF HEAVY METALS

14:00 KEYNOTE LECTURE
Heavy Metals in Ectomycorrhizal Fungi: Genes and Mechanisms Underlying Metal (Hyper)Accumulation Phenotypes in *Amanita*, *Russula* and *Hebeloma* Species
Sácký J.¹, Leonhardt T.¹, Beneš V.¹, Borovička J.^{2,3}, Kotrba P.¹ | ¹University of Chemistry and Technology,

Prague, ²Institute of Geochemistry, Mineralogy and Mineral Resources, Charles University in Prague,
³Nuclear Physics Institute, Academy of Sciences of the Czech Republic, Řež, Czech Republic

14:30 Bioassociation of Uranium onto Extreme Halophilic Microorganisms Relevant in Nuclear Waste Repositories in Rock Salt

Bader M.¹, Swanson J.², Foerstendorf H.¹, Müller K.¹, Cherkouk A.¹ | ¹Helmholtz-Zentrum Dresden-Rossendorf, Germany, ²Los Alamos National Laboratory, Carlsbad, USA

14:50 Stripping of Zinc Ions from Pectin-Based Biosorbents
Bok-Badura J., Mitko K., Szybaj A., Jakóbik-Kolon A. | Silesian University of Technology, Gliwice, Poland

15:10 Adsorption of Copper and Chromium from Sanitary Landfills Through Coffee Pulp Waste
Carvajal-Flórez E. | National University of Colombia Medellín, Colombia

15:30 Reduction of Selenite and Tellurite and Generation of Nanoprecipitates by the Environmental Isolate *Ochrobactrum* sp. MPV1
Zonaro E., Lampis S., Monti F., and Vallini G. | University of Verona, Italy

15:50 Selection of Gallium-Binding Peptides Using Phage Display Technology
Schönberger N.^{1,2}, Matys S.², Lederer, F.², Pollmann K.² | ¹Technische Universität Bergakademie Freiberg, Germany, ²Helmholtz Institute Freiberg for Resource Technology, Dresden, Germany

16:10 – 16:30 Coffee Break

16:30 – 18:00 POSTER SESSION

Moderated poster walk for authors of **odd-numbered** posters. (Posters P1, P3, P5 ...)

The list of posters can be found on pages 15 – 24.

TUESDAY, JUNE 27, 2017

9:00 – 10:50 POLLUTION, TOXICITY AND BIOREMEDIATION MONITORING

9:00 INVITED LECTURE

Biodegradation Kinetics of Weathered Marine Litter – Polyethylene and Polystyrene Plastic Films

Kalogerakis N. | Technical University of Crete, Chania,
Greece

9:40 KEYNOTE LECTURE

Calcification Changed Accessibility of PAHs in Industrially Contaminated Soil

Humel S.¹, Mayer P.², Loibner A.P.¹ | ¹University of
Natural Resources and Life Sciences, Vienna, Austria,
²Technical University of Denmark, Lyngby, Denmark

10:10 Bacterial Microbiotests – New Tools for Monitoring the Ecotoxicity

Nita-Lazar M., Galaon T., Banciu A., Paun I., Stoica
C., Lucaciu I. | National Research and Development
Institute for Industrial Ecology-ECOIND, Bucharest,
Romania

10:30 About Strategies Against Chemical Pollution of Environment

Varazi T.¹, Adamia G.¹, Chogovadze M.¹, Asatiani N.²,
Kartvelishvili T.²,
Sapojnikova N.² | ¹Agricultural University of Georgia,
Tbilisi, Georgia, ²I. Javakhishvili Tbilisi State University,
Tbilisi, Georgia

10:50 – 11:10 Coffee Break

11:10 – 13:10 ORGANIC POLLUTANTS AND THEIR BIODEGRADATION

11:10 INVITED LECTURE

Vapor Intrusion of Volatile Organic Compounds from Soil and Groundwater into Indoor Air: The Role of Aerobic Biodegradation

Pennell K. G., Shirazi E., Roghani M., Willett E. J. |
University of Kentucky, USA

