

**MONDAY 1 October**

0900-1030	General Introductions Mechanisms and Applications Overview of Constructed Treatment Wetlands
1030-1100	Break
1100-1230	Assessment - Exercise #1 Phytotechnology Selection - Exercises #2/#3
1230-1330	Lunch
1330-1500	Design and Implementation - Exercise #4 (calculator needed)
1500-1530	Break
1530-1700	Operation, Maintenance, & Monitoring CTW Options - Exercise #5 Site Closure Considerations

**TUESDAY 2 October**

0900-0930	<b>Registration Opens</b>					
0930-1030	Opening Plenary Sasa Orlovic, David Tsao	Opening Ceremony Presentation of the Institute, Distinguished Guests, Certificates of Merit				
1030-1230		Plenary Lectures Dr. Michal V. Marek, Czech Academy of Sciences Dr. Luca Sebastiani, Scuola Superiore Sant'Anna, Italy Dr. Ron Zalesny, US Dept. of Agriculture Forest Service Dr. Hojka Kraigher, Slovenian Forestry Institute				
1230-1315		Milton Gordon Award Presentation Dr. Jean-Louis Morel				
1315-1430	Lunch					
1430-1450	Session 1A - Ecology Ron Zalesny	051 - <u>B. Pathak</u> , J.K. Singh (Central Univ. Gujarat, India) Potential contribution of multifunctional mangrove forest to reduce coastal environment degradation and climate change mitigation	Session 1B - PGPR/Endophytes Harrison Atagana	164 - R.O. Anyasi, <u>H.I. Atagana</u> , R. Sutherland (Univ. South Africa Pretoria, South Africa) Characterisation of PAH-degrading endophytes from plants around a crude oil sludge dam in a South African refinery	Session 1C - Metals A Marta Pogrzeba	011 - <u>M. Pogrzeba</u> , J. Krzyzak, S. Rusinowski (Inst. for Ecology of Industrial Areas, Poland) Seasonal changes in heavy metal and macronutrients distribution in aboveground parts of seed-based <i>Miscanthus</i> hybrids and <i>M. x giganteus</i> grown on contaminated arable land
1450-1510		090 - <u>A. Laakili</u> , M. Alami, O. Pakhrou, L. Medraoui, A. Filali-Maltouf, B. Belkadi (Mohammed Vth Univ., Morocco) Genetic structure of Moroccan cork oak ( <i>Quercus suber</i> L.) and genotyping of "Plus" trees: implication for conservation and detection of "outliers"		046 - <u>V. Riva</u> , F. Mapelli, E. Syranidou, N. Kalogerakis, R. Choukr-Allah, S. Borin (Univ. Milan, Italy) Plant growth promoting bacteria in phytodepuration systems: A promising tool to minimize water footprint in agriculture		004 - <u>D. Shiva Kumar</u> , N. Smitha, A. Nagaraju (Univ. Mysore, India) Phytoremediation technique for cleaning up of industrial contaminated soil by <i>Trigonella foenum graecum</i> and <i>Pennisetum purpureum</i>
1510-1530		105 - <u>S. Arpaia</u> , G.M. Di Leo (ENEA, Italy) Estimating the possible exposure of flower visiting insects to mercury in a polluted area in southern Italy		122 - <u>H. Moreira</u> , S.I.A. Pereira, A.P.G.C Marques, A.O.S.S. Rangel, P.M.L. Castro (Universidade Católica Portuguesa, Portugal) Does soil sterilization and metal spiking affect PGPR selection for phytotechnology purposes?		054 - <u>A. Saran</u> , L. Fernandez, V. Imperato, S. Thijs, J. Vangronsveld, L.J. Merini (Univ. Hasselt, Belgium) <i>Helianthus petiolaris</i> : a novel native aromatic plant species with potential use in phytostabilization of metals contaminated areas

