

ORAL SESSIONS

S1. PRODUCTION TECHNOLOGIES OF BIOCHARS, COMPOSTS AND DIGESTATES BY CONVERSION OF SOLID AND FLUID BIOWASTES/BIOSOLIDS

S1.1 19 October, h. 10:30 – 12:15 *Sponsored by Tersan Puglia SpA*

Title: RECYCLING ORGANIC WASTES BY SUSTAINABLE AND INNOVATIVE TECHNOLOGIES FOR THE PRODUCTION OF TAILORED COMPOSTS

Chairpersons: Paolo Sequi, *Roma, Italy*
Giovanni Gigliotti, *University of Perugia - Perugia, Italy*

S1.1.01 **Sustainable production at the firm and region level: the case of compost production**

Vito Albino, *Politecnico di Bari - Bari, Italy*

S1.1.02 **Methodologies for odour control in composting plants**

De Gennaro Gianluigi, Brattoli Magda, *University of Bari - Bari, Italy*

S1.1.03 **Effects of different substrate mixtures on methane production**

Hartung Eberhard, Ohl Susanne, Hold Annika, Bølter Manfred, Horn Rainer, Holthusen Dörthe, Völkner Amrei - *Christian-Albrechts-University Of Kiel - Kiel, Germany*

S1.1.04 **Nitrogen and water recovery from animal slurries by a new integrated ultrafiltration, reverse osmosis and cold stripping process: a case study**

Ledda Claudio, Schievano Andrea, Salati Silvia, Terruzzi Laura, D'Imporzano Giuliana, Adani Fabrizio - *University of Milan - Milan, Italy*

S1.1.05 **Microbial community characterization of a biofertilizer from biodegradable wastes**

Vernile Pasqua, *Tersan Puglia Spa - Modugno (BA), Italy*

Pascasio Silvia, *University of Bari - Bari, Italy*

Sequi Paolo, *Cra-Qce - Bari, Italy*

Monteforte Antonio, *Tersan Puglia Spa - Bari, Italy*

S1.1.06 **Biodegradability of different biochars**

Wilske Burkhard, Bai Mo, Bach Martin, Frede Hans-Georg, Breuer Lutz - *Justus Liebig University - Giessen, Germany*

S1.1.07 **Cascaded production of biogas and HTC chars using straw as feedstock**

Mumme Jan, Srocke Franziska, Schulze Michael, Lanza Giacomo, Kern Jürgen, *Leibniz Institute For Agricultural Engineering Potsdam-Bornim - Potsdam, Germany*

S2. ANALYSIS AND CHARACTERIZATION OF BIOWASTERS, BIOCHARS, COMPOSTS AND DIGESTATES

S2.1 18 October, h. 8:30 – 10:00

Title: STATUS OF THE ART IN BIOCHAR CHEMISTRY: CHEMICAL AND CHEMICAL-PHYSICAL CHARACTERIZATION

Chairpersons: Jose M. Garcia-Mina, *University of Navarra - Pamplona, Spain*
Bruno Glaser, *Martin-Luther-University Halle-Wittenberg, Halle, Germany*

Plenary Lecture: **Analysis and characterization of biowastes, biochars, composts and digestates**

Glaser Bruno, *Martin-Luther-University Halle-Wittenberg, Halle, Germany*

- S2.1.01** **Differential and common structural domains in humic substances with diverse origins and humification degree**
 Fuentes Marta, Baigorri Roberto, *G Roullier R&D - Pamplona, Spain*
 Garcia-Mina Jose M., *G Roullier R&D and University of Navarra - Pamplona, Spain*
- S2.1.02** **Structural differences between humic substances from natural sources and valorized organic waste (compost, biochars) – how does source material and humification conditions define their structure**
 Knicker Heike, De La Rosa José María, López-Martín María, *IRNAS-CSIC - Sevilla, Spain*
 Velasco-Molina Marta, *Universidad de Santiago de Compostela - Santiago de Compostela, Spain*
 González-Vila Francisco J., González-Pérez José A., *IRNAS-CSIC - Sevilla, Spain*
 Almendros Gonzalo - *MNCN- CSIC - Madrid, Spain*
- S2.1.03** **Biochar changes the stability and fluxes of dissolved organic matter**
 Smebye Andreas L., *University of Oslo - Oslo, Norway*
 Alling Vanja, Hale Sarah E., *Norwegian Geotechnical Institute - Oslo, Norway*
 Mulder Jan, *Norwegian University of Life Sciences - Aas, Norway*
 Vogt Rolf D., *University of Oslo - Oslo, Norway*
 Cornelissen Gerard, *Norwegian Geotechnical Institute, Norwegian University of Life Sciences and Stockholm University – Oslo - Norway, Aas, Norway - Stockholm, Sweden*
- S2.1.04** **Biochar, can it replace soil organic matter?**
 Zwart Kor, Kuikman Peter, *Alterra WageningenUR - Wageningen, Netherlands*
- S2.2**
Title: **17 October, h. 15:00 – 16:30 (Room B)**
MAIN PHYSICO-CHEMICAL AND STRUCTURAL DIFFERENCES BETWEEN SEDIMENTARY AND COMPOST-RELATED HUMIC SUBSTANCES
Chairpersons: Claudio De Pasquale, *University of Palermo - Palermo, Italy*
 Pellegrino Conte, *University of Palermo - Palermo, Italy*
 Giuseppe Alonzo, *University of Palermo - Palermo, Italy*
- S2.2.01** **Properties of biochar prepared from contaminated biomass**
 Břendová Kateřina, Tlustoš Pavel, Száková Jiřina, *Czech University of Life Sciences Prague - Prague, Czech Republic*
- S2.2.02** **Influence of pyrolysis conditions on composition and surface properties of corn cob and miscanthus biochars**
 Budai Alic, *Norwegian Institute for Agricultural and Environmental Research – Bioforsk - Aas, Norway*
 Wang Liang, *SINTEF Energy Research - Trondheim, Norway*
 Grønli Morten, *Norwegian University of Science and Technology - Trondheim, Norway*
 Tau Strand Line, *Norwegian University of Life Sciences - Aas, Norway*
 Abiven Samuel, *University of Zurich - Zurich, Switzerland*
 Dieguez-Alonso Alba, *Technical University Berlin - Berlin, Germany*
 Anca-Couce Andres, *Graz University of Technology - Graz, Austria*
 Rasse Daniel, *Norwegian Institute for Agricultural and Environmental Research – Bioforsk - Aas, Norway*
- S2.2.03** **The characteristics of biochar derived from different feedstocks**
 Dai Zhongmin, Liu Xingmei, Wang Haizhen, Xu Jianming, *College of Environmental and Natural Resource Sciences - Zhejiang University – Hangzhou, China*

- S2.2.04** **Non-invasive characterization of biochar using geoelectrical measurements – a laboratory study**
 Haegel Franz-Hubert, Esser Odilia, Borchard Nils, *Forschungszentrum Jülich - Institut Für Bio- Und Geowissenschaften, IBG-3 Agrosphäre -Jülich, Germany*
 Jablonowski, Nicolai David, *Forschungszentrum Jülich - Institut Für Bio- Und Geowissenschaften, IBG-2 Pflanzenwissenschaften - Jülich, Germany*
 Mukherjee Santanu - Linden Andreas, *Forschungszentrum Jülich - Institut Für Bio- Und Geowissenschaften, IBG-3 Agrosphäre -Jülich, Germany*
 Zimmermann Egon, *Forschungszentrum Jülich - Zentralinstitut Für Engineering, Elektronik Und Analytik, ZEA-3 Systeme Der Elektronik - Jülich, Germany*
 Huisman Johan Alexander, Vereecken Harry, *Forschungszentrum Jülich - Institut Für Bio- Und Geowissenschaften, IBG-3 Agrosphäre -Jülich, Germany*
- S2.2.05** **Green waste compost monitoring by UV-visible absorption and 3d fluorescence spectroscopy**
 Mounier Stéphane, Abaker Madi, *University of Toulon - PROTEE Lab. - La Garde, France*
 Rapetti Nicola, *Micro-Terra - Lunel, France*
- S2.2.06** **Characterisation and potential applications of char from intermediate pyrolysis of different biomass feedstocks**
 Saghir Muhammad, Hornung Andreas, *Aston University - Birmingham, United Kingdom*
- S2.3.** **18 October, h. 10:30 – 12:15**
Title: **CHEMICAL PROPERTIES OF BIOCHARS, COMPOSTS AND DIGESTATES – DESIGN FOR OPTIMUM EFFICACY**
Chairpersons: Antonio Patti, *Monash University - Melbourne, Australia*
 Fabrizio Adani, *University of Milan - Milan, Italy*
 Teodoro Miano, *University of Bari - Bari, Italy*
- S2.3.01** **Characterization of wood waste biochars for micro pollutant adsorption properties**
 Favre Boivin Fabienne, *HES-SO / EIA-Fr - Fribourg, Switzerland*
 Slijepcevic Ana, *University of Applied Sciences of Western Switzerland - Fribourg, Switzerland*
 Guiné Véronique, Sauty Antoine, Boivin Pascal, *University of Applied Sciences of Western Switzerland - Genève, Switzerland*
 Piantini Umberto, *University of Applied Sciences of Western Switzerland - Sion, Switzerland*
- S2.3.02** **Sorption of N2O to biochars and other organic and inorganic materials**
 Cornelissen Gerard, *Norwegian Geotechnical Institute - Oslo, Norway*
 Rutherford David, *US Geological Survey - Denver, USA*
 Arp Hans Peter, *Norwegian Geotechnical Institute - Oslo, Norway*
 Doersch Peter, *University of Life Sciences - Aas, Norway*
 Kelly Charlene, Rostad Colleen, *US Geological Survey - Denver, USA*
- S2.3.03** **Characterisation and toxicant assessment of pyrolytic condensate obtained by the pyrolysis of exhausted grape marc**
 Quayle Wendy, Molesworth Anika, *CSIRO - Griffith, Australia*
 Zyngier Romy, *Monash University - Melbourne, Australia*
 Stephen Joseph, *University NSW - Sydney, Australia*