- 11:50 Organohalide Respiring *Dehalococcoidia* with Multiple Dehalogenating Capabilities in Two Different Areas of the Adriatic Sea**
Nuzzo A., Rocca M., Antinori M. E., Fava F., Zanaroli G.
| University of Bologna, Italy
- 12:10 Rhizosphere Microbiota Harboring PCB Degrading Potential is Associated to Spontaneous Plants in a Highly Polluted Site**
Vergani L.¹, Mapelli F.¹, Marasco R.², Fusi M.², Crotti E.¹, Daffonchio D.², Borin S.¹ | ¹University of Milan, Italy, ²King Abdullah University of Science and Technology, Thuwal, Saudi Arabia
- 12:30 Bacterial Degradation of a Recalcitrant Pesticide: Chlordecone**
Le Paslier D. | CEA/DRF/IG Genoscope & CNRS UMR8030, Evry, France
- 12:50 Development of Innovative Bioproducts and Technologies for Improving the Quality of Soils in Organic Vegetable Crops**
Sas Paszt L., Trzciński P., Lisek A., Derkowska E., Głuszek S., Sumorok B., Przybył M., Frąc M., Weszczak K. | Research Institute of Horticulture, Skierniewice, Poland

WEDNESDAY, JUNE 28, 2017

9:00 – 10:30 ELECTRO/IN SITU BIOREMEDIATION

9:00 KEYNOTE LECTURE

The Bioelectrochemical Well: A Novel Technology for In Situ Treatment of Hydrocarbon-Contaminated Groundwater

Palma E.¹, Daghighi M.², Franzetti A.³, Petrangeli Papini M.¹, Aulenta F.¹ | ¹Sapienza University of Rome, Italy, ²National Research Council, Rome, Italy, ³University of Milano Bicocca, Italy

9:30 Bioelectrochemical Systems for Groundwater Bioremediation: Towards the Understanding and Mitigation of Hardness Scaling

Pous N., Puig S., Balaguer M. D., Colprim J. | LEQUiA-University of Girona, Spain

9:50 Remediation of Kuwaiti Crude Oil-Contaminated Soil with Hemoglobin

Jho E. H., Choi H. S., Hong J.-K., Kang G. | Hankuk University of Foreign Studies, Seoul, South Korea

10:10 Exploring the Cashew Tree Products Potential Using Mini-Factories in a Sustainable and Feasible Chain of Biorefineries

Carioca J.O.B¹, Lima E.², Silva D.¹, Macambira S.³, Leite L.⁴, Morais S.⁵, Paiva F.⁴, Barros L.¹ | ¹Federal University of Ceara, Brasil, ²Brazilian Biotechnology Northeast Network, Brasil, ³Federal Education Institute of Ceara, Brasil, ⁴Embrapa Agroindustria Tropical, Brasil, ⁵Ceara State University, Brasil

10:30 – 10:50 Coffee Break

10:50 – 12:00 WASTEWATER TREATMENT

10:50 KEYNOTE LECTURE

Filamentous Microorganisms in Activated Sludge Process

Benáková A., Růžicková I., Wanner J. | University of Chemistry and Technology, Prague, Czech Republic

11:20 Assessing Bacterial Contribution to the Degradation of Sulfonamides in the Wastewater Treatment Process

Kolvenbach B.A.¹, Kroll K.¹, Timm A.², Peschke R.², Majewsky M.^{2,3}, Kohler H.P.E.⁴, Corvini P.F.X.¹ |

¹University of Applied Sciences and Arts Northwestern Switzerland, Muttenz, Switzerland, ²Karlsruhe Institute of Technology, Germany, ³University of Heidelberg, Germany, ⁴Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, Switzerland

11:40 Treatment of Textile Wastewater by Combination of Chemical and Biocatalytic Methods

Čvančarová M.¹, Hauswirth G.¹, Corvini P. F.-X.^{1,2} |

¹University of Applied Sciences and Arts Northwestern Switzerland, Muttenz, Switzerland, ²Nanjing University Xianlin Campus, China

12:00 – 13:30 Lunch

13:30 – 15:10 PHYTOREMEDIATION AND FUNGAL BIOREMEDIATION II

13:30 INVITED LECTURE

Employing Plants to Remediate the Environmental Pollutant 2,4,6-Trinitrotoluene (TNT)

Rylott E.L., Lorenz A., Beynon E.J., Gandia-Herero F., Sparrow H., Gunning V., Tzafestas K., Bruce N.C. | University of York, United Kingdom

14:10 Remediation of an as Polluted Site in the North of Italy, Using the Fern *Pteris vittata*: A Pilot Study.
Massa N.¹, Cantamessa S.^{1,2}, D'Agostino G.², Berta G.^{1,2}
| ¹Università del Piemonte Orientale, Alessandria, Italy,
²Mybasol srl, Alessandria, Italy