**TUESDAY 2 October**

1530-1550	<b>Session 1A Ecology</b> <b>Ron Zalesny</b>	132 - <u>L. Ciadamidaro</u> , S. Pfendler, C. Zappelini, D. Blaudez, M. Chalot (Université de Bourgogne Franche-Comté, France) Fungal diversity at poplar phytomanaged sites	<b>Session 1B PGPR/Endophytes</b> <b>Harrison Atagana</b>	142 - H. Moreira, <u>S.I.A. Pereira</u> , A.P.G.C Marques, A.O.S.S. Rangel, P.M.L. Castro (Universidade Católica Portuguesa, Portugal) Are PGPR's traits and the inoculum size relevant for inoculation purposes in mine-affected soils?	<b>Session 1C Metals A</b> <b>Marta Pogrzeba</b>	020 - K.K. Shang, Y. Hu, <u>G. Vincent</u> , M. Labrecque (Shanghai Chenshan Botanical Garden, China) Assessment of ornamental shrub species for tolerance to inorganic contaminants and phytoextraction capacity on a large-scale experimental site
1550-1610		136 - <u>J. Zapata-Carbonell</u> , C. Bégeot, N. Carry, F. Choulet, F. Gillet, O. Girardclos, A. Mouly, M. Chalot (Université de Bourgogne Franche-Comté, France) Natural revegetation of a red gypsum dump		152 - Y. Ma, H. Berenguer, H. Freitas, <u>R.S. Oliveira</u> (Univ. Coimbra, Portugal) Using beneficial microorganisms to facilitate phytoremediation of mine soil		023 - <u>K.L. Njoku</u> , O.E. Ojo, A.O. Jolaoso (Univ. Lagos, Nigeria) Phytoremediation of soil contaminated with multiple heavy metals using <i>Senna alata</i>
1610-1630		149 - <u>P. Srivastava</u> (Forest Research Inst. Univ., India) Assisted natural regeneration as a tool for ecorestoration of Sal Forest in conflict with urbanization: A case study on <i>Shorea Robusta</i> (Sal) in Dehradun		058 - <u>C. Sirguy</u> , A. Azou-Barré, N. Maurice, D. Blaudez (Université de Lorraine, France) Effect of endophytic fungi on the phytoextraction potential of the hyperaccumulator <i>Noccaea caerulescens</i>		043 - <u>S. EL Hasnaoui</u> , S. Bouifden, A.Q. Lahlimi, M. Arahou, F. Mouna, S. AbdelAziz (Université Mohammed V de Rabat, Morocco) Assessment responses to heavy metals in <i>Casuarina glauca</i> and <i>Casuarina cunninghamiana</i>
1630-1650		161 - <u>L.R.M. de Andrade</u> , F.G. Aquino, Z.G. de Miranda, C.D. Pereira, G. Echevarria (Embrapa Cerrados, Brazil) Plant diversity and availability of metals in the ultramafic complexes of de Barro Alto, Go Brazil: tools for the recovery of areas under Ni mining and for phytoremediation of metals		160 - S.L. Doty, Z. Khan, J. Freeman, A. Firrincieli, C. Cohu, <u>J.G. Burken</u> , C. Munch, R. Zalesny, M. Blaylock (MUST., USA) Endophytic plant-microbe partnerships to improve treatment and tree fitness		052 - <u>S. Birman</u> , P. Srivastava, K.S. Kapoor (Himalayan Forest Research Inst., India) Phytoremediation efficacy of native flora grown in metal contaminated soils
1650-1710	Break					
1710-1730	<b>Session 2A Air</b> <b>Stanislaw Gawronski</b>	072 - <u>S.W. Gawronski</u> , M. Wrochna, A. Przybysz, H. Gawronska (Warsaw Univ. Life Sciences, Poland) Indoor Air Phytoremediation	<b>Session 2B Explosives</b> <b>Liz Rylott</b>	135 - <u>E.L. Rylott</u> , L. Zhang, S.E. Strand, T.J. Cary, N.C. Bruce (Univ. York, UK) Using plants to remediate the explosive pollutants TNT and RDX	<b>Session 2C Metals B</b> <b>Alan Baker</b>	063 - <u>S. Mallick</u> (CSIR NBRI, India) Monitoring and assessment of toxic metal accumulation in different crops grown on tannery waste (water and sludge) contaminated agricultural fields and phyto-remediation efficiency of different plants

**TUESDAY 2 October**

1730-1750	<b>Session 2A Air</b> <b>Stanislaw. Gawronski</b>	024 - <u>N. Khalid</u> (Govt. College Women Univ., Pakistan) Study of the responses of two biomonitor plant species to roadside air pollution	<b>Session 2B Explosives/Military</b> <b>Liz Rylott</b>	087 - <u>P. Manley</u> , J.G. Burken (MUST., USA) Scaling up remote detection of explosives uptake in plants: from the greenhouse to the field	<b>Session 2C Metals B</b> <b>Alan Baker</b>	076 - <u>V. Bert</u> , A. Perlein, A. Papin, A. Lounes-Hadj Sahraoui, J. Fontaine, R. Raveau, R. Gaucher (INERIS, France) Metal transfer in aromatic medicinal plants, essential oil and residues focusing on valorization pathways
1750-1810		033 - <u>K. Satinder</u> , K. Rakesh (NEERI, India) Developing indoor air purification device for removal of volatile organic compounds from households		013 - <u>V. Pidlisnyuk</u> , J.TrogI, T.Stefanovska, D.Nebeska, V.Kvak, A.Medkov, P.Shapoval, L. Erickson (Jan Evangelista Purkyne Univ., Czech Republic) Elaboration the phytotechnology for metals contaminated military sites with growing the biofuel crop <i>Miscanthus x giganteus</i>		101 - <u>P. Arora</u> , S. Siciliano, G. Stephenson, B. Hale (Univ. Guelph, Canada) Estimating phytotoxicity of complex metal mixtures in field-contaminated soils: Differentiating contaminant and non-contaminant growth controlling factors
1810-1830		079 - M. Zia-ur-Rehman, <u>M.I. Sohail</u> , S. Ali, M. Umair, M. Rizwan, H.R. Ahmad, A. Mukhtar (Univ. Agriculture, Pakistan) Rippled noise pollution has detrimental impacts on growth of ( <i>Zea mays</i> L.) and ( <i>Triticum aestivum</i> L.)		042 - Z. Alasmay, G.M. Hettiarachchi, K.L. Roozeboom, <u>L.C. Davis</u> , L.E. Erickson (KSU, USA) Stabilization of lead in a contaminated military site using a second-generation biofuel crop and phosphate-based soil amendments		150 - <u>V.R. Angelova</u> (Agricultural Univ. - Plovdiv, Bulgaria) Phytoremediation potential of <i>Miscanthus x giganteus</i> in soil contaminated with heavy metals
1830-2000	Transport University-Hotels-Gala Dinner Venue					
2000-2330	Gala Dinner					

