

**Preliminary Program (April 30, 2017)**  
**Biochar: Production,  
Characterization and Applications**

August 20-25, 2017  
Hotel Calissano  
Alba, ITALY

**Conference Co-Chairs:**

**Franco Berruti**  
Western University, London, Canada

**Ondrej Masek**  
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## **Sunday, August 20, 2017**

16:00 – 18:00	Registration
17:00 – 18:00	Organizing Committee Meeting
18:00 – 19:30	Welcome Reception
20:00 – 21:30	Welcome and Dinner

### **NOTES**

- *Audiotaping, videotaping and photography of presentations are prohibited.*
- *Speakers – Please have your presentation loaded onto the conference computer prior to the session start (preferably the day before).*
- *Speakers – Please leave at least 3 minutes for 1 question. Extended discussion will take place at the poster session*
- *Please do not smoke at any conference functions.*
- *Turn your cellular telephones to vibrate or off during technical sessions.*
- *Be sure to make any corrections to your name/contact information on the Master Participant List or confirm (by your initials) that the listing is correct. A corrected copy will be sent to all participants after the conference.*
- *There will be organized excursions by bus to visit interesting sites along the coast of the Salento, as well as to visit olive oil and wine production facilities in the region.*

## **Monday, August 21, 2017**

07:30 – 08:15                Breakfast

08:15 – 08:30                Welcome and Conference Overview

08:30 – 09:00: **PLENARY or KEYNOTE– TBA**

09:00 – 09:15: 123 - Thermocatalytic-Reforming (TCR®) and TCR®-biochar properties - Markus Heberlein - Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Germany

09:15 – 09:30: 122 - Autothermal biochar production and characterization at pilot scale - Andrea M. Rizzo - RE-CORD, Italy

09:30 – 09:45: 117 - Woody and agricultural biomass diversity in torrefaction: a complete study in solid conversion and volatiles formation on TGA-GCMS - María González Martínez - CEA Grenoble, LGC - INP Toulouse, France

09:45 – 10:00: 185 - Production and characterization of slow pyrolysis biochar from lignin-rich digested stillage from 2nd generation bioethanol production - Frederik Ronsse - Ghent University, Belgium,

10:00 – 10:15: 162 - Catalytic studies on the thermal degradation of biomass for a direct biomass fuel cell system - Alfredo Bonaccorso - University of St Andrews, UK

10:15 – 10:45                Coffee Break

10:45 – 11:00: 134 - Understanding and controlling the smouldering process - Paolo Canu - University of Padua, Italy

11:00 – 11:15: 115 - Biochar production through slow pyrolysis of different biomass materials: seeking the best operating conditions - Joan J. Manyà - University of Zaragoza, Spain

11:15 – 11:30: 156 - Investigation of Innovative and Conventional Pyrolysis of Ligneous and Herbaceous Biomasses for Biochar Production - Silvia Fiore - Politecnico di Torino, Italy

11:30 – 11:45: 158 - Pyrolysis of Residues from Well-Established Biochemical Processes for the Production of Biochar - Devon Barry - ICFAR, The University of Western Ontario, Canada

11:45 – 12:00: 167 - Biochar production and application in the Intermountain West - Darren McAvoy - Utah State University, USA

12:00 – 12:15: 149 - Valorization of char from small scale gasification systems in South-Tyrol - Marco Baratieri - Free University of Bolzano, Italy

12:15 – 12:30: 159 - How to produce a potential high value bio-char from the worst invasive plant in Canada - Chiara Barbiero - ICFAR, The University of Western Ontario, Canada

12:30 – 12:45: 169 - BIOCHAR – PRODUCT DEVELOPMENT IN REMOTE REGIONS FROM MIXED RESIDUES - Kelly Hawboldt - Memorial University, Canada

12:45 – 13:00: 141 - Biochar production through sustainable biorefineries - Anastasia Zabaniotou - Aristotle University of Thessaloniki, Greece

13:00 – 14:00                Lunch

14:00 – 17:00                Free time /ad hoc sessions

17:00 – 17:30                      Afternoon Refreshments

17:30 – 17:45: 140 - Production of activated carbon from barley biochar precursor - Javier Pallares Ranz - University of Zaragoza\CIRCE Research Institute, Spain

17:45 – 18:00: 147 - Activation and mild oxidation of vacuum pyrolysis biochar - Serge Kaliaguine - Université Laval, Canada

18:00 – 18:15: 103 - Development of CO<sub>2</sub> neutral reductants in metallurgical industry from thermochemically produced biochar - Anna Trubetskaya – LTU, Sweden

18:15 – 18:30: C – Biochar Production with CarbonFX Technology - Sylvain Bertrand - Airex Energy, Canada