14:30 Reclamation of Arsenic Contaminated Soils and Waters by Means of Assisted Phytoremediation
Guarino F.³, Cicatelli A.¹, Brundu G.², Castiglione S.¹ |
¹Università di Salerno, Fisciano, Università degli Studi di Napoli "Federico II", Italy, ²Università di Sassari, Italy,
³Dip. di Sanità Pubblica, Università degli Studi di Napoli "Federico II" Napoli (NA-Italia)

14:50 Expression and Exploitation of White-rot Basidiomycetes Bioremediation Potential
Elisashvili V.¹, Kachlishvili E.¹, Kobakhidze A.¹, Jokharidze T.¹, Asatiani A.D.¹, Corvini P.F.-X.², Kucharzyk K.³, Darlington R.³, Cajthaml T.⁴ | ¹Agricultural University of Georgia, Tbilisi, Georgia, ²University of Applied Sciences and Arts Northwestern Switzerland, Muttens, Switzerland, ³Battelle Memorial Institute, Columbus, USA, ⁴Institute of Microbiology, Prague, Czech Republic

15:10 – 15:30 Coffee Break

15:30 – 17:00 POSTER SESSION
Moderated poster walk for authors of **even-numbered** posters.(Posters P2, P4, P6 ...)

The list of posters can be found on pages 15 – 24.

17:30 SIGHTSEEING TOUR OF PRAGUE

19:30 SOCIAL DINNER
Restaurant and Club Lávka
Novotného lávka 1, Prague 1

THURSDAY, JUNE 29, 2017

9:30 – 11:10 MICROBIAL DIVERSITY IN BIOREMEDIATION II

9:30 INVITED LECTURE

The Struggle with the Gap Between Phylogeny and Function, Sequences OTUs and Genuine Bacteria

Yrjälä K.¹, Mukherjee S.², Sipila TP.¹ | ¹University of Helsinki, Finland, ²University of Leuven, Belgium

10:10 INVITED LECTURE

The Rhizosphere Microbiome and Aromatic Pollutants

van Dillewijn P. | *Estación Experimental del Zaidín CSIC, Granada, Spain*

10:50 Aerobic and Anaerobic Biodegradation of Complex Hydrocarbon Pollutions

Rákhely G.^{1,2}, Laczi K.¹, Bodor A.¹, Kiss A.², Bounedjoum N.¹, Kovács T.³, Perei K.¹ | ¹University of Szeged, Szeged, Hungary, ²Biological Research Center, Szeged, Hungary, ⁴Enviroinvest Corp. Pécs, Hungary

11:10 – 11:30 Coffee Break

11:30 – 12:20 KEYNOTE LECTURE

11:30 *Pleurotus ostreatus*: The Magic Oyster Mushroom in Bioremediation

Cajthaml T. | *Institute of Microbiology, Academy of Sciences of the Czech Republic, Institute for Environmental Studies, Charles University, Prague, Czech Republic*

12:20 CLOSING

The best poster presentation award - sponsored by ISME

Demnerová K. | *Czech Republic*

LIST OF POSTERS

All posters will be on display during the whole meeting.
Poster presenters are asked to be present during their poster session on

MONDAY, JUNE 26, 2017

16:30 – 18:00 POSTER SESSION

Moderated poster walk for authors of odd-numbered posters. (Posters P1, P3, P5 ...)

WEDNESDAY, JUNE 28, 2017

15:30 – 17:00 POSTER SESSION

Moderated poster walk for authors of even-numbered posters. (Posters P2, P4, P6 ...)

- P1. **Biology of Zn and Cd in Transgenic Ectomycorrhizal Symbiont *Hebeloma mesophaeum***
Beneš V., Kněžíčková S., Kotrba P. | University of Chemistry and Technology, Prague, Czech Republic
- P2. **Microbial Community of Spruce Needles (*Picea abies*) in Relation to Arsenic and Antimony Contents of Tree Bark and Needles**
Wäli P.R.¹, Middleton M.², Sutinen, R.², Ruotsalainen A.L.¹, Markkola A.¹ | ¹University of Oulu, Finland, ²Geological Survey of Finland GTK, Rovaniemi, Finland
- P3. **Isolation of Lanthanide Binding Compounds from Potential Biosorbents**
Jurkowski W.¹, Heilmann M.², Becker A.M.², Buchholz R.², Brück T.¹ | ¹Technical University of Munich, Germany, ²Friederich-Alexander-Universität Erlangen-Nürnberg, Germany
- P4. **Phytoremediation of Metal-Contaminated Soils and Sediments by Hemp and Giant Reed as Implemented by Selected Bacteria and Chelating Agents**
Spini G.¹, Ferrarini A.¹, Fontanella M.C.¹, Fracasso A.¹, Loda M.², Pezzerà G.², Beone G.M.¹, Amaducci S.¹, Puglisi E.¹ | ¹Università Cattolica del Sacro Cuore, Piacenza, Italy, ²External collaborators

