Preliminary Program
(June 16, 2023)

Biochar III: Production, Characterization and Applications

September 17-22, 2023
Tomar, Portugal

Conference Co-Chairs:
Franco Berruti, ICFAR, Western University, Canada
David Chiaramonti, Politecnico di Torino and RE-CORD, Italy
Silvia Fiore, Politecnico di Torino, Italy
Manuel Garcia-Pérez, Washington State University, USA
Ondrej Masek, University of Edinburgh, UK
Sunday, September 17, 2023

16:00 – 18:00  Registration
18:30 – 20:00  Welcome reception (with music)
20:00 – 21:30  Dinner

NOTES

- Audio, still photo and video recording by any device (e.g., cameras, cell phones, laptops, PDAs, watches) is strictly prohibited during the technical sessions, unless the author and ECI have granted prior permission.
- 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 questions. Extended discussion will take place at the poster session.
- Speakers – Please hang your poster presentation prior to the poster session and remove it after the session ends.
- Please do not smoke at any conference functions.
- Turn your cellular telephones to vibrate or off during technical sessions.
- All coffee breaks will be held in the hotel bar area (with outdoor patio).
Monday, September 18, 2023

07:30 – 08:30  Breakfast buffet

08:30 – 08:45  Welcome and Conference Overview

08:45 – 09:20  PLENARY 1

151 - Biochar in a circular economy
Johannes Lehmann, Cornell University, USA

PRODUCTION PROCESSES, PRE- AND POST-PROCESSING AND REACTOR TECHNOLOGIES

09:20 – 09:40  126 - Big box biochar: Scaled-up, in-woods biochar production
Darren McAvoy, Utah State University, USA

09:40 – 10:00  101 - Evaluation of pyrolysis processes and biochar quality in the operation of flame curtain pyrolysis kiln for sustainable biochar production
Anjali Jayakumar, Newcastle University, UK. David Morrisset, University of Edinburgh, UK. Vasileios Koutsomarkos, University of Edinburgh, UK. Christian Wurzer, University of Edinburgh, UK. Rory M. Hadden, University of Edinburgh, UK. Robert Gordon University, UK. Christine Edwards, Robert Gordon University, UK. Ondřej Mašek, University of Edinburgh, UK.

10:00 – 10:20  119 - Heat, power and high-temperature biochar cogeneration
Anežka Sedmihradská, University of Chemistry and Technology; The Czech Academy of Sciences, Institute of Chemical Process Fundamentals, Czech Republic. Michael Pohofelý, University of Chemistry and Technology; The Czech Academy of Sciences, Institute of Chemical Process Fundamentals, Czech Republic.

10:20 – 10:50  Coffee Break

10:50 – 11:10  130 - Activated char produced from chontaduro seeds: a new potential precursor
Luis Angel, IMT Atlantique, France. Audrey Villot, IMT Atlantique, France. Yves Andres, IMT Atlantique, France. Claire Gerente, IMT Atlantique, France. Manuel Rodriguez Susa, Universidad de los Andes, Colombia. Jaime Plazas-Tuttle, Universidad de los Andes, Colombia.

11:10 – 11:30  147 - Concentrated solar for small-scale biochar production
Renata Ashapatov, The Cooper Union, USA. Amanda Simson, The Cooper Union, USA.

Kelly Hawboldt, Memorial University of Newfoundland and Labrador, Canada. Stephanie MacQuarrie, Cape Breton University, Canada. Nadya Incan, Memorial University of Newfoundland and Labrador, Canada.

11:50 – 12:10  103 - Does stirring influence hydrothermal carbonization experiments? A laboratory and computational study of a lignocellulosic biomass
12:10 – 12:30  **118 - Process modelling and life cycle assessment of algal biochar-bioenergy system**  
Jiacheng Sun, University of Edinburgh, UK. Ondřej Mašek, University of Edinburgh, UK

12:30 – 12:50  **129 - Biochar seed-coatings for precision aerial seeding in forest restoration**  
Sean C. Thomas, Institute of Forestry and Conservation, Univ. of Toronto, Canada

13:00 – 14:00  Lunch buffet

14:00 – 16:45  Networking/ad hoc sessions

16:45 – 17:20  Afternoon Refreshments (Coffee Break)

17:20 – 17:40  **150 - Production, characterization and uses of N-doped chars and Metal-N-doped Bio-chars**  
Manuel Garcia-Perez, Department of Biological Systems Engineering, Washington State University, Pullman, WA, 99164

17:40 – 18:00  **104 - Green synthesis of jackfruit peel biochar and its application in methylene blue adsorption**  
Devika Venu, Research Scholar, Civil Engineering Department, IIT Delhi, India. Babu J. Alappat, Professor, Civil Engineering Department, IIT Delhi, India.

18:00 – 18:20  **142 - Transformation of zinc during waste tyre pyrolysis using various reactors**  
Bo Gu, Curtin University, Australia. Yun Yu, Curtin University, Australia. Hongwei Wu, Curtin University, Australia.

18:20 – 18:40  **121 - Green functionalization of biochar via mechanochemical approach**  
Maria Rosaria Acocella, University of Salerno, Italy. Aida Kiani, University of Salerno, Italy. Gianluca Viscusi, University of Salerno, Italy. Elena Lamberti, University of Salerno, Italy. Giuliana Gorrasi, University of Salerno, Italy. Paola Giudicianni, Institute of Sciences and Technologies for Sustainable Energy and Mobility (STEMS) of the National Research Council (CNR), Italy. Corinna Maria Grottola, Institute of Sciences and Technologies for Sustainable Energy and Mobility (STEMS) of the National Research Council (CNR), Italy. Davide Amato, Institute of Sciences and Technologies for Sustainable Energy and Mobility (STEMS) of the National Research Council (CNR), Italy. Raffaele Ragucci, Institute of Sciences and Technologies for Sustainable Energy and Mobility (STEMS) of the National Research Council (CNR), Italy.