18:30 – 18:45: 121 - Activated biochar derived from marine macroalgae wastes (*Enteromorpha prolifera*): Facile synthesis and its application on toxic dye removal - Xiaoyu Li - China University of Petroleum, China

18:45 – 19:00: 108 - Bio-charcoal production from municipal organic solid wastes - Salam Bash AlMaliki - AlKarkh University of Science, Iraq

20:00 – 21:15                      Dinner

21:15 – 22:30                      Poster Session with Social Hour

**Tuesday, August 22, 2017**

07:30 – 08:15                    Breakfast

08:15 – 08:45: **PLENARY or KEYNOTE – TBA**

08:45 – 09:00: 124 - Lab-scale pyrolysis and hydrothermal carbonization of biomass digestate: characterization of solid products - Edoardo Miliotti - CREAR/Department of Industrial Engineering, University of Florence, Italy

09:00 – 09:15: 104 - Thermal Evolution of Biochar and its Physicochemical Properties during Hydrothermal Gasification - Janusz A. Kozinski - Lassonde School of Engineering, York University, Canada

09:15 – 09:30: 154 - Production of biochar and development of predictive methods for determining performance in value-added composite materials - Douglas Matthew Cuthbertson – ICFAR, Western University, Canada

09:30 – 09:45: 177 - Characterization of biochar pore structure with X-ray tomography - Jari Hyväluoma - Natural Resources Institute Finland (Luke), Finland

09:45 – 10:00: 188 - Changes in carbon structure distribution and nanostructure of functionalized biochars - Elsa Weiss-Hortala - Rapsodee UMR CNRS, France

10:00 – 10:15: 179 - Biochar from gassification in cultivated soils and riparian buffer zones: chemical characterization - Ivano Vassura - University of Bologna, Italy

10:15 – 10:45                    Coffee Break

10:45 – 11:00: 110 - Characteristic studies on the waste biomass-based biochars produced by fast pyrolysis - Ajay K. Dalai - University of Saskatchewan, Canada

11:00 – 11:15: 126 - Mobile Organic Compounds in Biochar. Relationships with Carbonisation Degree and Bio-oil Composition - Daniele Fabbri - University of Bologna, Italy

11:15 – 11:30: 152 - Biochar quality management - Ataulh Khan - InnoTech Alberta, Canada

11:30 – 11:45: 184 - Hydrothermal carbonisation of sewage sludge: char characterisation and reference to international legislations - Fabio Merzari - University of Trento, Italy

11:45 – 12:00: 174 - Biochar characterization and EU27 las harmonization: REFERTIL results - Massimo Pugliese - University of Torino, Italy

12:00 – 12:15: 180 - Preparation, characterization and potential uses of biochars and hydrochars from pig manure waste - Gabriel Gascó - Universidad Politécnica de Madrid, Spain

12:15 – 12:30: 133 - Preparation and characterization of functionalized biochar via pyrolysis of woody biomass for environmental remediation - John Zhou - University of Technology Sydney, Australia

12:30 – 12:45: 183 - Physicochemical and hydrophysical properties of biochars and hydrochar from hydrothermal carbonization of sewage sludges - Ana Mendez - Universidad Politécnica de Madrid, Spain

12:45 – 13:00: 113 - Off-gassing of charred pellets during storage - Shahab Sokhansanj - BBRG – University of British Columbia, Canada

13:00 – 14:00                    Lunch

14:00 – 17:00            Free time /ad hoc sessions

17:00 – 17:30            Afternoon Refreshments

17:30 – 17:45: 138 - Biochar from Waste: Production and Characterisation - Anh Phan - Newcastle University, UK

17:45 – 18:00: 128 - Analysis of product distribution and characteristics of bio-oil and bio-char from fast pyrolysis of date palm tree waste - Yassir Makkawi - Department of Chemical Engineering, American University of Sharjah, United Arab Emirates

18:00 – 18:15: 114 - Physical properties of charred pellets after two months of storage - C.J. Lim - BBRG – University of British Columbia, Canada

18:15 – 18:30: B – Multi-Technique Characterization of Biochar Formation - Anthony Dufour - CNRS Nancy, France

18:30 – 18:45: 166 - Pyrolysis of cotton stalks and utilization of pyrolysis char for sustainable soil enhancement and carbon storage - Sebastian Schaffer - University of Natural Resources and Life Sciences, Vienna, Austria

18:45 – 19:00: A – Desulfurization and dezincification of char from pyrolysis of waste tires – Jamal Chaouki - Ecole Polytechnique de Montreal, Canada

19:00 – 19:15: 160 - Real time monitoring of biogas trace compounds with a biochar reactor using a dms technique - Davide Papurello - Politecnico di Torino, Italy