S2.3.04 **Removal efficiency of organic matter, nutrients and faecal coliforms of wastewater large pig farms by anaerobic digester in south Mexico: on-farm study**

Trejo-Lizama Wilbert, Uicab Anilu Del Jesus, Vázquez González Liliana Betania, Belmar Casso Roberto, Caamal Maldonado Arturo, Castillo Caamal Jose, Santos Ricalde Ronald, *Autonomous University of Yucatan - Merida, Mexico*

S2.3.05 **The effect of three kinds of biochar on some chemical characteristics of clay soil in north of Iran**

Forghani Akbar, Najmi Reza, *University of Guilan - Rasht, Iran*

S3. SUSTAINABLE USES, APPLICATIONS AND ENVIRONMENTAL IMPACT OF BIOCHARS, COMPOSTS AND DIGESTATES

S3.1 **17 October, h. 15:00 – 16:30 (Room A)**

Title: **USE OF COMPOSTS TO PROMOTE THE PHYSICAL, CHEMICAL AND BIOLOGICAL SOIL QUALITY STATUS FOR PLANT PRODUCTION**

Chairpersons: Donald Gabriels, *UNESCO Chair on Eremology Ghent University, Ghent, Belgium and School of Engineers - Sfax, Tunisia*
Philip Brookes, *Zhejiang University - Hangzhou, China*

Plenary Lecture: **Use of compost, manure and organic residues as soil amendments**

Gabriels Donald, *UNESCO Chair on Eremology Ghent University, Ghent, Belgium and School of Engineers - Sfax, Tunisia*
Lobo Deyanira, *Central University of Venezuela,*
Somers Daniel, *Terr@dialog - Belgium*

S3.1.01 **Evaluating the effect of coconut leaf vermicompost on soil microbial biomass, microbial diversity and soil fertility**

Brookes Philip, *Zhejiang University - Hangzhou, China*
Gopal Murali, Gupta Alka, Thomas George, *Central Plantation Crops Research Institute - Kerala, India*
Dell'Abate Maria, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Rome, Italy*
Xu Jianming, *Zhejiang University - Hangzhou, China*

S3.1.02 **Carbon and nitrogen distribution into physically separated soil organic matter in a long term experiment with compost amendment in a vegetable crop system**

Baiano Salvatore, Morra Luigi, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura (CRA) – Scafati, Italy*

S3.1.03 **Short-term changes in metabolic and genetic patterns of soil bacterial communities along a dilution gradient in response to different amendments application under organic**

Dumontet Stefano, *Università degli Studi "Parthenope", Napoli, Italy*
Cavoski Ivana, *CIHEAM – IAMB Istituto Agronomico Mediterraneo di Bari, Valenzano (BA), Italy*
Ricciuti Patrizia - Mondelli Donato, Crecchio Carmine, *Università di Bari, Bari, Italy*

S3.1.04 **Functional stoichiometry of soil microbial communities after amendment with stabilised organic matter**

Ng Ee Ling, Patti Antonio F., Rose Michael T, *Monash University - Melbourne, Australia*
Scheffe Cassandra, Wilkinson Kevin, *Department of Primary Industries - Victoria, Australia*

S3.2. **19 October, h. 17:00 – 18:45 (Room A)**

Title: **THE COMPOST AS ORGANIC AMENDMENT: A STRATEGY TO MAINTAIN SOIL SUSTAINABILITY IN A GLOBAL CHANGE ERA**

Chairpersons: Gennaro Brunetti, *University of Bari, Bari, Italy*
Peter Leinweber, *University of Rostock - Rostock, Germany*

- S3.2.01** **Can sewage sludge application restore paddy soil fertility? A long term case study in NW Italy**
Romani Marco, *Ente Nazionale Risi - Castello D'Agogna (PV), Italy*
Vecchio Ilaria, *Provincia di Pavia - Ambiente - Pavia, Italy*
Nègre Michele, Said-Pullicino Daniel, Martin Maria, *University of Turin - DISAFA - Turin, Italy*
Beltarre Gianluca, Miniotti Eleonora, *Ente Nazionale Risi - Castello D'Agogna (PV), Italy*
Celi Luisella, *University of Turin - DISAFA - Turin, Italy*
- S3.2.02** **Influence of soil depth amended with compost or compost particle-size on the potential N and C mineralization**
Ben Chikha Leila, *National School of Engineers - Sfax, Tunisia*
Fangueiro David, *Superior Institute of Agronomy- Lisbon, Portugal*
Ammar Emna, Rigane Hafedh, *National School of Engineers - Sfax, Tunisia*
- S3.2.03** **Potato cultivars grown on an agricultural soil under compost amendment or mineral fertilization: productivity, quality and genetic/epigenetic variations in tubers**
Cicatelli Angela, Baldantoni Daniela, *University of Salerno - Fisciano (SA), Italy*
Iovieno Paola, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
Alfani Anna, *University of Salerno - Fisciano (SA), Italy*
Vuylsteke Marnik, *University of Ghent - Ghent, Belgium*
Castiglione Stefano, *University of Salerno - Fisciano (SA), Italy*
- S3.2.04** **From rags to riches: the story of carbon and nutrient retention with dairy compost application**
Drake Jessica, Cavagnaro Tim, Patti Tony, Johnston Priscilla, *Monash University - Melbourne, Australia*
Wilkinson Kevin, McDonald Declan, *Department of Primary Industries, Victoria - Melbourne, Australia*
Rose Mick, *Monash University - Melbourne, Australia*
- S3.2.05** **The effect of straw compost and biofertilizer to improve fertilizer efficiency and soil quality with water management system**
Fitriatin Betty, Simarmata Tualar, *Padjadjaran University - Bandung, Indonesia*
- S3.2.06** **Implementation and results of compost utilization in Georgia for environmental sustainability**
Matchavariani Lia, Laghidze Lamzira, Paichadze Nino, *Tbilisi State University of Iv. Javakhishvili - Tbilisi, Georgia*
- S3.2.07** **Impact of compost from municipal sewage sludge and rice husk on soil fertility**
Sciubba Luigi, Cavani Luciano, Marzadori Claudio, Ciavatta Claudio, *University of Bologna - Bologna, Italy*

- S3.3.** **17 October, h. 17:00 – 18:45**
Title: **EFFECTS OF BIOWASTE AND BIOCHAR ON ENVIRONMENTAL PROPERTIES AND SOIL FUNCTIONS - CAN LONG-TERM PROCESSES BE FORECASTED FOR A SUSTAINABLE AGRICULTURE?**
- Chairpersons:** Rainer Horn, *Christian Albrechts University Kiel – Kiel, Germany*
Eberhard Hartung, *Christian Albrechts University Kiel - Kiel, Germany*
Marcello Pagliai, *CRA-ABP - Firenze, Italy*
- S3.3.01** **Alteration of soil water functions due to digestate amendment**
Holthusen Dörthe, *Christian Albrechts University - Kiel, Germany*
Horn Rainer, Voelkner Amrei, Hold Annika, Ohl Susanne, Hartung Eberhard, Bölker Manfre, - *Christian Albrechts University - Kiel, Germany*
- S3.3.02** **Bioash from thermal gasification of biomass as soil amendment for soil fertility and carbon sequestration**
Hansen Veronika, Hauggaard-Nielsen Henrik, *Technical University of Denmark - Copenhagen, Denmark*
- S3.3.03** **The effect of biochar and other organic amendments on thermal properties of soil**
Lipiec Jerzy, Usowicz Boguslaw, Lukowski Mateusz, *Institute of Agrophysics, Polish Academy of Sciences - Lublin, Poland*
- S3.3.04** **The beneficial effects of bone char on phosphorus-cadmium-interactions in the soil-plant system**
Leinweber Peter, Siebers Nina, *University of Rostock – Rostock, Germany*
- S3.3.05** **Physical properties of digestates and consequences for the hydraulic and mechanical soil processes as a function of the biowaste fermentation**
Voelkner Amrei, Horn Rainer, Holthusen Dörthe, Bölker Manfred, Hold Annika, Hartung Eberhard, Ohl Susanne, *University of Kiel - Kiel, Germany*
- S3.3.06** **The effect of biochars on the chemical properties of two different soils**
Xu Jianming, Dai Zhongmin, Philip C. Brookes, *Zhejiang University - Hangzhou, China*
- S3.3.07** **Grape marc biochar – effects on soil structure, water efficiency and fertilizer productivity**
Zyngier Romy L., *Monash University – CSIRO - Melbourne, Australia*
Qualye Wendy, *CSIRO - Griffith, Australia*
Creswell Hamish, *CSIRO - Canberra, Australia*
Patti Antonio F., Cavagnaro Timothy, *Monash University - Melbourne, Australia*
- S3.4.** **18 October, h. 15:00 – 16:30 (Room A)**
Title: **IMPACT OF BIOCHARS, COMPOSTS AND DIGESTATES ON FATE, BEHAVIOUR AND BENEFIT/RISK ASSESSMENT OF ORGANIC AND INORGANIC CONTAMINANTS IN SOIL**
- Chairpersons:** Melanie Kah, *University of Vienna - Vienna, Austria*
Elisabetta Loffredo, *University of Bari - Bari, Italy*
- S3.4.01** **Use of biochar for inorganic contaminants remediation**
Cimò Giulia, De Pasquale Claudio, Conte Pellegrino, Alonzo Giuseppe, *University of Palermo - Palermo, Italy*