**WEDNESDAY 3 October**

0830-0850	<p align="center"><b>Session 3A General</b></p> <p align="center"><b>Tomas Macek</b></p>	156 - J. Viktorova, K. Rehorova, L. Ohnoutkova, T. Vlcko, J. Suman, P. Cejnar, J.K. Kumar, <u>T. Macek</u> (Univ. Chem. and Tech., Czech Republic) Plants with improved resistance to stress may be beneficial for food safety	<p align="center"><b>Session 3B Detection/Models</b></p> <p align="center"><b>Joel Burken</b></p>	159 - X. He, H. Zhang, R. Xue, W. Liu, H. Shi, M. Bagheri, <u>J.G. Burken</u> (MUST., USA) Rapid throughput freeze-thaw-centrifugation sampling of plant tissues for HPLC-MS/MS analysis for uptake of emerging pollutants	<p align="center"><b>Session 3C Metals/Rads</b></p> <p align="center"><b>Pengjie Hu</b></p>	057 - J. Zhou, T. Zhou, Z. Li, P. Hu, <u>L. Wu</u> (Inst. of Soil Science, CAS, China) Improving prediction of zinc bioavailability to the hyperaccumulator <i>Sedum plumbizincicola</i> in a wide range of soil types using a piecewise function
0850-0910		036 - <u>G. Bastia</u> , K. Al Souki, C. Liné, B. Pourrut (Yncrea Hauts de France – ISA Lille, France) Phytoremediation studies: comparison between <i>in situ</i> and <i>ex situ</i> experiments results		143 - <u>B. Pereira</u> , A. Pellegrino, B. Hale (Univ. Guelph, Canada) Diffusive gradients in thin films (DGT) devices as biomimics for bioaccessible rare earth elements (REEs) in soil		022 - H. Hong, <u>C. Yan</u> (Xiamen Univ., China) Artificial geomorphic texture cause copper and zinc accumulation: case study at Rudong
0910-0930		092 - <u>J. Vilela</u> , I. Zuazagoitia, A. Albaina, C. Garbisu, J.M. Becerril (Environmental Studies Center, Spain) Green remediation projects for landscape restoration in Vitoria-Gasteiz (Spain)		137 - <u>M. Bagheri</u> , J.G. Burken, (MUST., USA) Artificial neural network and fuzzy logic as capable tools to assess and predict uptake of contaminants in plants		040 - B. Malik, T.B. Pirzadah, <u>R. Ul Rehman</u> (Univ. Kashmir, India) Aluminium (Al) and Lead (Pb) induced oxidative stress tolerance in chicory ( <i>Cichorium intybus</i> L.)
0930-0950		126 - <u>C. Frenette-Dussault</u> , P. Benoist, H. Kadri, F. Pitre, M. Labrecque (Université de Montréal, Canada) Beyond experimental plots: An integrative approach to phytoremediation of urban brownfields		037 - <u>S. Dehghani</u> , K.R. Zupfer, L. Vasiluk, M. Dutton, M. Bellantino Perco, B. Hale (Univ. Guelph, Canada) Modeling phytoremediation of Ni-elevated soils using <i>Alyssum murale</i> L., Port Colborne, Ontario		096 - <u>E.F. Jensen</u> , K. Rolt, M. Mos, S. Rusinowski, J. Krzyżak, M. Pogrzeba, B. Perkins, A. Brown, T. Williams, P. Stanley (Aberystwyth Univ., UK) Phytostabilization of lead and zinc contaminated mine spoil using perennial energy crops
0950-1010		134 - <u>M. Chalot</u> , L. Ciadamidaro, S. Pfendler, C. Zappellini, A. Durand, J. Parelle, F. Tatin-Froux, C. Moyon, D. Blaudez (Université de Bourgogne Franche-Comté, France) Increasing the panel of tree species for the phytomanagement of marginal lands		055 - <u>K. Sugawara</u> , M. Uno, C. Inoue, S. Suzuki (Seikei Univ., Japan) Visualization of heavy metal elution behavior of rhizosphere of <i>Arabidopsis halleri</i> ssp. <i>gemmifera</i> by LA-ICP-MS using DGT gel		120 - <u>R. Baraldi</u> , C. Petroselli, E. Gatti, F. d'Acapito (Consiglio Nazionale delle Ricerche, Italy) Manganese, zinc and copper distribution and speciation in plant organs of <i>Populus alba</i> and <i>Salix viminalis</i> with X-ray absorption spectroscopy
1010-1030		139 - <u>L. Lemal</u> , M. Valmier, M. Bravin (MetRHIZLab, France) The RHIZOtest: an innovative tool to support phytotechnologies in polluted sites and soil remediation		102 - <u>M. Limmer</u> , S. Webb, A. Seyfferth (Univ. Delaware, USA) Quantitative synchrotron x-ray fluorescence for trace metal(loid) distribution in rice grains		127 - <u>P. Kaewtubtim</u> , M. Sulong (Prince of Songkla Univ., Thailand) The natural and man-made radionuclides in Kluai Hin from three southernmost provinces of Thailand