- P5. **Total Chromium and Manganese Contents of Some Soils and Naturally – Grown Plants of Sub – Saharan Region of Bagwai, Kano – Nigeria**
Kiyawa S. A. | Northwest University, Kano – Nigeria
- P6. **Preparation and Examination of Pectin-Based Biosorbents with Hydrous Titanium Dioxide Additive for Heavy Metal Ions Removal**
Bok-Badura J., Jakóbić-Kolon A., Kazek-Kęsik A., Mitko K. | Silesian University of Technology, Gliwice, Poland
- P7. **Electrolytic Recovery of Zinc from Stripping Solutions after Biosorption on Pectin-Based Beads**
Babilas D., Maciej A., Bok-Badura J., Jakóbić-Kolon A. | Silesian University of Technology, Gliwice, Poland
- P8. **Environmental Performance of Heavy Metal Biosorption – Desorption Processes Using Soybean/ Waste Biomass. A Life Cycle Approach.**
Fertu D. I., Simion I. M., Rosca M., Bulgariu L., Gavrilescu M. | "Gheorghe Asachi" Technical University of Iasi, Romania
- P9. **The Comparative Characteristics of Siderophore Production by Some *Pseudomonas* Strains**
Rusakova M., Vasyliiev M., Ovchinnikov S. | I. I. Mechnikov Odessa National University, Odessa, Ukraine
- P10. **Insights Into Uranium Tolerance of *Microbacterium oleivorans* A9 by Proteogenomic Analyses**
Chapon V.¹, Gallois N.¹, Alpha-Bazin B.², Ortet P.¹, Barakat M.¹, Long J.¹, Piette L.¹, Zirah S.³, Kish A.³, Armengaud J.², Berthomieu C.¹ | ¹CEA, CNRS, Aix-Marseille Université, Saint-Paul-lez-Durance, France, ²CEA, DRF/ISVFI/SPI/Li2D, Bagnols-sur-Cèze, France, ⁴MCAM, UMR 7245 CNRS/Muséum National d'Histoire Naturelle, Paris, France
- P11. **Degradation of Selected PCB Derivatives by the White-Rot Fungus *Pleurotus ostreatus***
Šrédlová K.^{1,2}, Cajthaml T.^{1,2} | ¹Institute of Microbiology, Academy of Sciences of the Czech Republic, Prague, Czech Republic, ²Institute for Environmental Studies, Charles University in Prague, Czech Republic
- P12. **Biodegradation of Psychopharmaceuticals by Oyster Mushroom**
Křesinová Z.^{1,2}, Krejčová L.¹, Linhartová L.², Cajthaml T.^{1,2} | ¹Institute of Microbiology, Academy of Sciences of the Czech Republic, Prague, Czech Republic, ²Institute for

- P13. Can Microorganisms Biodegrade Antimicrobial Compounds?**
Petrů K.^{1,2}, Křesinová Z.^{1,2}, Linhartová L.², Cajthaml T.^{1,2} | ¹Institute of Microbiology Academy of Sciences of the Czech Republic, Prague, Czech Republic, ²Institute for Environmental Studies, Charles University in Prague, Czech Republic
- P14. Fungal Batch Bioreactor as an Effective Tool for Degradation of Endocrine Disruptor Compounds**
Linhartová L.^{1}, Křesinová Z.^{1,2}, Filipová A.^{1,2}, Ezechiáš M.^{1,2}, Cajthaml T.^{1,2} | ¹Institute of Microbiology Academy of Sciences of the Czech Republic, Prague, Czech Republic, ²Institute for Environmental Studies, Charles University in Prague, Czech Republic*
- P15. Biosurfactants for Improving Phytoremediation of Soils Polluted with Oil Hydrocarbons**
Pruidze M.¹, Khatisashvili G.¹, Khuskivadze N.¹, Karpenko E.², Karpenko O.² | ¹Agricultural University of Georgia, Tbilisi, Georgia, ²Physical-Organic Chemistry Institute, National Academy of Sciences of Ukraine, Lviv, Ukraine
- P16. Algae Spirulina as a Tool for Removing 2,4,6-Trinitrotoluene from Polluted Water**
Kurashvili M., Gigolashvili G., Chokheli L., Ananiashvili T., Japarashvili S., Zaalishvili G., Gordeziani M. | Agricultural University of Georgia, Tbilisi, Georgia
- P17. Investigation of Microbial Devices for Hydrogen Generation Using Electrochemical Methods**
Rozenfeld S., Schechter A., Cahan R. | Ariel University, Israel
- P18. Electric Field Induction for Biological Treatment of Wastewater**
Emanuel E., Pogreb R., Cahan R. | Ariel University, Israel
- P19. Characterization of Microbial Hydrocarbonoclastic Activity and Comparison of Different Protocols in Bioremediation of Dredged Sediments**
Andreolli M.¹, Lampis S.¹, Brignoli P.², Doni S.³, Masciandaro G.³, Vallini G.¹ | ¹University of Verona, Italy, ²Eurovix SpA, Cazzago San Martino, BS, Italy, ³National Research Council, Institute of Ecosystem Study, Pisa, Italy