- S3.4.02** **Effects of biochar application on sorption, leaching and plant uptake of trace elements in different agricultural soils**
 Kloss Stefanie, Zehetner Franz, *University of Natural Resources and Life Sciences - Vienna, Austria*
 Oburger Eva, *University of Natural Resources and Life Sciences - Tulln, Austria*
 Buecker Jannis, Wimmer Bernhar, *Austrian Institute of Technology - Tulln, Austria*
 Wang Shan-Li, *National Taiwan University - Taipei, Taiwan*
 Lehmann Johannes, *Cornell University Sciences - Ithaca, NY, United States*
 Kitzler Barbara, Tatzber Michael, *Federal Research and Training Centre for Forests, Natural Hazards and Landscape - Vienna, Austria*
 Wenzel Walter W., *University of Natural Resources and Life Sciences - Tulln, Austria*
 Soja Gerhard, *Austrian Institute of Technology - Tulln, Austria*
- S3.4.03** **Sorption of mercury by biochar produced from malt spent rootlets: effect of pyrolysis temperature**
 Manariotis Ioannis, Kamenidou Charoula, Karapanagioti Hrisi, *University of Patras - Patras, Greece*
- S3.4.04** **Impacts of biochar on the phytostabilization of contaminated soils with ryegrass**
 Rees Frédéric, Germain Cyril, Morel Jean-Louis, *INRA – University of Lorraine - Vandoeuvre-lès-Nancy, France*
- S3.4.05** **Heavy metal bioavailability in the biofertilizers derived from sewage sludge**
 Sabiene Nomedas, Paulauskas Valdas, Zaleckas Ernestas, *Aleksandras Stulginskis University - Kaunas, Lithuania*
- S3.4.06** **Impact of novel biofilter material on degradation of pesticides**
 Mukherjee Santanu, Tappe Wolfgang, Weihermüller Lutz, Burauel Peter, Vereecken Harry, *Forschungszentrum Jülich GmbH - Agrosphere Institute (ICG 4/IBG3) - Jülich, Germany*
- S3.5.** **18 October, h. 15:00 – 16:30 (Room B)**
Title: **MANAGEMENT STRATEGIES AND ENVIRONMENTAL RISKS OF MANURES AND BY-PRODUCTS FROM AGRO-INDUSTRIES IN SUSTAINABLE AGROECOSYSTEMS**
- Chairpersons:** Ewald Schnug, *Julius Kühn Institute - Braunschweig, Germany*
 Francesco Montemurro, *CRA-SSC - Metaponto, Italy*
- S3.5.01** **Biochar – a curse or a blessing?**
 Schnug Ewald, Panten Kerstin, *Julius Kühn-Institute - Braunschweig, Germany*
- S3.5.02** **Saline water and municipal solid organic waste compost: effects on yield of maize crops and soil responses**
 Ventrella Domenico, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura-Bari, Italy*
 Leogrande Rita, Lopedota Ornella, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Metaponto, Italy*
 Vitti Carolina, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Bari, Italy*
 Montemurro Francesco, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Metaponto, Italy*

- S3.5.03** **Effect of feedstock and fermentation parameters on nitrous oxide emission potentials of biogas digestates in soil**
 Chuqing Duan, Eich-Greatorex Susanne, Dörsch Peter, *Norwegian University of Life Sciences - Aas, Norway*
- S3.5.04** **Biogas digestates affect biological soil characteristics**
 Eichler-Loebermann Bettina, Bachmann Silvia, *University of Rostock - Rostock, Germany*
- S3.5.05** **Biochar from solid fraction of pig manure: evaluation of phosphorus release rate**
 Godbout Stéphane, Joahnn Hernando Palacios, Patrick Brassard, *IRDA - Quebec, Canada*
 Line Rochefort, *University Laval - Phytopathology - Quebec, Canada*
 Lise Potvin, Patrick Dubé, Jean-Pierre Larouche, *IRDA - Quebec, Canada*
 Rémy Pouliot, Sandrine Hogue-Hugron, *University Laval - Quebec, Canada*
- S3.5.06** **Agronomic and environmental effects of raw and digested livestock slurries**
 Mantovi Paolo, *Centro Ricerche Produzioni Animali - Reggio Emilia, Italy*
 Monaco Stefano, Sacco Dario, *University of Turin - Turin, Italy*
 Rossi Lorella, *Centro Ricerche Produzioni Animali - Reggio Emilia, Italy*
 Grignani Carlo, *University of Turin - Turin, Italy*
- S3.6a.** **19 October, h. 15:00 – 16:30 (Room B)**
Title: **SMALL SCALE TREATMENT AND USE OF ORGANIC WASTES IN RURAL AREAS OF TROPICS AND SUBTROPICS**
- Chairpersons:** Jo Smith, *University of Aberdeen - Aberdeen, Scotland*
 Xu Jianming, *Zhejiang University - Hangzhou, China*
- S3.6a.01** **Biochar in Zambia, Indonesia, Malaysia and Nepal: biochar technologies, mechanistic field trials, and socio-economic aspects**
 Cornelissen Gerard, Hale Sarah, *Norwegian Geotechnical Institute - Oslo, Norway*
 Mulder Jan, Martinsen Vegard, *University of Life Sciences - Aas, Norway*
 Breedveld Gijs, Sparrevik Magnus, *Norwegian Geotechnical Institute - Oslo, Norway*
- S3.6a.02** **Oil palm waste management in Indonesia: present status and future use to minimize greenhouse gas emissions**
 Hadi Abdul, Satria Hasrul, Sulaiman Abrani, *Lambung Mangkurat University - Banjarmasin, Indonesia*
 Nursyamsi Dedi, *Indonesia Swampland Agriculture Research Institute - Banjarbaru, Indonesia*
- S3.6a.03** **Reduction of pathogenic bacteria in organic waste through production of biogas**
 Harroff Lauren, *Centre for Research in Energy and Energy Conservation - Kampala, Uganda*
 Tumwesige Vianney, Apsley Andrew, *University of Aberdeen – Aberdeen, Scotland, and Kampala, Uganda*
 Avery Lisa, *James Hutton Institute - Aberdeen, Scotland*
 Smith Jo, *University of Aberdeen - Aberdeen, Scotland*
- S3.6a.04** **Evaluation of composts for improving fertility and productivity of soils in United Arab Emirates**
 Alshankiti Abdullah, Gill Shagufta, *International Centre For Biosaline Agriculture (ICBA) - Dubai, United Arab Emirates*

- S3.6a.05** **Nitrification, acidification and nitrogen leaching from subtropical cropland soils as affected by rice-straw-based biochar**
 Zhao Xu, Wang Shen Qiang, *Institute of Soil Science, Chinese Academy of Sciences - Nanjing, China*
- S3.6b.** **19 October, h. 17:00 – 18:45 (Room B)**
Title: **SMALL SCALE TREATMENT AND USE OF ORGANIC WASTES IN RURAL AREAS OF TROPICS AND SUBTROPICS**
Chairpersons: Jo Smith, *University of Aberdeen - Aberdeen, United Kingdom*
 Knicker Heike, *IRNAS-CSIC - Sevilla, Spain*
- S3.6b.01** **What happens to biochars after their application to tropical and subtropical soils – extrapolation of results obtained from soil profiles of typical fire-affected landscapes**
 Knicker Heike, *IRNAS-CSIC - Sevilla, Spain*
 Velasco-Molina Marta, *University of Santiago de Compostela - Santiago de Compostela, Spain*
- S3.6b.02** **Impact of different uses of organic wastes on carbon sequestration in soils of Sub-Saharan Africa**
 Smith Jo, Tumwesige Vianney, *University of Aberdeen - Aberdeen, Scotland, United Kingdom*
 Semiyaga Swaib, *Makerere University - Kampala, Uganda*
 Morley Nick, *University of Aberdeen - Aberdeen, United Kingdom*
 Sabiiti Elly, *Makerere University - Kampala, Uganda*
 Matthews Robin, *James Hutton Institute - Aberdeen, United Kingdom*
 Abegaz Assefa, *Addis Ababa University - Addis Ababa, Ethiopia*
 Orskov Bob, *James Hutton Institute - Aberdeen, United Kingdom*
 Smith Pete, *School of Biological Science - Aberdeen, United Kingdom*
- S3.6b.03** **Impact of different uses of organic wastes on soil fertility and crop production in Sub-Saharan Africa**
 Smith Jo, Tumwesige Vianney, *University of Aberdeen - Aberdeen, Scotland, United Kingdom*
 Semiyaga Swaib, *Makerere University - Kampala, Uganda*
 Morley Nick, *University of Aberdeen - Aberdeen, United Kingdom*
 Sabiiti Elly, *Makerere University - Kampala, Uganda*
 Matthews Robin, *James Hutton Institute - Aberdeen, United Kingdom*
 Abegaz Assefa, *Addis Ababa University - Addis Ababa, Ethiopia*
 Orskov Bob, *James Hutton Institute - Aberdeen, United Kingdom*
 Smith Pete, *School of Biological Science - Aberdeen, United Kingdom*
- S3.6b.04** **Biogas and indoor air pollution in households in Tiribogo, Uganda**
 Tumwesige Vianney, *University of Aberdeen - Aberdeen, Scotland, United Kingdom and Centre for Research in Energy and Energy – Kampala, Uganda*
 Harroff Lauren, *Centre for Research in Energy and Energy Conservation - Kampala, Uganda*
 Apsley Andrew, Sample Sean, Smith Jo, *University of Aberdeen - Aberdeen, Scotland*
- S3.6b.05** **Compost of different stability affects the molecular composition and mineralization of soil organic matter**
 Eshetu Bekele, *Adama University - Adama, Ethiopia*
 Peter Leinweber, Christel Baum, *Rostock University - Rostock, Germany*