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1030-1050	Session 3A General Tomas Macek	155 - <u>P.M. Gómez de la Serna</u> , R.S. Zalesny, E.R. Rogers, B.S. DeBauche, A. Pilipović, R.A. Hallett, E.O. Bauer, A.H. Wiese (Technical Univ. Madrid, Spain) Early establishment of hybrid poplars at landfills around the Great Lakes Basin	Session 3B Detection/Models Joel Burken	050 - K. Chaudhary, <u>S. Khan</u> (Banasthali Vidyapith, India) Spatial mapping for fluoride contaminated groundwater and soil using geographic information system approach and improvement of phytoremediation efficiency of F hyperaccumulator plant <i>Prosopis juliflora</i> through <i>Pseudomonas fluorescence</i> application	Session 3C Metals/Rads Pengjie Hu	001 - <u>R.C. Borges</u> , C.F. Mahlera, H.M.S. de Carvalho, A.V.B. Bernedob (Universidade Federal do Rio de Janeiro, Brazil) Phytoextraction potential of radionuclides from a phosphogypsum stack by the <i>Eupatorium asteraceae</i> , in Imbituba-SC, Brazil
1050-1110	Break					
1110-1130	Session 4A Nano A Jason White	017 - <u>J.C. White</u> , R. de La Torre-Roche, R. Ma, L. Zhao (CAES, USA) Impact of engineered nanomaterial exposure on peanut ( <i>Arachis hypogaea</i> ) and cucumber ( <i>Cucumis sativus</i> ) health and nutritional quality	Session 4B Wetlands A Xiaoe Yang	005 - <u>X. Yang</u> , W. Wang, X.Q. Ciu, Z. He (Zhejiang Univ., China) Phytotechnologies for cleaning eutropic waters by enhanced constructed complex wetlands coupled with carbon sequestration	Session 4C Cadmium A Catherine Sirguey	059 - T. Sterckeman, Y. Cazes, <u>C. Sirguey</u> (Université de Lorraine, France) Breeding the hyperaccumulator <i>Noccaea caerulescens</i> for trace metal phytoextraction: First results of a pure-line selection
1130-1150		007 - <u>M. Seghatoleslami</u> , H. Feizi (Islamic Azad Univ., Iran) Silver nanoparticles and magnetic field effects on essential oil yield and composition of <i>Carum copticum</i> under water stress condition		008 - K. Andleeb, <u>I. Hashmi</u> (National Univ. Sci. and Tech., Pakistan) Organic contaminant removal in constructed wetland for wastewater treatment and reuse		138 - Z. Qian, <u>M-F. Chien</u> , Y. H-T. Kohda, N. Kitajima, K. Hayashi, A. Kanayama, C. Inoue (Tohoku Univ., Japan) Cadmium removal from mine drainage using <i>Arabidopsis halleri</i> ssp. <i>gemmaifera</i> through hydroponic culture
1150-1210		010 - <u>H. Feizi</u> , M. Seghatoleslami, M. Heshmati, M. Kowsari, M. Alipanah (Univ. Torbat Heydarieh, Iran) The effect of titanium dioxide nanoparticles on germination and growth indices of oak acorns under drought stress		027 - S. Rimal, A. Karam, J. Chen, <u>D.P. Khasa</u> (Univ. Laval, Canada) Hydrophytoremediation of heavy metals contaminated ecosystems by wetland macrophytes in a mesocosm experiment		034 - <u>P. Hu</u> , Q. Zhang, L. Wu (Inst. of Soil Science, CAS, China) Metal removal from squeezed liquor of fresh biomass of cd hyperaccumulator <i>Sedum plumbizincicola</i> after harvest by using precipitation and electron-Fenton method
1210-1230		025 - X. Wang, <u>W. Sun</u> , S. Zhang, H. Sharifan, <u>X. Ma</u> (SMU and TAMU, USA) Cerium oxide nanoparticles and zinc oxide nanoparticles differently affected arsenic uptake and speciation in rice		029 - <u>K. Avishek</u> , M. Hazra (Birla Inst. Technology, India) Removal efficiency of <i>Eichornia crassipes</i> , <i>Typha latifolia</i> , <i>Monochoria hastata</i> and mixed culture grown in domestic and industrial wastewater of Ranchi (India)		047 - <u>C. Lapie</u> , P. Leglize, T. Buisson, C. Paris, T. Sterckeman (Université de Lorraine, France) Metabolites profiling in high and low molecular weight rhizodeposits collected from <i>Zea mays</i> submitted to cadmium stress

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1230-1350	Lunch					
1350-1410	<b>Session 5A Nano B</b> <b>Marta Marmiroli</b>	093 - L. Pagano, E. Maestri, M. Caldara, J.C. White, N. Marmiroli, <u>M. Marmiroli</u> (Univ. Parma, Italy) Engineered nanomaterial activity at the organelle level: impacts on the chloroplasts and mitochondria	<b>Session 5B Wetlands B</b> <b>Eugenia Olguin</b>	048 - <u>E.J. Olguin</u> , G. Sánchez-Galván, R.E. González-Portela, V.J. Hernández, F.J. Melo, A. Mendoza, P. García (INECOL, Mexico) Floating treatment wetlands and microcystin concentration levels in eutrophic urban ponds: The influence of water flow	<b>Session 5C Cadmium B</b> <b>Andrej Pilipovic</b>	069 - <u>D. Arsenov</u> , M. Župunski, N. Nikolić, M. Borišev, S. Orlović, A. Pilipović, M. Kebert, S. Pajević (Univ. Novi Sad, Serbia) Citric acid as soil amendment in Cd removal by <i>Salix viminalis</i> L.
1410-1430		053 - <u>A. Noori</u> , J. Colbert, A. Ngo (Merrimack College, USA) Molecular and physiological responses of <i>Solanum lycopersicum</i> L. exposed to silver nanoparticles and silver nitrate		031 - <u>C.P. Muerdter</u> , G.H. LeFevre (Univ. Iowa, USA) Transformation of neonicotinoids in aqueous medium by a synergistic duckweed-microbe system		006 - <u>Z. Zgorelec</u> , N. Bilandzija, K. Knez, M. Galic, S. Zuzul (Univ. Zagreb, Croatia) Cd and Hg phytoremediation from soil using <i>Miscanthus x giganteus</i>
1430-1450		060 - V. Vijayaraj, C. Liné, A. Elger, M. Barret, F. Mouchet, <u>C. Larue</u> (Université de Toulouse, France) Transfer and ecotoxicity of titanium dioxide nanoparticles in a terrestrial-aquatic continuum: an integrative approach		064 - <u>N. Čule</u> , A. Lučić, M. Nešić, Z. Miletić, M. Veselinović, S. Mitrović (Inst. Of Forestry, Serbia) Phytoremediation potential of <i>Canna indica</i> L. and selected decorative macrophytes in FTW		066 - <u>K. Tanwir</u> , S. Abass, M.S. Akram, M.T. Javed (Government College Univ., Pakistan) Fingerprints of cadmium (Cd) toxicity on physico-biochemical attributes and rhizospheric ion dynamics of maize ( <i>Zea mays</i> L.) for sustainable remediations
1450-1510		083 - <u>C. Line</u> , F. Manent, H. Castillo-Michel, E. Flahaut, C. Larue (Université de Toulouse, France) Evaluation of carbon nanotube impacts on five different crop species using Fourier transformed infrared spectroscopy		080 - <u>J. Kisser</u> , E. Katsou, S. Malamis (Alchemia-Nova GmbH, Austria) HYDROUSA – Demonstration of water loops with innovative regenerative business models for the Mediterranean region		088 - <u>A. Grignet</u> , A. Lounes-Hadj Sahraoui, V. Bert (INERIS, France) Phytoextraction with <i>Arabidopsis halleri</i> intercropped with <i>Salix viminalis</i> to redevelop metal contaminated urban area
1550-1610		<b>Session 6A Nano C</b> <b>Nelson Marmiroli</b>		131 - D. Imperiale, M. Marmiroli, G. Lencioni, M. Villani, A. Zappettini, J.C. White, <u>N. Marmiroli</u> (Univ. Parma, Italy) The metal hyperaccumulators <i>N. caerulea</i> and <i>A. halleri</i> have also an enhanced accumulation of metal based nanoparticles		<b>Session 6B Wetlands C</b> <b>David Tsao</b>