20:00 – 21:15            Dinner

21:15 – 22:30            Poster Session with Social Hour

**Wednesday, August 23, 2017**

07:30 – 08:15                Breakfast

08:15 – 08:45: **PLENARY or KEYNOTE – TBA**

08:45 – 09:00: 106 - Biochars from various biomass types as anodes for sodium-ion batteries - Capucine Dupont – CEA, France

09:00 – 09:15: 120 - Monolithic biochar as electrode in supercapacitor - Charles Q. Jia - University of Toronto, Canada

09:15 – 09:30: 186 - Biochar for pollutant removal from aqueous solutions - Raffaella Ocone - Heriot-Watt University, UK

09:30 – 09:45: 150 - Biochar and ash amendment effects on mine reclamation in the boreal forest - Jillian M.H. Bieser - University of Toronto, Canada

09:45 – 10:00: 161 - Agronomic Benefits and Detriments of Using Biochar - Carlo Grignani – University of Turin, Italy

10:00 – 10:15: 172 - Rapid Removal of Pharmaceuticals from Wastewater Using Magnetized Biochar from Waste Douglas Fir - Akila G. Karunanayake - Mississippi State University, USA

10:15 – 10:45                Coffee Break

10:45 – 11:00: 142 - Carbon sequestration using bio-refinery residues - Ondrej Masek - University of Edinburgh, UK

11:00 – 11:15: 135 - Short-term effects of biochar on grapevine fine root dynamics and soil microorganisms - Dalila Trupiano - University of Molise, Italy

11:15 – 11:30: 136 - Biochar addition in the anaerobic digestion of the organic fraction of municipal solid waste for biogas production - Paola Giudicianni - CNR-IRC, Italy

11:30 – 11:45: 139 - Biochar enhance cherry tomato plant growth, fruit yield and quality in controlled conditions - Oriana Argentino - University of Insubria, Italy

11:45 – 12:00: 155 - Charcoal (biochar) impact on soil carbon stocks, productivity and nutrient cycles of alpine grasslands - Irene Criscuoli - Foxlab Fondazione Edmund Mach, Italy

12:00 – 12:15: 175 - Biochar for remediating contaminated soils: outdoor experiments in Wales, UK - F. Alayne Street-Perrott - Swansea University], UK

12:15 – 12:30: 127 - Bio char as cheap and environmenral friendly filler able to improve polymer mechanical properties - Amer Abbas Khan - Politecnico di Torino, Italy

12:30 – 12:45: 129 - Treatment of non-coal minewater with low cost, slow pyrolysis biochar – establishing new pilot trials using alternative technologies - Alun L. James - Aberystwyth University, UK

12:45 – 13:00: 137 - Standard Biochar as low-cost filler in cement-based composites - Luciana Restuccia - Politecnico di Torino, Italy

13:00 – 14:00                Lunch

14:00 – 17:00                Free time /ad hoc sessions



17:00 – 17:30                      Afternoon Refreshments

17:30 – 17:45: 146 - The Effects of Biochar as a Soil Amendment on Soil Quality and Plant Growth - Ok-Youn Yu - Appalachian State University, USA

17:45 – 18:00: 173 - Potential use of olive mill wastewater in the production of biochar for a soil amendment - Khoulood Haddad - Institut de Science des Matériaux de Mulhouse, France

18:00 – 18:15: 131 - Biochar effect on the growth of *Ailanthus altissima* cultivated on a technosol mainly contaminated by Pb and As: mesocosm study - Domenico Morabito - LBLGC University of Orléans, France

18:15 – 18:30: 130 - Effect of lightwood and pinewood biochar amendments on the growth and assisted phytostabilizing capacities of *Salix viminalis* - Manhattan Lebrun - University del Molise, Italy

18:30 – 18:45: 145 - Copper immobilization and mobilization by biochar and compost in different copper-enriched vineyard soils - Gerhard Soja - AIT Austrian Institute of Technology GmbH, Austria

18:45 – 19:00: 178 - Adsorption of Ammonium (NH<sub>4</sub><sup>+</sup>) Ions onto various Vietnamese Biomass Residue-derived Biochars (wood, rice husk and bamboo) - Hien Nguyen - University of Birmingham, UK

19:00 – 19:15: 168 - As(III) remediation from water using sustainable iron oxide-biochar composite - Prachi Singh - Jawaharlal Nehru University, India

19:15 – 19:30: 101 - Use of fruit and vegetable waste based biochar for removal of heavy metals from aqueous solution - Zahoor Ahmad - University of Haripur, Pakistan

20:00 – 21:15                      Dinner

21:15 – 22:30                      Poster Session with Social Hour

## **Thursday, August 24, 2017**

07:30 – 08:15 Breakfast

08:15 – 08:45: **PLENARY or KEYNOTE – TBA**

08:45 – 09:00: 116 - Can Biochar link forest restoration with commercial agriculture? - David C. Smith - Oregon State University, USA