- S3.7.** **20 October, h. 08:30 – 10:00**
Title: **SOIL ORGANIC MATTER AMENDMENTS: IMPACTS, BENEFITS, AND RISKS**
Chairperson: Claudio Zaccone, *University of Foggia - Foggia, Italy*
 Claudio Ciavatta, *University of Bologna - Bologna, Italy*
- S3.7.01** **Characteristics of organic fertilizer with various mixing ratios of rice husk charcoal and their effects on mung bean and water spinach yields**
 Tsunoda Mayumi, Bellingrath-Kimura Sonoko Dorothea, Tanaka Haruo, Oikawa Yosei, *Tokyo University of Agriculture And Thechnology - Fuchu, Tokyo, Japan*
- S3.7.02** **Fate and effect of biogas residues on the SOM carbon after application on arable soils**
 Coban Halil, Miltner Anja, Kästner Matthias, *Helmholtz Centre for Environmental Research (UFZ) - Leipzig, Germany*
- S3.7.03** **The effect of long term annual compost application on the distribution and stability of soil organic matter**
 De Clercq Tim, Merckx Roel, *KU Leuven - Leuven, Belgium*
 Dercon Gerd, *International Atomic Energy Agency - Vienna, Austria*
 Elsen Annemie, *Soil Service of Belgium - Heverlee, Belgium*
 Vandendriessche Hilde, *KU Leuven - Leuven, Belgium*
- S3.7.04** **Field evaluation of humic products (potassium humate as powhumus, humus wsg 56,9 and as liqhumus 18%) on eggplant and banana culture**
 Dergham Yasser, *Humintech GmbH - Duesseldorf, Germany*
 Chau Phillipp, *Society Agri- Venture (SAVE) - Iloilo, Philippine*
- S3.7.05** **Pyrogenic organic matter primes organic matter decomposition in the short-term but does not affect soil respiration in the long-term**
 Maestrini Bernardo, *University of Zurich - Zurich, Switzerland*
 Herrmann Anke M., *Swedish University of Agricultural Sciences - Uppsala, Sweden*
 Nannipieri Paolo, *University of Florence - Florence, Italy*
 Schmidt Michael W. I., Abiven Samuel, *University of Zurich - Zurich, Switzerland*
- S3.7.06** **The use of compost and biochar to increase soil organic carbon content without increasing nutrient leaching**
 D'Hose Tommy, Greet Ruysschaert, Victoria Nelissen, Alex De Vlieghe, Koen Willekens, Bart Vandecasteele, *Institute for Agricultural and Fisheries Research (ILVO) - Melle, Belgium*
- S3.8.** **20 October, h. 10:30 – 12:15**
Title: **LONG-TERM SURVIVABILITY OF BIOCHAR AND DIGESTATES IN SOILS AND SOIL CARBON SEQUESTRATION WITH AGRICULTURAL IMPLICATIONS - MYTH OR REALITY?**
Chairpersons: Claudio Zaccone, *University of Foggia - Foggia, Italy*
 Xing Baoshan, *University of Massachusetts, Amherst - Amherst, USA*
- S3.8.01** **Does the use of biogas digestates cause high nitrous oxide emissions?**
 Eich-Greatorex Susanne, Dörsch Peter, Sogn Trine A., *Norwegian University of Life Sciences - Aas, Norway*
- S3.8.02** **Suppression of damping-off caused by rhizoctonia solani by biochar, a soil-applied carbon sequestering agent**
 Kumar Jaiswal Amit, *The Hebrew University of Jerusalem - Rehovot, Israel*
 Frenkel Omer, Elad Yigal, Graber Ellen R., *Agricultural Research Organization (ARO), The Volcani Center - Bet Dagan, Israel*

- S3.8.03** **Reduction of nitrous oxide emissions by biochar amendment to soil: the role of PH**
 Obia Alfred, *Norwegian University of Life Sciences - Aas, Norway*
 Cornelissen Gerard, *Norwegian Geotechnical Institute - Oslo, Norway*
 Mulder Jan, *Norwegian University of Life Sciences - Aas, Norway*
 Hale Sarah, *Norwegian Geotechnical Institute - Oslo, Norway*
 Dörsch Peter, *Norwegian University of Life Sciences - Aas, Norway*
- S3.8.04** **Phosphorus recycling: anaerobic digestate materials connecting recovery with re-use**
 Shepherd Jessica, Buss Wolfram, Heal Kate, Sohi Saran, Peters Clare, *University of Edinburgh - Edinburgh, Scotland*
- S3.8.05** **Effect of varying concentrations of biochar on CH₄ emission and methanogenic community in paddy ecosystem**
 Singla Ankit, *Chiba University - Matsudo, Japan*
 Dubey Suresh, *Banaras Hindu University - Varanasi, India*
 Inubushi Kazuyuki, *Chiba University - Matsudo, Japan*
- S3.8.06** **Biochar as alternative to activated chars for priority micro-pollutant waste water depuration**
 Slijepcevic Ana, Favre Boivin Fabienne, *University of Applied Sciences of Western Switzerland - Fribourg, Switzerland*
 Piantini Umberto, *University of Applied Sciences of Western Switzerland - Sion, Switzerland*
- S3.8.07** **Potential mechanisms of biochar to decrease soil nitrous oxide emission**
 Xing Baoshan, *University of Massachusetts, Amherst - Amherst, USA*
 Zheng Hao, Zhenyu Wang, *Ocean University of China - Qingdao, China*
- W3.** **18 October, h. 17:00 – 18:45**
Title: **END O SLUDG**
Chairpersons: Le Son, *United Utilities Group PLC - Warrington, UK*
 Marañon Elena, *University of Oviedo - Gijón, Spain*
- W3.01** **End-o-sludg project overview**
 Le Son, *United Utilities Group PLC - Warrington, UK*
- W3.02** **Response to pre-treatments and digestion intensification of sewage sludge**
 Marañon Elena, Negral Luis, Fernández-Nava Yolanda, Castrillón Leonor, *University of Oviedo - Gijón, Spain*
- W3.03** **Evaluating biosolids as a valuable phosphorus resource to meet crop requirements**
 Holmes James, *Home Grown Cereals Authority - HGCA - Warwickshire, UK*
 Sakrabani Ruben, Pawlett Mark, Deeks Lynda, *Cranfield University - Cranfield, UK*
 Chaney Keith, Smith Grace, *HAUC - Newport - Shropshire, UK*
- W3.04** **The application of organo mineral fertiliser to arable and grass silage crops**
 Chaney Keith, *Harper Adams University College - Newport - Shropshire, UK*
 Sakrabani R., *Cranfield University - Cranfield, UK*
 Smith G., *Harper Adams University College - Newport - Shropshire, UK*
 Pawlett M., Deeks L.K., *Cranfield University - Cranfield, UK*
- W3.05** **End-o-sludg: end of waste**
 Le Son, *United Utilities Group PLC - Warrington, UK*

W3.06 **Sustainability assessment of wastewater treatment technologies, sewage sludge production and its application to land**
Sakrabani Ruben, Sandars Daniel, Williams Adrian, *Cranfield University - Cranfield, UK*
Albella David, Fernandez Natalia C., *HIPSITEC - Oviedo, Spain*
Evans Rob, Howarth Richard, *Sustainable Resource Solutions Limited - Agfa House - Leeds, UK*
La Fuente Jose M. G., *COGERSA - La Zoreda - Gijón, Spain*

W3.07 **Use of anaerobic digestates in the grass-turfs industry: a long-term (2 year) field experiment**
Pawlett Mark, Tibbett Mark, *Cranfield University - Cranfield, UK*

4. CERTIFICATION, REGULATION AND MARKETING OF BIOCHARS, COMPOSTS AND DIGESTATES

S4.1. **19 October, h. 08:30 – 10:00** *Sponsored by the **International Humic Substances Society (IHSS)***
Title: **QUANTITATIVE DETERMINATION, APPLICATIONS AND PLANT RESPONSE OF COMMERCIAL HUMIC MATERIALS**
Chairpersons: Dan Olk, *USDA-ARS, Ames-IA, USA*
 Claudio Ciavatta, *Università di Bologna - Bologna, Italy*

Plenary Lecture 1: **The plant growth promoting action of humic substances involves substantial and coordinated changes in the plant distribution of the main phytohormones**
Garcia-Mina Jose M., *G. Roullier - R&D and University of Navarra - R&D - Pamplona, Spain*
Olaetxea Maite, *University of Navarra - Pamplona, Spain*
Mora Verónica, Baigorri Roberto, Fuentes Marta, Bacicoa Eva, Zamarreño Angel M., *G Roullier - R&D - Pamplona, Spain*

Plenary Lecture 2: **On-farm evaluation of a humic product in Iowa (U.S.) maize production**
Olk Dan, Dinnes Dana, *U.S. Dept. of Agriculture - Ames, USA*
Callaway Chad, *Ag. Logic Distributors - Conrad, USA*
Raske Mike, *Innovative Crop Solutions - Radcliffe, USA*

S4.1.01 **Italian official methods for quantitative determination of humic acids and fulvic acids in commercial products**
Ciavatta Claudio, *University of Bologna - Bologna, Italy*
Sequi Paolo, *Agricultural Research Council - DAF - Roma, Italy*

S4.1.02 **Evaluation of a proposed standard procedure for the determination of humic acids and fulvic acids in commercial products**
Lamar Richard, *Horizon Ag - Logan, USA*
Olk Dan, *U.S. Dept. of Agriculture - Ames, USA*
Mayhew Lawrence, *Eco Agri-Minerals - Spring Green, USA*
Bloom Paul, *University of Minnesota - St. Paul, USA*

S4.2. **19 October, h. 15:00 – 16:30 (Room A)**
Title: **ECONOMIC AND QUALITY DETERMINANTS TO FOSTER THE BCD INDUSTRY: MARKETS, INVESTMENTS, AND POLICY MEASURES**
Chairpersons: Maurizio Prosperi, *University of Foggia - Foggia, Italy*
 Aleksza László, *Hungarian Compost Association - Hungary*

S4.2.01 **Assessing the economic value of biochar for agricultural purposes: a private and public perspective**
Prosperi Maurizio, Giannoccaro Giacomo, Libutti Angela, *University of Foggia - Foggia, Italy*