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1530-1550	Break					
1610-1630	Session 6A Nano C Nelson Marmiroli	103 - <u>C. Ma</u> , Y. Hao, Z. Zhang, T. Zhou, Y. Rui, B. Xing, J.C. White (CAES, USA) Use of engineered nanomaterials to suppress diseases in crop plants	Session 6B Wetlands C David Tsao	081 - <u>J. Kisser</u> , G. Vasallo, H. Gattringer (Alchemia-Nova GmbH, Austria) Parameters and performance of grey water recycling of a façade-integrated greening	Session 6C Mixed Eucharria Nwaichi	002 - N. Jeelani, W. Yang, <u>S. An</u> (Nanjing Univ., China) Phytoremediation potential of <i>Xanthium sibiricum</i> in co-contaminated soils
1630-1650		110 - <u>O.P. Dhankher</u> , C. Ma, B. Xing, J.C. White, S. Long, R. Minocha (Univ. Massachusetts Amherst, USA) Metal-based engineered nanoparticles toxicity in crops and their impact on global food security and safety		154 - M. Bayati, T.L. Ho, D.C.Vu, F. Wang, C. Cuvellier, S. Huebotter, E.C. Inniss, R. Udawatta, S. Jose, <u>C-H. Lin</u> (Univ. Missouri-Columbia, USA) Removing pharmaceuticals and personal care products from treated municipal eastwater by engineered wetlands		003 - O.U. <u>Nwosu</u> , C.C. Ibe, C.O. Nwoko, C.O. Chibuike, G. Obichere, U.C. Egbufor (Imo State, Nigeria) Phytoremediation of Pb-antracene co-contaminated soils using <i>Vetiveira zizanioides</i> , <i>Helianthus annuus</i> L., <i>Zea mays</i> and <i>Glycine max</i>
1650-1710		130 - <u>R. De la Torre-Roche</u> , C. McMahon, L. Pagano, S. Majumdar, B.D. Eitzer, N. Zuverza-Mena, C. Ma, A.D. Servin, N. Marmiroli, O.P. Dhankher, J.C. White (CAES, USA) Co-exposure of Imidacloprid and weathered or unweathered Ag nanoparticles to <i>Cucurbita pepo</i> (Zucchini): Contaminant bioaccumulation and translocation		OPEN		OPEN
<b>Poster Session - Student Judging (Barbara Zeeb, lead)</b>						
1710-1830	<p>015 - Ch. Nurzhanov (Al-Farabi Kazakh National Univ., Kazakhstan) Mathematical model for growing <i>Miscanthus x giganteus</i> at the soil contaminated by xenobiotics</p> <p>016 - A. Nurzhanova (Inst. of Plant Biology and Biotechnology, Kazakhstan) Using of <i>Miscanthus x giganteus</i> for phytoremediation of the contaminated soil: case of military and mining sites</p> <p>018 - C.O. Ogunkunle (University of Ilorin, Nigeria) Preferential tissue accumulation and synchrotron-based evidence of cu biotransformation in cowpea grown on copper nanoparticles-amended soil</p> <p>019 - C. Garbisu (NEIKER-Basque Inst. of Agricultural Research and Development, Spain) Beneficial effects of phytomanagement options on soil structural and functional microbial biodiversity</p> <p>039 - W. Meeinkuirt (Mahidol Univ., Thailand) Influences of soil amendments on Cd uptake and accumulation by two commercial Thai rice varieties, Chorati and Mali Deang</p> <p>049 - E.J. Olguín (Inst. of Ecology, Mexico) Recycling of biomass harvested from floating treatment wetlands: biomass hydrolysis for biogas generation</p> <p>075 - A. Cerdeira-Pérez (Instituto de Investigaciones, CSIC, Spain) Bioprospection of plant and microbial communities in two abandoned mine areas aimed to phytomining of strategic elements</p>					