09:00 – 09:15: 170 - Effect of biochar addition on carbon dioxide and nitrous oxide emissions from a temperate agricultural soil - Maren Oelbermann - University of Waterloo, Canada

09:15 – 09:30: 182 - Effects of the application of manure biochars on the trace metal bioavailability in Riotinto area (Spain) - Ana Mendez - Universidad Politécnica de Madrid, Spain

09:30 – 09:45: 187 - Developing a method of accounting for the material use of biomass/biochar and its positive side benefits within the company carbon footprint: A case study at Hochschule Geisenheim University - Georg Ardissonne - Hochschule Geisenheim University, Germany

09:45 – 10:00: 132 - Effect of wood biochar associated to compost on the phytotoxicity of a mining technosol mainly contaminated by Pb and As - Romain Nandillon – IDDEA, France

10:00 – 10:15: 148 - Applications of high ash char derived from intermediate pyrolysis of municipal solid waste - a technical feasibility study - Yang Yang - Aston University, UK

10:15 – 10:45 Coffee Break

10:45 – 11:00: 119 - Pyrolytic temperature evaluation of macauba biochar for uranium adsorption from aqueous solutions - Sabine Neusatz Guilhen - Instituto de Pesquisas Energéticas e Nucleares, Brazil

11:00 – 11:15: 157 – Arsenic removal from drinking water by means of low cost biochars derived from miscanthus and coconut shell - Silvia Fiore – Politecnico di Torino, Italy

11:15 – 11:30: 164 - The influence of biochar on soil characteristics in a temperate agroecosystem - Maren Oelbermann - University of Waterloo, Canada

11:30 – 11:45: 176 - Upgrading biochar characteristics by using CO<sub>2</sub> as modifying agent for Vanadium redox flow battery electrodes - Ha Phan - Newcastle University, UK

11:45 – 12:00: 151 - Effect of Two Rates of Biochars on Arylsulfatase and Beta-Glucosidase Activities in Two Soils from Central Missouri, USA - Maxim R. Bayan - Lincoln University in Missouri, USA

12:00 – 12:15: 181 - Modification of soil biochemical properties after urban waste biochar application - Gabriel Gascó - Universidad Politécnica de Madrid, Spain

12:15 – 12:30: 105 - Effect of Biochar Application Rate, Biochar Production (Pyrolysis) Temperature and Biochar Feedstock Type (Rice Husk/ Maize Straw) on Amendment of Clay-Acidic Soil - Brook Tesfamichael Teferra - Addis Ababa University, Ethiopia

12:30 – 12:45: 143 - Effects of biochar application on total and nitrogen-fixing bacteria in rhizosphere and bulk soils - T. Komang Ralebitso-Senior - Teesside University, UK

12:45 – 13:00: 111 - Waterleaf (*Talinum triangulare*) response to biochar application in a humid-tropical forest soil - Samuel Fru Billa - University of Dschang, School of Agriculture and Environment, Cameroon

13:00 – 14:00 Lunch

14:00 – 18:30 Free Time + Excursion

20:00 – 22:30 Banquet

**Friday, August 25, 2017**

07:30 – 08:30            Breakfast

08:30 – 08:45: 109 - Which Policy for Biochar Deployment in Southern Eu? an Integrated Approach is Possible - David Chiaramonti - RE-CORD/CREAR, University of Florence, Italy

08:45 – 09:00: 153 - Toward a long-term assessment of biochar impact in Mediterranean agricultural soils - Silvia Baronti - IBIMET CNR, Italy

09:00 – 09:15: 118 - Biochar economics and the competition for feedstock - Roger Kilburn – IbiolC, UK

09:15 – 09:30: 165 - Integrated energy and water self-sufficiency system for small mediterranean insular villages: a feasibility study - Oreste Piro - Universitat de les Illes Balears, Spain

09:30 – 09:45: 189 - Life cycle assessment of Biochar production from southern pine - Sudhagar Mani - University of Georgia, USA

09:45 – 10:00: 163 - Behavioural factors affecting the adoption of biochar of farmers in Canada - Maren Oelbermann - University of Waterloo, Canada

10:00 – 10:30    Coffee Break

10:30 – 10:45: 171 - Evaluation of the long-term effects of pre-conditioned biochar on soil organic carbon in temperate soils using the Century Soil Organic Matter model - Maren Oelbermann - University of Waterloo, Canada

10:45 – 11:00: 125 - Use of biochar as soil health enhancer and climate change mitigator in India: potential and constraints – Goutam Kumar Ghosh - Visva-Bharati University, India

11:00 – 11:15: 102 - NewCarbon Innovation for Sustainable Agriculture, Soil Remediation and Water / Effluent Purification - Marius van der Merwe – NewCarbon, South Africa

11:15 – 13:00    Poster Session for Thursday and Friday

13:00                            Lunch and Departure