- S4.2.02** **Uncomposted dung as a source of commercial humic-like products for arid countries**
Alrefai Jamal, Abaalkheel Issa, *King Abdulaziz City for Science and Technology - Petrochemicals Research Institute - Riyadh, Saudi Arabia*
Rovira Pere, *Forest Technology Centre of Catalunya - Solsona, Spain*
- S4.2.03** **Biochar-based technosols : evaluation of their potential for different effluent depuration applications**
Boivin Pascal, Guiné Véronique, Sauty Antoine, *University of Applied Sciences Western Switzerland Technology, Architecture And Landscape (HEPIA) -Jussy - Switzerland - Agronomy - Geneva, Switzerland*
- S4.2.04** **New methodology to assess the humic quantity and quality of organic substances contained in commercial products for agriculture**
Fuentes Marta, Baigorri Roberto, *Roullier Group TAI - R&D and University of Navarra - R&D - Pamplona, Spain*
Gonzalez-Gaitano Gustavo, *University of Navarra - Pamplona, Spain*
Garcia-Mina Jose M., *Roullier Group TAI - R&D and University of Navarra - R&D - Pamplona, Spain*
- S4.2.05** **Technogenic hydrocarbons in arctic tundra soils of the Island Bolshoy Liakhovsky (Novosibirskie Islands)**
Kachinskiy Vladimir, *Moscow State University - Moscow, Russia*

POSTER SESSIONS

PS1. PRODUCTION TECHNOLOGIES OF BIOCHARS, COMPOSTS AND DIGESTATES BY CONVERSION OF SOLID AND FLUID BIOWASTES/BIOSOLIDS **19 October, h. 08:00 – 20:00**

- PS1.01** **Flash and slow pyrolysis applied to heavy metal contaminated sorghum bicolor biomass resulting from phytoremediation**
Al Chami Ziad, *Mediterranean Agronomic Institute of Bari – CIHEAM - Valenzano (BA), Italy*
Amer Nasser, *GCSAR - Swaida Research Center - Swaida, Syria*
Smets Koen, Yperman Jan, *Hasselt University - CMK - Diepenbeek, Belgium*
Dumontet Stefano, *University of Napoli "Parthenope" - Napoli, Italy*
Jaco Vangronsveld, *Hasselt University - CMK - Diepenbeek, Belgium*
- PS1.02** **Efficient and problem-free home composting**
Contin Marco, Cudini Andrea, Bertoni Aldo, De Nobili Maria, *University of Udine - Udine, Italy*
- PS1.03** **Co-digestion of sewage sludge and organic fraction of MSW: analysis of the digestate organic quality**
Gigliotti Giovanni, Di Maria Francesco, Sordi Alessio, Cirulli Giuseppe, Cucina Mirko, Ricci Anna, Massaccesi Luisa, *University of Perugia - Perugia, Italy*
- PS1.04** **Management of urban biodegradable waste in Puglia: features and critical issues in Italian context**
Placentino Claudia Marcella, Bruno Emanuela, Busseti Francesco, Lacarbonara Filomena, Gramegna Domenico, Blonda Massimo, Assennato Giorgio, *ARPA Puglia - Bari, Italy*

PS2. ANALYSIS AND CHARACTERIZATION OF BIOWASTES, BIOCHARS, COMPOSTS AND DIGESTATES **19 October, h. 08:00 – 20:00**

- PS2.01** **Characterization of alternative sources of biochar for agricultural use in Brazil**
Abreu Cleide Aparecida, Coscione Aline Renee, Bibar Paula, *Instituto Agronomico - Campinas, Brazil*
Andrade Cristitiano, *Embrapa - Meio Ambiente - Solos - Jaguariuna, Brazil*
- PS2.02** **Static procedure for composting olive mill waste**
Roberto Altieri, Esposito Alessandro, Castellani Francesco, Stanzone Vitale, *CNR - ISAFOM - Perugia, Italy*
Fidati Laura, *University of Perugia - Perugia, Italy*
Chilosi Gabriele, *Università della Tuscia - DIBAF - Viterbo, Italy*
Federici Ermanno, *University of Perugia - Perugia, Italy*
- PS2.03** **The model structure of compost particle**
Arroyave Carlos, Pelaez Carlos, *Universidad de Antioquia - Medellín, Colombia*
Melo Wanderley, *Universidade Estadual Paulista - Jaboticabal, Brasil*
- PS2.04** **Qualitative and quantitative changes of selected chemical and spectral properties of humic substances during composting of municipal wastes**
Bekier Jakub, Jamroz Elzbieta, Kocowicz Andrzej, Medynska-Juraszek Agnieszka, Weber Jerzy, *Wroclaw University of Environmental and Life Sciences - Wroclaw, Poland*

- PS2.05** **Potential suppressiveness and effect on photinia fraseri growth by a composted amendment from olive mill wastes**
 Chilosi Gabriele, Dell'Unto Davide, Martignoni Diana, Aleandri Maria Pia, Vannini Andre, *University of Tuscia - Viterbo, Italy*
 Federici Ermanno, Fidati Laura, *University of Perugia - Perugia, Italy*
 Altieri Roberto, Esposito Alessandro, *CNR - ISAFoM - Perugia, Italy*
 Spagnesi Renzo, Lotti Martina, *Vivai Sandro Bruschi - Pistoia, Italy*
- PS2.06** **Elemental and FT IR characterization of humic acids during the composting process of coffee by-products**
 D'Orazio Valeria, Mondelli Donato, *University of Bari - Bari, Italy*
 Ceglie Francesco G., Verrastro Vincenzo, *CIHEAM - IAMB - Valenzano (BA), Italy*
- PS2.07** **Molecular analyses of bacterial community dynamics during the static composting of olive mill waste**
 Federici Ermanno, Fidati Laura, Cenci Giovanni, *University of Perugia - Perugia, Italy*
 Esposito Alessandro, Altieri Roberto, *Consiglio Nazionale Delle Ricerche - Perugia, Italy*
- PS2.08** **Effect of the crude glycerol addition on two-phase anaerobic digestion for urban wastewater sludge treatment**
 Francioso Ornella, Pisi Annamaria, *University of Bologna - Bologna, Italy*
 Ferrari Erika, *University of Modena Reggio Emilia -Modena, Italy*
 Rodriguez -Estrada Maria Teresa, *University of Bologna - Bologna, Italy*
 Salomoni Cesarino, Bonoli Mattia, Caputo Armando, Palenzona Domenico, *Biotec Sys Srl - Bologna, Italy*
- PS2.09** **Zinc sorption of compost materials**
 György Füleky, Dénes Kovács, *Szent István University - Gödöllő, Hungary*
- PS2.10** **Hydrophilic and hydrophobic fractions of dissolved organic matter from different feed-in mixtures and their corresponding digestates**
 Malerba Anna Daniela, *University of Bari - Bari, Italy*
 Kaiser Klaus, *Martin Luther University Halle-Wittenberg Halle (Saale), Germany*
 Tambone Fulvia, Adani Fabrizio, *University of Milan - Milan, Italy*
 Provenzano Maria Rosaria, *University of Bari - Bari, Italy*
- PS2.11** **Organic carbon pools and biodegradability in two contrasting semiarid soils of TPOMW-derived biochar**
 Many Joan J., Marti Clara, Laguarda Sergio, Ortigosa Miguel A., Mateo Noemi, *University of Zaragoza - Huesca, Spain*
- PS2.12** **Chemical, physical and biological evaluation of the surface properties of a biochar treated with an organic solvent**
 Marsala Valentina, De Pasquale Claudio, *University of Palermo - Palermo, Italia*
 Vaccari Francesco, *IBIMET-CNR - Firenze, Italy*
 Pozzi Alessandro, *AGT Advanced Gasification Technology S.r.l. - Arosio (CO), Italy*
 Valagussa Massimo, *Minoprio Analisi e Certificazioni S.R.L - Vertemate con Minoprio, Italy*
 Pellegrino Conte, Alonzo Giuseppe, *University of Palermo - Palermo, Italy*
- PS2.13** **The visual incorporation of Fe into humic acids during the composting of wheat straw**
 Medina Jorge, *Universidad de la Frontera - Temuco, Chile*
 Monreal Carlos, Chabot Denise, Schnitzer Morris, *Agriculture and Agri-Food Canada - Eastern Cereal and Oilseed Research Center - Ottawa, Canada*
 Borie Fernando, González María Eugenia, Cornejo Pablo, *Universidad de la Frontera - Temuco, Chile*

- PS2.14** **Effects of inorganic materials on some chemical properties of composted wheat straw residues**
 Medina Jorge, *Universidad de La Frontera - Temuco, Chile*
 Monreal Carlos, Schnitzer Morris, *Agriculture and Agri-Food Canada - Eastern Cereal and Oilseed Research Center - Ottawa, Canada*
 Borie Fernando, Gallardo Bastián, González María Eugenia, Curaqueo Gustavo, Cornejo Pablo, *Universidad de la Frontera - Temuco, Chile*
- PS2.15** **Evaluation of enzymatic activities from saprophytic fungi inoculated wheat straw residues during composting**
 Medina Jorge, Orellana Luis, *Universidad de la Frontera - Temuco, Chile*
 Monreal Carlos, *Agriculture and Agri-Food Canada - Eastern Cereal and Oilseed Research Center - Ottawa, Canada*
 García Susana, Meier Sebastián, Borie Fernando, Cornejo Pablo, *Universidad de La Frontera - Temuco, Chile*
- PS2.16** **Analysis of biochars from Amazonian dark earth: comparison with commercial and natural samples**
 Pagano Marcela, Jorio Ado, Cancado Luis, Takahashi Jaqueline, *Universidade Federal de Minas Gerais - Belo Horizonte, Brazil*
- PS2.17** **Chestnut composting: a study on microbial communities evolution**
 Parillo Rita, Ventrino Valeria, Aliberti Alberto, Pepe Olimpia, Testa Antonino, *University of Napoli "Federico II" - Napoli, Italy*
- PS2.18** **Characterization of non-extracted thermal biomass conversion products by mass- and X-ray absorption spectroscopies**
 Peter Leinweber, Gerald Jandl, *University of Rostock - Rostock, Germany*
- PS2.19** **Differential scanning calorimetry applied to the study of digestates obtained from different organic substrates**
 Provenzano Maria Rosaria, Malerba Anna Daniela, *University of Bari - Bari, Italy*
 Buscaroli Alessandro, *CIRSA - Ravenna, Italy*
 Fabbri Claudio, *CRPA - Reggio Emilia, Italy*
 Senesi Nicola, *University of Bari - Bari, Italy*
- PS2.20** **Fluorescence spectroscopy applied to the characterization of digestates obtained from different organic substrates**
 Provenzano Maria Rosaria, Malerba Anna Daniela, *University of Bari - Bari, Italy*
 Buscaroli Alessandro, *CIRSA - Ravenna, Italy*
 Fabbri Claudio, *CRPA - Reggio Emilia, Italy*
 Senesi Nicola, *University of Bari - Bari, Italy*
- PS2.21** **Fourier transform infrared spectroscopy associated to Fourier self deconvolution of spectra applied to the characterization of digestates obtained from different organic substrates**
 Provenzano Maria Rosaria, Malerba Anna Daniela, *University of Bari - Bari, Italy*
 Buscaroli Alessandro, *CIRSA - Ravenna, Italy*
 Fabbri Claudio, *CRPA - Reggio Emilia, Italy*
 Senesi Nicola, *University of Bari - Bari, Italy*
- PS2.22** **Response to Ph changes of fluorescence spectra of digestates from municipal solid waste and sewage sludge under mesophilic and thermophilic conditions**
 Provenzano Maria Rosaria, Malerba Anna Daniela, *University of Bari - Bari, Italy*
 Buscaroli Alessandro, *CIRSA - Ravenna, Italy*
 Fabbri Claudio, *CRPA - Reggio Emilia, Italy*
 Senesi Nicola, *University of Bari - Bari, Italy*