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Poster Session - Student Judging (Barbara Zeeb, lead)

1710-1830

- 082 - J. Kisser (Alchemia-nova GmbH, Austria)  
Innovative circular solutions and services with nature-based solutions for new buildings and refurbishments
- 097 - R. Akre (Univ. Guelph, Canada)  
Reliable quantification of NZVI in soil and soil solution for phytotoxicity testing
- 098 - L. Vasiluk (Univ. Guelph, Canada)  
Remediation of Ni toxicity by liming or deep-tilling - Field validation
- 099 - A. Burges (Bordeaux Univ., France)  
Long-term phytomanagement influences structural diversity of microbial communities in a cu-contaminated soil at a wood preservation site
- 104 - C. Ma (CAES, USA)  
Use of synthesized nanomaterials to suppress root fungal disease in watermelon (*Citrullus lanatus*)
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Using poplars and willows to reduce runoff at landfills in the Lake Superior and Lake Michigan watersheds of the United States
- 117 - M. Mench (Bordeaux Univ., France)  
Rhizofiltration of a Bordeaux mixture effluent in pilot-scale constructed wetland using *Arundo donax* and production of a Cu-rich root mat for ecocatalysis
- 123 - E.G. Papazoglou (Agricultural Univ. Athens, Greece)  
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- 124 - E.G. Papazoglou (Agricultural Univ. Athens, Greece)  
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Phytotechnologies in degraded soils - the example of Borralha mine in Portugal
- 144 - D. Blaudez (Université de Lorraine, France)  
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- 157 - C. Monterroso (Universidade de Santiago de Compostela, Spain)  
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Dynamics of soil organic matter in mine soils phytostabilised using organic-waste amendements and grass species
- 162 - E. Manousaki (Technical University of Crete, Greece)  
Contribution of microbial community associated with *Juncus acutus* L. in metal removal in constructed wetlands treating municipal wastewater
- 163 - E. Manousaki (Technical University of Crete, Greece)  
Removal efficiency of a halophyte-based constructed wetland mesocosm for heavy metal polluted wastewater treatment

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0830-0850	<p><b>Session 7A Processes</b> <b>Muhammad Tariq Javed</b></p>	094 - <u>M.T. Javed</u> , S. Hashmat, K. Tanwir, Q. Ali, M. Sohail Akram (Government College Univ., Pakistan) Biologically treated wastewater fertigation confer the growth and yield enhancement to pea ( <i>Pisum sativum</i> L.) – a sustainable perspective	<p><b>Session 7B Sats/Nutrients</b> <b>Om Parkash Dhankher</b></p>	111 - <u>O.P. Dhankher</u> , G. Singh, P. Tomar, A. Dixit (Univ. Massachusetts Amherst, USA) Novel-Stress Associated Proteins for Enhanced Tolerance to Multiple Abiotic Stresses and Improved N Use Efficiency in Plants	<p><b>Session 7C Nickel</b> <b>Guillaume Echevarria</b></p>	140 - M. Konstantinou, D. Kyrkas, G. Karras, G. Patakioutas, I. Tsirogiannis, A. Tognacchini, M. Puschenreiter, E. Benizri, M.O. Simonnot, J.L. Morel, <u>G. Echevarria</u> (Université de Lorraine, France) First field trials for nickel agromining by <i>Alyssum murale</i> , <i>Bornmuellera tymphaea</i> and <i>Leptoplax emarginata</i> in Northern Greece
0850-0910		009 - <u>H. Feizi</u> , A. Hosseini, M. Seghatoleslami (Univ. Torbat Heydarieh, Iran) Determining of the released organic compounds by saffron on soil with different ages		084 - <u>B. Ayati</u> , H. Ganjidoust, F. Fallahi, S. Rezamand (Tarbiat Modares Univ., Iran) Lab scale study of nitrogen and phosphorous removal by phytoremediation		074 - <u>A. Cerdeira-Pérez</u> , C. Monterroso, M.B. Díaz; G. Machinet; G. Echevarria, Á. Prieto-Fernández; P. Kidd (Instituto de Investigaciones, CSIC, Spain) Implementing nickel phytomining in a serpentine quarry (NW Spain) and its optimization using organic wastes as soil amendments
0910-0930		021 - <u>T.B. Pirzadah</u> , B. Malik, R. Ul Rehman, I. Tahir (Univ. Kashmir, India) Aluminium stress modulates the osmolytes and enzyme defense system in <i>Fagopyrum</i> species		091 - M. Tafazzoli, <u>H. Ganjidoust</u> , B. Ayati (Tarbiat Modares Univ., Iran) Study of soluble sulfate removal using phytoremediation		061 - <u>R.F. Saad</u> , G. Echevarria, B. Rodríguez-Garrido, P.S. Kidd, E. Benizri (Université de Lorraine, France) A two-year field study of nickel-agromining using <i>Odontarrhena chalcidica</i> co-cropped with a legume: temporal variation in plant biomass, nickel yields and taxonomic and bacterial functional diversity
0930-0950		073 - <u>M. Betsiashvili</u> , C. Weber, S. Bank, U. Holzgrabe (Agricultural Univ. of Georgia, Georgia) Role of glucosinolates in plant defense responses against pollution stress		028 - <u>S. Newete</u> , S. Allem, N. Venter, M. Byrne (ARC-ISCW, South Africa) The efficiency of <i>Tamarix</i> genotypes in salt excretion in South Africa		062 - S. Lopez, X. Goux, G. Echevarria, M. Calusinska, J.L. Morel, <u>E. Benizri</u> (Université de Lorraine, France) Community diversity and potential functions of rhizosphere-associated bacteria of nickel hyperaccumulators found in Albania
0950-1010		089 - <u>K. Rabeh</u> , B. Belkadi, A. Filali-Maltouf, L. Sbabou (Mohammed V Univ. of Rabat, Morocco) Drought tolerance in <i>Arganiaspinosa</i> L. skeels: a candidate gene approach for the amplification of the aquaporin gene		044 - <u>B.A. Zeeb</u> (RMC, Canada) Plant-based solutions for remediating salt-contaminated sites in Canada		078 - <u>M.I. Sohail</u> , M. Zia-ur-Rehman, M. Rizwan, M. Ali, S. Ali, M. Sabir, R.A. Hassan (Univ. Agriculture, Pakistan) Nickel mobility is differentially affected by exogenous calcium sources in Ni contaminated-salt affected soils