- P20. **Selection and Identification of Strains of Soil Bacteria with Potential Use in Soil Bioremediation**
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- P21. **Removal and Transformations of Benzotriazole in Aerated Biofilters with Manganese Oxides**
Sochacki A.^{1,2}, Felis E.¹, Magiera S.¹, Michalska J.K.¹, Kalka J.¹ | ¹Silesian University of Technology, Gliwice, Poland, ²Czech University of Life Sciences Prague, Czech Republic
- P22. **Removal and Transformations of Benzothiazole and Benzotriazole In Constructed Wetlands Combined with Solar Light Post-Treatment**
Sochacki A.^{1,2}, Felis E.¹, Magiera S.¹, Kalka J.¹ | ¹Silesian University of Technology, Gliwice, Poland, ²Czech University of Life Sciences Prague, Czech Republic
- P23. **Isolation and Characterization of Soil Bacteria Degrading a Fungicide Difenoconazole**
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- P24. **Rhizobia Modified Pseudo-Phytochelatin Gene in Bioremediation**
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- P25. **Metagenomic Analysis of a Soil PCB-Degrading Microbial Consortium**
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- P26. **Genome Sequence of the Metabolically Versatile Plant Growth-Promoting Rhizobacterium *Pseudomonas lini* S211, Isolated from Pesticide Contaminated Agricultural Soil, Reveals Biocontrol, Biofertilization and Bioremediation Potentialities**
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López-Echarte E.¹, Matějů V.², Kycil R.², Macek T.¹, Uhlík O.¹ | ¹University of Chemistry and Technology, Prague, Czech Republic, ²ABITEC s.r.o., Prague, Czech Republic
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- P33. **Using Soil Nematodes as Indicators of Soil Quality Improvement While Cultivating *Miscanthus x giganteus* at the Military Contaminated Site in Kurakhovo, Ukraine**
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- P34. **Soil Microbial Community Characteristics in Military Contaminated Land During Phytotechnology with *Miscanthus x giganteus***
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- P44. **Reduction of Trace Elements Toxicity by Humic Substances**
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- P52. **Characterization of Plant Biomass Processed for Bioethanol Production**
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- P53. **Bacterial Strains from Black Crusts on Stone Monuments, Able to Degrade Pahs and Featuring Carbonatogenic Activity, as Potential Agents for Bio-Cleaning and Bio-Consolidation of Historical Buildings**
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- P54. **Novel Method to Improve Pesticide Degradation in Biobed Bioremediation Systems with Biobed-Teas**
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- P55. **Ti Bacterial Subsistence and Degradation of Specific Antibiotics in Relation to Wastewater Treatment**
Lee Fen Amrein M.¹, Corvini P. F.-X.^{1,2} | ¹University of Applied Sciences and Arts Northwestern Switzerland, Muttenz, Switzerland, ²Nanjing University Xianlin Campus, Nanjing, China
- P56. **Arsenic Uptake by Lettuce from As-Contaminated Soil Remediated with *Pteris vittata* and Organic Amendment**
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- P57. **Isolation and Selection of Biosurfactant – Producing Endophytic Bacteria from Plants Grown in Contaminated Soil (The South of Algeria)**
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Kesserű P.^{1,2}, Balázs M.¹, Tolmacsov P.¹, Mekler Cs.¹, Kiss I.¹ | ¹Bay Zoltán Nonprofit Ltd., Szeged, Hungary, ²Carbiotech Research Ltd., Szeged, Hungary
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- P66. **Screening of Effective Bacteria in Biological Absorption of Selenium from the Tailings Dam, Sarcheshmeh Copper Complex**
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- P69. **3D Printing of Anammox Biofilms**
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