- PS2.23** **Zn sorption behaviour of soils containing charcoal with different age**
Rétháti Gabriella, Zságer Gergely, Simon Barbara, Füleky György, Gál Anita,
Szent Istvan University - Gödöllő, Hungary
- PS2.24** **Laser induced breakdown spectroscopy applied to the determination of selected nutrient elements and heavy metals in composts used as soil amendment**
Senesi Giorgio, Dell'Aglio Marcella, *CNR - IMIP - Bari, Italy*
De Giacomo Alessandro, *University of Bari - Bari, Italia*
De Pascale Olga, *CNR - IMIP - Bari, Italia*
Al Chami Ziad, *CIHEAM - Mediterranean Agronomic Institute of Bari - Valenzano (BA), Italia*
Miano Teodoro, *University of Bari - Bari, Italia*
Zaccone Claudio, *University of Foggia - Foggia, Italia*
- PS2.25** **Characterization of biochar volatile matter and it's influence on plant germination**
Taupe Natalie, *University of Limerick - Limerick, Ireland*
Dela Piccola Cristiano, *Universidade de São Paulo - Piracicaba - São Paulo, Brazil*
Kwapinski Witold, Leahy J.J., *University of Limerick - Limerick, Ireland*
- PS3a. SUSTAINABLE USES, APPLICATIONS AND ENVIRONMENTAL IMPACT OF BIOCHARS, COMPOSTS AND DIGESTATES**
18 October, h. 08:00 – 20:00
- PS3a.01** **Compost performance during successful transition to organic farming**
Abdelrahman Hamada, *Faculty of Agriculture, Cairo University - Giza, Egypt*
Cocozza Claudio, *University of Bari "Aldo Moro" - Bari, Italy*
Olk Daniel, *USDA-ARS - Ames, IA, USA*
Venterela Domenico, *C.R.A - Bari, Italy*
Montemurro Francesco, *C.R.A - Metaponto, Italy*
Miano Teodoro, *University of Bari "Aldo Moro" - Bari, Italy*
- PS3a.02** **Composting time of chicken litter with biochar for organic fertilizer production**
Abreu Paulo Giovanni De, Corrêa Juliano Corulli, *Embrapa Suínos e Aves - Concórdia, Brasil*
Franz Izaura, *UnC- Campus Concórdia - Concórdia, Brasil*
Mattei Rosemari Martini, Feddern Vivian, Abreu Valéria Maria Nascimento, *Embrapa Suínos e Aves - Concórdia, Brasil*
- PS3a.03** **San-soil project: new peat-free potting soil improvers from zero-miles olive mill waste recycling**
Altieri Roberto, Esposito Alessandro, Castellani Francesco, Stanzione Vitale, *CNR - ISAFOM - Perugia, Italy*
Federici Ermanno, Fidati Laura, Cenci Giovanni, *University of Perugia - Perugia, Italy*
Chilosi Gabriele, Aleandri Maria Pia, Martignoni Diana, Dell'Unto Davide, *University of Tuscia - Viterbo, Italy*
Bruschi Sandro, Spagnesi Renzo, Lotti Martina, *Vivai Sandro Bruschi - Pistoia, Italy*
Giambi Alessandro, Frosini Leonardo, *Vivai GIEFFE - Pistoia, Italy*
Romano Baldacci, *Vivai Baldacci, Pistoia, Italy*
Riccardo Pretelli, *Frantoio PAM, Produttori Agricoli Montalbano, Pistoia, Italy*
- PS3a.04** **Biochar in growing media: role of particle size on liming capacity and physical properties**
Bedussi Floriana, Crippa Laura, Zaccheo Patrizia, *University of Milano - Milano, Italia*

- PS3a.05** **Compost changed soil organic matter molecular composition: a study by PY-GC/MS and PY-FIMS**
 Bekele Eshetu, *Adama University - Adama, Ethiopia*
 Peter Leinweber, *Rostock University - Rostock, Germany*
- PS3a.06** **Confirmatory path analysis to clarify the effects of compost amendments on soil chemical and biological properties**
 Bellino Alessandro, Baldantoni Daniela, *University of Salerno - Fisciano (SA), Italy*
 De Nicola Flavia, *University of Sannio - Benevento, Italy*
 Iovieno Paola, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
 Zaccardelli Massimo, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Battipaglia (SA), Italy*
 Alfani Anna, *University of Salerno - Fisciano (SA), Italy*
- PS3a.07** **Agronomically-efficient use of anaerobically digested grapemarc distillery effluents as organic amendments**
 Brunetti Gennaro, *University of Bari - Bari, Italy*
 Farrag Karam, *National Water Research Center (NWRC) – Il Cairo, Egypt*
 Plaza Casar, *Superior de Investigaciones Científicas - Madrid, Spain*
 Senesi Nicola, *University of Bari - Bari, Italy*
- PS3a.08** **Dried and pirolized swine effluents as n source for crops: influence on Italian ryegrass yields in greenhouse tests**
 Castelli Fabio, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Bovolone (VR), Italy*
 Marchetti Rosa, Sghedoni Lidia, Marino Antonio, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura – San Cesario Sul Panaro, Modena, Italy*
- PS3a.09** **Does biochar application increase soil fertility and tomato production under organic farming in Mediterranean conditions?**
 Cavoski Ivana, Al Chami Ziad, Jarrar Mohammad, *Mediterranean Agronomic Institute of Bari – CIHEAM - Valenzano, Italy*
 Dumontet Stefano, *University of Napoli "Parthenope" - Napoli, Italy*
 Mondelli Donato, *University of Bari "Aldo Moro" - Bari, Italy*
- PS3a.10** **Development of a biocatalyst based on the immobilization of candida rugosa lipase on biochar derived of oat hulls**
 Cea Mara, Abarzua Macarena, Alvarez Daniela, Gonzalez María Eugenia, Gonzalez Alvaro, Navia Rodrigo, *University of la Frontera - Temuco, Chile*
- PS3a.11** **The mixed composted amendment in the improvement of soil fertility in horticulture in central Italy: mineralization potential and productive response**
 Chilosi Gabriele, Righi Lorenzo, Atti Luca, Marinari Sara, Moscatelli Maria Cristina, Aleandri Maria Pia, Reda Roberto, Vannini Andrea, *University of Tuscia - Viterbo, Italy*
 Filippi Alessandro, *Kyklos Srl - Roma, Italy*
- PS3a.12** **Bioaccumulation in earthworms (Eisenia Andrei) of polycyclic aromatic hydrocarbons (PAH) from biochar**
 Contin Marco, *University of Udine - Udine, Italy*
 Sesso Michela, Barbieri Pierluigi, *University of Trieste - Trieste, Italy*
 Malev Olga, De Nobili Maria, *University of Udine - Udine, Italy*
- PS3a.13** **Ammonia stripping from digestate to reduce the soil N load and nitrate leaching**
 Contin Marco, Petris Raffaella, Goi Daniele, Rizzardini Claudia Bruna, De Nobili Maria, *University of Udine - Udine, Italy*

- PS3a.14** **Relating chemical properties of four biochars to its biochemical recalcitrance**
De La Rosa Jose Maria, Paneque-Carmona Marina, *Instituto de Recursos Naturales y Agrobiología de Sevilla (IRNAS-CSIC) - Seville, Spain*
Schmidt Hans-Peter, *Delinat-Institut Für Ökologie Und Klimafarming - Arbaz, Switzerland*
Almendros Gonzalo, *Museo Natural de Ciencias Naturales, MNCN-CSIC - Madrid, Spain*
Knicker Heike, *Instituto de Recursos Naturales y Agrobiología de Sevilla (IRNAS-CSIC) - Seville, Spain*
- PS3a.15** **Use of compost in projects of COSWAND (conservation of soil and water in Andean countries)**
Lobo Deyanira, *Facultad de Agronomía, Universidad Central de Venezuela, and UNESCO Chair on Eremology, Ghent University, Belgium*
Gabriels Donald, *UNESCO Chair on Eremology, Ghent University, Belgium, and Ganda Publi Productions, Belgium*
- PS3a.16** **The role of compost dissolved organic matter (DOM) on pyrene removal from cultivated soils**
D'Orazio Valeria, Senesi Nicola, *University of Bari - Bari, Italy*
- PS3a.17** **Recycling nutrients from biogas digestates based on lignin-rich feedstock – effects on yields and soil characteristics**
Eich-Greatorex Susanne, Sogn Trine A., *Norwegian University of Life Sciences - Aas, Norway*
- PS3a.18** **Utilization of anaerobic digestate from biogas production as crop nutrient source and for improving soil quality**
Fabiani Arturo, Lagomarsino Alessandra, Vignozzi, Valboa Giuseppe, Papini Rossella, Simoncini Stefania, Piccolo Raimondo, Pastorelli Roberta, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Firenze, Italy*
- PS3a.19** **Influence of municipal solid waste compost on the phytoremediation of chromium in soil polluted with multiple heavy metals**
Farrag Karam, *National Water Research Center, Ministry of Water Resources And Irrigation - Il Cairo, Egypt*
Brunetti Gennaro, Senesi Nicola, *University of Bari - Bari, Italy*
- PS3a.20** **Production and application of olive pomace compost on cropping systems: a case of study**
Ferri Donato, Tittarelli Fabio, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Bari, Italy*
Verrastro Vincenzo, *CIHEAM-MAIB - Istituto Agronomico Mediterraneo - Bari, Italy*
Montemurro Francesco, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Metaponto, Italy*
- PS3a.21** **Phylogenetic and functional changes in the microbial community of a semiarid restored soil after 25 years**
Garcia Carlos, Bastida Felipe, Albaladejo Juan, Hernandez Teresa, *CEBAS-CSIC - Espinardo-Murcia, Spain*
- PS3a.22** **Promoting pesticide efficacy in saturated systems by inclusion on biochars**
García - Jaramillo Manuel, Cox Lucia, Hermosín Maria Del Carmen, Cornejo Juan, *IRNAS - CSIC - Seville, Spain*
- PS3a.23** **Contribution of compost in the abatement of phytotoxicity of a municipal landfill leachate**
Gattullo Concetta Eliana, Loffredo Elisabetta, Castellana, Senesi Nicola, *University of Bari - Bari, Italy*