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0950-1010	Session 7A Processes Muhammad Tariq Javed	OPEN	Session 7B Sats/Nutrients Om Parkash Dhankher	056 - <u>L.C. Davis</u> (KSU, USA) Limits on growing <i>Tamarix</i> species (saltcedar) to produce cellulosic material using water with high salt and boron : how much is too much?	Session 7C Nickel Guillaume Echevarria	128 - P.N. Nkrumah, R. Tisserand, J.L. Morel, A.J.M. Baker, <u>G. Echevarria</u> , P.D. Erskine, A. van der Ent (Université de Lorraine, France) Optimization of nickel agromining with two tree species from Sabah (Malaysia): From nutrient dosing experiments to field plot applications
1030-1050	Break					
1050-1110	Session 8A Biochar/OM Elena Maestri	125 - M. Marmiroli, U. Bonas, D. Imperiale, G. Lencioni, F. Mussi, N. Labartino, S. Piccinini, N. Marmiroli, <u>E. Maestri</u> (Univ. Parma, Italy) Biochar potential as soil improver depends on structural and functional features related to biomass origin and production process	Session 8B Organics A Yongming Luo	133 - <u>Y. Luo</u> , L. Li, Q. Zhou (Yantai Institute of Coastal Zone Research, CAS, China) Uptake and translocation of microplastic beads in lettuce	Session 8C Copper Michel Mench	119 - <u>M. Mench</u> , M. Dellise, L. Marchand, A. Kolbas, P. Le Coustumer, N. Oustrière (Bordeaux Univ., France) Long-term phytomanagement and remediation of Cu-contaminated soils by high yielding crops at a former wood preservation site: Sunflower biomass and ionome
1110-1130		014 - <u>M. Teodoro-Tenango</u> , E. Ferrer-Bustins (Czech Univ. Life Sciences of Prague, Czech Republic) Effects of nano zero-valent iron and biochar on seed germination of potential phyto-stabilizing species		148 - S Subramanian, R. Tehrani, <u>B. Van Aken</u> (George Mason Univ., USA) Hydroxylated polychlorinated biphenyls (OH-PCBs) inhibit brassinosteroid synthesis in <i>Arabidopsis</i>		100 - <u>S. Matin</u> , N. Oustrière, W. Szulc, B. Rutkowska, T. Persson, M. Mench (Bordeaux Univ., France) Phytomanagement of a Cu-contaminated soil within the EU INTENSE project: Assessment of organics amendments and barley
1130-1150		118 - <u>M. Mench</u> , C. Garbisu, A. Burges, J. Urra, L. Epelde, C. Trasar, B. Rodríguez-Garrido, L. Marchand, N. Oustrière, S. Matin, M. Dellise, Á. Prieto-Fernández, C. Monterroso, P.S. Kidd (INRA-Univ. Bordeaux, France) Phytomanaging metal(loid)-contaminated sites using high-biomass plants and organic amendments improves soil physico-chemical properties, microbial activity and diversity		077 - <u>A.E. Futughe</u> , H. Jones, D. Purchase (Middlesex Univ., UK) A novel technology of solarization and phytoremediation enhanced with biosurfactant for sustainable treatment of PAH-contaminated soil		145 - <u>G. Andrejić</u> , T. Rakić, M. Prica, Ž. Dželetović (Inst. for the Application of Nuclear Energy, Serbia) The effects of nitrogen fertilization on Cu uptake and distribution as well as biomass yield of <i>Miscanthus × giganteus</i> plants grown on flotation mine tailings