- PS3a.24** **Production of a controlled-release nitrogen fertilizer using biochar produced from agroforestry wastes**
González Maria Eugenia, Medina Jorge, Cea Mara, González Aixa, Araya Karla, Diez María Cristina, Navia Rodrigo, *Universidad de la Frontera - Temuco, Chile*
- PS3a.25** **Evaluation of different polymers as coating agent on the leaching potential of a nitrogen controlled release fertilizer developed using biochar as support material**
González Maria Eugenia, Medina Jorge, Cea Mara, González Aixa, Diez María Cristina, Monreal Carlos, Navia Rodrigo, *Universidad de la Frontera - Temuco, Chile*
- PS3a.26** **Phosphorus from anaerobic digestate: dynamics in soil and plant availability**
Grigatti Marco, Cavani Luciano, Marzadori Claudio, Ciavatta Claudio, *University of Bologna - Bologna, Italy*
- PS3a.27** **Pot experiments with anaerobic digestate (summary)**
Gulyás Miklós, Szegi Tamás, Füleky György, *Szent István University - Gödöll, Hungary*
- PS3a.28** **Changes in the content of soil humus immobilized enzymes 5 year after organic fertilization under field semiarid conditions**
Hernandez Teresa, *CEBAS-CSIC - Espinardo-Murcia, Spain*
Brunetti Gennaro, *University of Bari - Bari, Italy*
Garcia Encarna, Garcia Carlos, *CEBAS-CSIC - Espinardo-Murcia, Spain*
- PS3a.29** **Agronomic valorization of digestates from the methanogenic digestion of residues from the pretreatment of domestic used vegetal oils for obtaining biodiesel**
Hernandez Teresa, *CEBAS-CSIC - Espinardo-Murcia, Spain*
Chocano Carmen, Garcia Carlos, *CEBAS-CSIC - Espinardo-Murcia, Spain*
- PS3a.30** **The microbial use of fermentation in agriculture**
Hold Annika, Bölder Manfred, Hartung Eberhard, Holthusen Doerthe, Horn Rainer, Ohl Susanne, Voelkner Amrei, *Christian-Albrechts-University of Kiel - Kiel, Germany*
- PS3a.31** **Compost amendments vs mineral fertilization under greenhouse: effects on soil biological quality and on productivity and nutrient contents of different cultivars of lettuce and endive**
Iovieno Paola, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
Morelli Raffaella, Cikatelli Angela, Baldantoni Daniela, Alfani Anna, Castiglione Stefano, *University of Salerno - Fisciano (SA), Italy*
- PS3a.32** **Effects of digestate applications on germination and biomass yield of maize (Zea Mays) in different soils**
Jablonowski Nicolai David, *Forschungszentrum Jülich GmbH - Jülich, Germany*
Robles-Aguilar Ana, *University of Malaga - Malaga, Spain*
Ratouis Perrine, *EPFL - Lausanne, Swiss*
Herrmann Katja, *University of Cologne - Cologne, Germany*
Wolff Wilfried, Temperton Vicky, Roeb Gerhard, *Forschungszentrum Jülich GmbH - Jülich, Germany*
- PS3a.33** **Composting of biochars: improvement of sorption properties and nutrient retention**
Jablonowski Nicolai David, Borchard Nils, *Forschungszentrum Jülich GmbH - Jülich, Germany*
Prost Katharina, *University of Bonn - Bonn, Germany*
Spokas Kurt, *USDA - St. Paul, USA*
Kautz Timo, *University of Bonn - Bonn, Germany*
Möller Andreas, *Federal Institute for Geo-Science and Natural Resources - Hannover, Germany*
Siemens Jan, *University of Bonn - Bonn, Germany*

- PS3a.34** **Root growth and yield of spring wheat influenced by different biochars**
Katharina Reibe, Thomas F. Döring, Frank Ellmer, *Humboldt University - Berlin, Germany*
- PS3a.35** **Influence of digestate products from anaerobic organic waste treatment processes and their effects on soil physical properties and plant development**
Krümmelbein Julia, Dietrich Nils, Raab Thomas, *Brandenburg University of Technology - Cottbus, Germany*
- PS3a.36** **Organic carbon content and chemical attributes of a cambisol after biochar application**
Leal Otávio, Dick Deborah, *UFRRGS - Porto Alegre, Brazil*
Lombardi Kátia, *UNICENTRO - Irati, Brazil*
- PS3a.37** **Many-sided reasons for recycling organic-based wastes in agriculture**
Leita Liviana, *CRA-Agricultural Research Council - Gorizia, Italy*
Valentini Massimiliano, *CRA-Agricultural Research Council - Roma, Italy*
Ciavatta Claudio, *University of Bologna - Bologna, Italy*
Sequi Paolo, *CRA-Agricultural Research Council - Roma, Italy*
- PS3a.38** **Effect of biochar on the water retention of a silty-loam soil**
Libutti Angela, Garofalo Pasquale, Monteleone Massimo, *University of Foggia - Star*Energy Research Group - Foggia, Italy*
- PS3a.39** **Enhancement of switchgrass (*Panicum Virgatum* L.) growth by compost application**
Loffredo Elisabetta, Traversa Andreina, *University of Bari - Bari, Italy*
Palazzo Antonio J., *ERDC- CRREL - Hannover, USA*
Bashore Terry L., *HQ ACC/A3A, Airspace, Ranges, - Langley AFB, VA, USA*
Senesi Nicola, *University of Bari -Bari, Italy*
- PS3a.40** **Effects of compost addition on combined sorption/bioremoval of endocrine disruptors from a municipal landfill leachate**
Loffredo Elisabetta, Traversa Andreina, *University of Bari - Bari, Italy*
Castellana Giancarlo, Senesi Nicola, *University of Bari -Bari, Italy*
- PS3a.41** **Soil organic matter and levels of Cu and Zn in a soil with compost of swine manure applications**
Lourenzi Cledimar Rogério, Ceretta Carlos Alberto, *Federal University of Santa Maria - Santa Maria, Brazil*
Scherer Eloi Erhard, *Epagri/Chapecó - Chapecó, Brazil*
Tiecher Tadeu Luis, Cancian Adriana, Schapansky Dênis Eduardo, *Federal University of Santa Maria - Santa Maria, Brazil*
Dick Deborah Pinheiro, *Federal University of Rio Grande do Sul - Porto Alegre, Brazil*
- PS3a.42** **Compost and plants for soil restoration: Biorem European Project**
Macci Cristina, Doni Serena, Peruzzi Eleonora, Masciandaro Grazia, *CNR - ISE - PISA, Italy*
- PS3a.43** **The effects of ingestates compositions on the quality of liquid digestates**
Makádi Marianna, *University of Debrecen - Research Institute of Nyíregyháza - Nyíregyháza, Hungary*
Berényi-Üveges Judit, *National Food Chain Safety Office - Budapest, Hungary*
Tomócsik Attila, *University of Debrecen - Research Institute Of Nyíregyháza - Nyíregyháza, Hungary*
Gulyás Miklós, Szegi Tamás, *Szent István University - Gödöll, Hungary*

- PS3a.44 Hydrological character of reconstituted and natural soils: comparison of physical analysis and pedotransfer functions**
 Manfredi Paolo, *M.C.M. Ecosistemi S.r.l. - Podenzano, Loc. Gariga, Italy*
 Cassinari Chiara, *Università Cattolica del Sacro Cuore - Piacenza, Italy*
 Bosoni Andrea, *M.C.M. Ecosistemi S.r.l. - Podenzano, Loc. Gariga, Italy*
 Trevisan Marco, *Università Cattolica del Sacro Cuore - Piacenza, Italy*
- PS3a.45 Comparison between production data of corn grown in natural and recostituted soils**
 Manfredi Paolo, *M.C.M. Ecosistemi S.r.l. - Podenzano, Loc. Gariga, Italy*
 Cassinari Chiara, *Università Cattolica del Sacro Cuore - Piacenza, Italy*
 Tassi Dante, *Azienda Sperimentale "Vittorio Tadini" - Podenzano, Loc: Gariga, Italy*
 Trevisan Marco, *Università Cattolica del Sacro Cuore - Piacenza, Italy*
- PS3a.46 Dried and pirolyzed swine effluents applied to a loam and to a silty clay soil: influence on soil nutrient dynamics and carbon dioxide release**
 Marchetti Rosa, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - San Cesario sul Panaro, Modena, Italy*
 Castelli Fabio, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Bovolone (VR), Italy*
 Orsi Anna, Faeti Valerio, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - San Cesario sul Panaro, Modena, Italy*
- PS3a.47 Effect of biochar application on bioavailability and uptake of heavy metals by barley (*Hordeum Vulgare L.*)**
 Medynska-Juraszek Agnieszka, *Wroclaw University of Environmental and Life Sciences - Wroclaw, Poland*
 Joner Erik, Rasse Daniel, Pierre-Adrien Rivier, *Norwegian Institute for Agricultural and Environmental Research - Ås, Norway*
- PS3a.48 Efficiency of biochar soil amendments for reducing copper and zinc mobility and uptake by red clover (*Trifolium Pretense L.*)**
 Medynska-Juraszek Agnieszka, Cwielag-Piasecka Irmina, *Wroclaw University of Environmental and Life Sciences - Wroclaw, Poland*
- PS3a.49 Evaluation of biochar environmental toxicity using animal bioassay tests**
 Menta Cristina, Visioli Giovanna, Conti Federica D., Malcevski Aliosha, Pinto Stefania, *University of Parma - Parma, Italy*
- PS3a.50 Rock phosphate dissolution through sulphur addition during on-farm composting**
 Mihretehab Habte T., *University of Basilicata - Potenza, Italy*
 Ceglie Francesco G., Aly Adel, *IAMB - CIHEAM - Valenzano (Ba), Italy*
- PS3a.51 Short-term effects of different organic fertility management on soil chemical, biochemical and biological indicators**
 Mondelli Donato, *University of Bari, Bari, Italy*
 Aly Adel, *IAMB - CIHEAM - Valenzano (Ba), Italy*
 Dumontet Stefano, *University of Napoli "Parthenope", Napoli, Italy*
- PS3a.52 Management of pruning for energy and soil fertility: a win-win solution in a Mediterranean olive farm**
 Monteleone Massimo, Garofalo Pasquale, Libutti Angela, *University of Foggia - Star*Energy Research Group - Foggia, Italy*
- PS3a.53 Nitrogen balance and use efficiency, vegetable crop yields in two out of six years of an open field trial amended with municipal organic fraction compost**
 Morra Luigi, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Scafati, Italy*
 Pizzolongo Gaetano, *University of Napoli "Federico II" - Portici, Italy*
 Mascolo Massimino, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Scafati, Italy*

PS3a.54 **Environmentally sound use of compost water extract**
Orosz Viktória, Makádi Marianna, Tomócsik Attila, *University of Debrecen - Research Institute Of Nyíregyháza - Nyíregyháza, Hungary*
Füleky György, *Szent István University - Gödöll, Hungary*

PS3b. SUSTAINABLE USES, APPLICATIONS AND ENVIRONMENTAL IMPACT OF BIOCHARS, COMPOSTS AND DIGESTATES
19 October, h. 08:00 – 20:00

PS3b.01 **Agronomical and microbiological effects of olive mill waste compost used as a potting substrate for ornamental plants**
Federici Ermanno, Fidati Laura, *University of Perugia - Perugia, Italy*
Esposito Alessandro, Castellani Francesco, Stanzone Vitale, *Consiglio Nazionale delle Ricerche - Perugia, Italy*
Lotti Martina, Spagnesi Renzo, *Vivai Sandro Bruschi - Pistoia, Italy*
Cenci Giovanni, *University of Perugia - Perugia, Italy*
Altieri Roberto, *Consiglio Nazionale delle Ricerche - Perugia, Italy*

PS3b.02 **Evaluation of soil fertility in continuous rice cropping systems amended with livestock and waste-derived organic materials**
Miniotti Eleonora, *Ente Nazionale Risi - Castello D'Agogna, Italy*
Said-Pullicino Daniel, Sacco Dario, Martin Maria, *University of Turin - Torino, Italy*
Beltarre Gianluca, Romani Marco, *Ente Nazionale Risi - Castello D'Agogna, Italy*
Celi Luisella, *University of Turin - Torino, Italy*

PS3b.03 **Effects of biochar application on soil microbial activity and crop yield in a sandy silt in Northern Germany**
Panten Kerstin, Stöven Kirsten, Schroetter Susanne, Schnug Ewald, *Julius Kühn-Institute - Braunschweig, Germany*

PS3b.04 **Effects of softwood biochar on crop nutrient uptake in two boreal soils**
Pituello Chiara, *University of Padova - Padova, Italy*
Tammeorg Priit, *Helsinki University - Helsinki, Finland*
Morari Francesco, *University of Padova - Padova, Italy*
Helenius Juha, *Helsinki University - Helsinki, Finland*

PS3b.05 **Effects of biochar applied as a single amendment or combined with mineral fertilizer, municipal solid waste compost, and sewage sludge on soil respiration**
Plaza César, Nieto M. Aurora, Fernández José M., López-de-sá Esther G., Polo Alfredo, Gascó Gabriel, Méndez Ana, *Consejo Superior de Investigaciones Científicas - Madrid, Spain*

PS3b.06 **Organic forms of phosphorus in soil as affected by long-term application of organic waste**
Requejo Maria, *Technical University of Madrid - Madrid, Spain*
Eichler-Loebermann Bettina, *University of Rostock - Rostock, Germany*

PS3b.07 **Compost on-farm as a tool to preserve biological soil quality in agriculture**
Scotti Riccardo, Pane Catello, Villecco Domenica, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
Palese Assunta Maria, *University of Basilicata - (DICEM) - Matera, Italy*
Ragosta Giovanni, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
Celano Giuseppe, *University of Basilicata - (DICEM) - Matera, Italy*
Zaccardelli Massimo, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*

- PS3b.08** **Implications of compost and compost teas in plant biostimulation**
 Scotti Riccardo, Pane Catello, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
 Celano Giuseppe, Palese Assunta Maria, *University of Basilicata - (DICEM) - Matera, Italy*
 Zaccardelli Massimo, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
- PS3b.09** **Preliminary study on growing media alternative to peat in horticulture**
 Scotti Riccardo, Pane Catello, Vilecco Domenica, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
 Adamo Paola, *University of Napoli "Federico II" - Portici (NA), Italy*
 Zaccardelli Massimo, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
- PS3b.10** **Use of compost and compost teas to suppress plant diseases**
 Scotti Riccardo, Pane Catello, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
 Celano Giuseppe, Palese Assunta Maria, *University of Basilicata - (DICEM) - Matera, Italy*
 Zaccardelli Massimo, *Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Pontecagnano (SA), Italy*
- PS3b.11** **The biochar utilization for immobilization or accumulation of heavy metals by sorghum plants**
 Soudek Petr, Petrová Šárka, Vank Tomáš, *Institute of Experimental Botany AS CR - Prague, Czech Republic*
- PS3b.12** **Using of organic wastes for regular nutrient supply**
 Tomócsik Attila, Makádi Marianna, Orosz Viktória, Aranyos Tibor József, *University of Debrecen - Research Institutes - Nyíregyháza, Hungary*
 Füleky György, *Szent István University - Gödöll, Hungary*
- PS3b.13** **Biochar application for pinus taeda plantation in Southern Brazil**
 Trazzi Paulo André, Higa Antonio Rioyei, Mangrich Antonio Salvio, *Universidade Federal do Paraná - Curitiba, Brazil*
- PS3b.14** **Biochar as substrate for rooting of pinus taeda**
 Trazzi Paulo André, Higa Antonio Rioyei, Haliski Sérgio Luis, Moro Henrique Cronthal, Roters Diego Fernando, *Universidade Federal do Paraná - Curitiba, Brazil*
- PS3b.15** **Predicting thermal conductivity of biochar and soil using physical-satistical model**
 Usowicz Boguslaw, Lipiec Jerzy, Lukowski Mateusz, *Institute of Agrophysics, Polish Academy of Sciences - Lublin, Poland*
- PS3b.16** **Biochar affects the structure of microbial communities in temperate soils rather than total microbial biomass**
 Watzinger Andrea, Anders Elena, Rempt Franziska, Soja Gerhard, Wimmer Bernhard, Kloss Stefanie, *Austrian Institute of Technology - Tulln, Austria*
 Zehetner Franz, Zechmeister-Boltenstern Sophie, *University of Natural Resources and Life Sciences - Wien, Austria*
 Stahr Karl, *University Hohenheim - Hohenheim, Germany*
 Kitzler Barbara, *Federal Research and Training Centre for Forests, Natural Hazards and Landscape - Wien, Austria*
- PS3b.17** **Agricultural waste availability for biochar production: scenarios to 2100**
 Windeatt Jayne, Ross Andrew, Forster Piers, Williams Paul, *University of Leeds - Leeds, England*

PS3b.18 **Research of the effectiveness of vermicompost and other meliorants for soil formation of loess deposits**
Yelikbayev Bakhytzhan, Kazakh National Agrarian University - Almaty, Kazakhstan

PS3b.19 **Evaluation of biochar as tool for the control of stored-product insect pests**
Zaccone Claudio, Germinara Giacinto S., *University of Foggia - Foggia, Italy*

PS4. CERTIFICATION, REGULATION AND MARKETING OF BIOCHARS, COMPOSTS AND DIGESTATES
19 October, h. 08:00 – 20:00

PS4.01 **An integrated action plan for municipalities and farmers: public awareness campaigns and composting of separately collected bio-waste linked to local production of certified vegetables**
Contin Marco, *University of Udine - Udine, Italy*
Baca Maria Teresa, Lorente Pilar, Peña Alberto, Perales Manuela, *Alhendín Council - Alhendín, Spain*

PS4.02 **Evaluating the economic feasibility of the chain of compost enriched with biochar**
Michele Donati, Alessio Malcevschi, *University of Parma - Parma, Italy*

PS4.03 **Effect of sewage sludge on Zea Mays L. metabolism**
Ertani Andrea, *University of Padova - Legnaro (PD), Italy*
Francioso Ornella, *University of Bologna, Alma Mater Studiorum - Bologna, Italy*
Nardi Serenella, *University of Padova - Legnaro (PD), Italy*

PS4.04 **Economic assessment of carbon accumulation/sequestration strategies in agricultural soils**
Prosperi Maurizio, Calitri Francesca, Zaccone Claudio, *University of Foggia - Foggia, Italy*