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1150-1210	Session 8A Biochar/OM Elena Maestri	OPEN	Session 8B Organics A Yongming Luo	109 - <u>H. Megloul</u> , J. Fontaine, M. Magnin-Robert, B. Tisserant, M. Hijri, A. Lounès-Hadj Sahraoui (Université du Littoral Côte d'Opale, France) Influence of arbuscular mycorrhizal inoculum sources on phytoremediation efficiency of a historically dioxin/furan-contaminated soil	Session 8C Copper Michel Mench	012 - <u>A.R. Memon</u> , N. Merakli (Usak Univ., Turkey) Cu and Cd induced gene expression in metal accumulator plant <i>Brassica nigra</i>
1210-1330	Lunch					
1330-1350	Session 9A Phyto Products Frederic Pitre	035 - <u>F.E. Pitre</u> , E. Sas, W. Guidi Nissim, N.J.B. Brereton, K.K. Shan, S. Mancuso, E. Azzarello, P. Benoist, G. Vincent, M. Labrecque (IRBV/Montreal Botanical Garden and University de Montreal, Canada) The potential of economically viable integrated platform for biofuel and bioproducts phytoremediation, in Canada, Italy and China	Session 9B Organics B Mehmet Isleyen	153 - <u>M. Isleyen</u> , O. Karatas, A. Aygun (Bursa Technical Univ., Turkey) Enhanced dissolution and uptake of <i>p,p'</i> -DDE in soil	Session 9C Arsenic Lena Ma	045 - <u>L. Ma</u> (Southwest Forestry Univ., China and Univ. Florida, USA) Phytoremediation of arsenic-contaminated soils: molecular mechanisms and field application
1350-1410		032 - J. Wei, <u>C. Tu</u> , G. Yuan, Y. Luo (Yantai Inst. of Coastal Zone Research, CAS, China) Characterization and copper binding properties of dissolved organic matter derived from Jerusalem artichoke stalk biochar		112 - <u>W. Ren</u> , Y. Wang, Y. Ten, W. Ma, Z. Li, Y. Luo (Inst. of Soil Science, CAS, China) Dissipation variability of di (2-ethylhexyl) phthalate in the rhizosphere of alfalfa at a millimeter scale and associated microbial mechanism		026 - F. Dou, <u>X. Ma</u> , <u>W. Sun</u> (TAMU and SMU, USA) Effects of elevated oxidizing compounds in irrigation water on arsenic uptake and speciation in rice tissues and implications for phytoremediation
1410-1430		038 - <u>N. Bilandžija</u> , M. Grubor, Ž. Zgorelec, T. Krička (Univ. Zagreb, Croatia) The potential use of biomass cultivated on contaminated soil via combustion process: <i>Miscanthus x giganteus</i> case		113 - <u>Y. Teng</u> , W. Ren, Z. Fu, M. Sun, Y. Luo (Inst. of Soil Science, CAS, China) Phytoremediation of PAH-contaminated soil by intercropping alfalfa ( <i>Medicago sativa</i> L.) with tall fescue ( <i>Festuca arundinacea</i> Schreb.) and associated soil microbial activity		070 - <u>C. Yang</u> , M-F. Chien, C. Inoue (Tohoku Univ., Japan) Efficient arsenic phytoremediation by co-culture of <i>Pteris multifida</i> with a multifunctional rhizobacterium

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1430-1450	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Session 9A Phyto Products</b></p>	<p>095 - <u>M.T. Javed</u>, M. Hussaan, S. Adeel, N. Iqbal (Government Colleg Univ., Pakistan) Microwave assisted sustainable extraction and dyeing of cotton fabric by using <i>Sesbania rostrata</i> L. as a source of natural colorant</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Session 9B Organics B</b></p>	<p>114 - <u>J.A. Dominguez</u>, M.F. Chien, C. Inoue (Tohoku Univ., Japan) Enhancement or inhibition: Understanding the role of plant root exudates in bacterial polycyclic aromatic hydrocarbons degradation using Sudangrass</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Session 9C Arsenic</b></p>	<p>071 - S. Wei, <u>M-F. Chien</u>, Y. Huang-Takeshi Kohda, C. Inoue (Tohoku Univ., Japan) Gene expression of a phosphate transporter and an arsenate reductase in <i>Pteris vittata</i> during arsenic uptake</p>
1450-1510		<p>106 - <u>A. Ibrar</u> (Mehsum Foundation School, Pakistan) Bioplastic from Starch</p>		<p>151 - <u>M. Ben-Israel</u>, J.G. Burken, R. Aravena, B.L. Parker, D.T. Tsao, E.A. Haack, K.E. Dunfield (Univ. Guelph, Canada) MMBTs: Metagenomic Molecular Biological Tools to assess phytoremediation of petroleum hydrocarbons in complex geological environments</p>		<p>121 - R. Baraldi, <u>C. Petroselli</u>, F. d'Acapito, P. Piccoli (Università degli Studi di Perugia, Italy) An X-ray absorption spectroscopy investigation of arsenic uptake and accumulation in grapevine plantlets in relation to plant growth promoting rhizobacteria</p>
1510-1530		<p>116 - <u>M. Mench</u>, N. Oustrière, L. Marchand, M. Dellise, S. Matin, A. Fichou, T. Lafargue, A. Darroman, R.G. Lacalle, A. Burges, B. Castagneyrol, S. Jouveau, A. Sæbø, T. Persson, H.M. Hanslin, M. Høglind, M.L. Edvardsen, H. Sørli, P. Schröder, M. Obermeier, W. Szulc, B. Rutkowska, J. Vangronsveld, N. Witters, B. Beckers, F. Rineau, S. Daniels, H. Olcay, R. Malina, R. Millán, T. Schmid, M.J. Sierra, Ch. Poschenrieder, N. Marmioli, E. Maestri, R. Reggiani, J.A. López Gonzalez, G. Bidar, F. Douay (Bordeaux Univ., France) Intensify production, transform biomass to energy and novel goods and protect soils in Europe (INTENSE): Progress in year 2</p>		<p>115 - <u>A. Pilipović</u>, S. Rončević, S. Đurić, N. Nikolić, S. Orlović, S. Pekeč, M. Katanić, D. Arsenov, D. Stamenov, J. Beljin (Univ. Novi Sad, Serbia) Growth, physiology and phytoremediation potential of poplars grown on diesel fuel contaminated soils amended with indigenous microorganisms</p>		<p>OPEN</p>

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1530-1550	Closing Plenary David Tsao, Andrej Pilipovic	In Memoriam - Jean-Paul Schwitzguebel
1550-1650		Awards Ceremony Student Competitions Distinguished Service Stephen D. Ebbs Award
1650-1710		Announcements Special Issue of IJP 2019 IPC16 Venue
1710-1730		Closing Remarks / Field Tour Instructions
1730-1750		Break / Adjourn
1750-2000		IJP Editorial Board Meeting (IJP Editors Only)