18:40 – 19:00  **166 - Use of plasticized biochar intermediate for producing biocarbons with improved mechanical properties**  
Robert L. Johnson, University of Hawaii at Mānoa, USA. Kyle Castillo, University of Hawaii at Mānoa, USA. Christian Castillo, University of Hawaii at Mānoa, USA. Liang Wang, SINTEF Energy Research, Norway. Øyvind Skreiberg, SINTEF Energy Research, Norway. Scott Turn, University of Hawaii at Mānoa, USA.
19:00 – 19:20  122 - Production and characterization of biochar from industrial sludge for potential agronomic use
Florence Ponte, UPM / UTEC (UPM Biofore Company / University of Uruguay), Uruguay. Alejandro Amaya, UDELAR (Chemistry University of Uruguay), Uruguay. Hector Garcia, IHE/UTEC (Institute for water education/ University of Uruguay), Netherlands. Capucine Dupont, IHE Delft (Institute for water education), Netherlands.

19:30 – 21:00  Dinner (served)

21:00 – 22:30  Poster Session with Social Hour
Tuesday, September 19, 2023

07:30 – 08:30  Breakfast buffet

CHARACTERIZATION

08:30 – 09:05  PLENARY 2

141 - Chemical nature, molecular structure, and formation mechanism of biochar: Molecular dynamics studies and experimental approach
Valentina Sierra, Washington State University, USA. Jonathan P. Mathews, Penn State University, USA. Farid Chejne Janna, National University of Colombia, USA. Manuel Garcia-Perez, Washington State University, USA.

09:05 – 09:25  105 - Nutrients’ fate in cow manure during hydrothermal treatments

09:25 – 09:45  107 - Molecular dynamics simulation of realistic biochar models with controlled porosity
Audrey Ngambia, University of Edinburgh, United Kingdom. Ondrej Masek, UKBRC, University of Edinburgh, United Kingdom. Valentina Erastova, University of Edinburgh, United Kingdom.

09:45 – 10:05  123 - Physico-chemical qualities and potentials for biochar agro-environmental valorization
Eya Ghomri, CNRS-University of Lorraine, France. Yann Le Brech, CNRS-University of Lorraine, France. Marine Guilmont, CNRS-University of Haute-Alsace, France. Sebastien Leclerc, CNRS-University of Lorraine, France. Sabine Bouguet-Bonnet, CNRS-University of Lorraine, France. Nicolas Thevenin, RITTMO Agro-environnement, France. Roger Gadiou, CNRS-University of Haute-Alsace, France

10:05 – 10:25  127 - Impact of temperature and technology on biochar properties from different agricultural residues
Konstantin Moser, Bioenergy and Sustainable Technologies GmbH, Austria. Elisabeth Wopienka, Bioenergy and Sustainable Technologies GmbH, Austria. Christoph Pfeifer, University of Natural Resources and Life Sciences, Vienna.

10:25 – 10:55  Coffee Break

10:55 – 11:15  125 - Characterization and catalytic performances of biochars synthesized from a hyperaccumulator plant: Alyssum murale
Marine Guilmont, CNRS-University of Haute-Alsace, France. Roger GADIOU, CNRS-University of Haute-Alsace, France. Yann LE BRECH, CNRS-University of Lorraine, France. Marie-Odile SIMONNOT, CNRS-University of Lorraine, France. Anthony DUFOUR, CNRS-University of Lorraine, France. Jesuc RAYA, CNRS-University of Strasbourg, France. Claire COURSON, CNRS-University of Strasbourg, France.

11:15 – 11:35  106 - Nutrient release model application and greenhouse gas emissions on the incorporated poultry manure biochar for bio-fertilizer application
JoungDu Shin, Bio-technology of Multidisciplinary Sciences, Co., South Korea. DongKeon Lee, Bio-technology of Multidisciplinary Sciences, Co., South Korea. ChangKi Shim, National Institute of Agricultural Science, South Korea. JooHee Nam, Gyenggi-Do Agricultural Research & Extension services, South Korea. ChangYoon Jeong, Louisiana State University AgCenter, USA.
11:35 – 11:55 120 - Pore formation and porous structure evolution on CO2 activation processes
Javier Pallarés, University of Zaragoza\CIRCE, Spain. Antonia Gil, University of Zaragoza\CIRCE, Spain. Inmaculada Arauzo, University of Zaragoza\CIRCE, Spain. Cristóbal Cortés, University of Zaragoza\CIRCE, Spain

11:55 – 12:15 124 - Moroccan Two-phase olive mill wastes hydrothermal carbonization: effect of water phase recycling on hydrochar yields and properties
Akram Dahdouh, CNRS-University of Lorraine, France. Yann Le Brech, CNRS-University of Lorraine, France. Ismail KHAY, International University of Rabat, College of Engineering and Architecture, Morocco. Anas El Maakoul, International University of Rabat, College of Engineering and Architecture, Morocco. Mohamed Bakhouya, International University of Rabat, College of Engineering and Architecture, Morocco

12:15 – 12:35 137 - Influence of the heating rate during biomass pyrolysis on the pore structure and adsorption behavior of biochars
Alexandra Brautlacht, RWTH Aachen University, Germany. Peter Quicker, RWTH Aachen University, Germany.

13:00 – 14:00 Lunch buffet
14:00 – 16:45 Networking /ad hoc sessions
16:45 – 17:20 Afternoon Refreshments (Coffee Break)

17:20 – 17:40 160 - Quality of sewage sludge-derived biochar from the point of organic pollutants and pyrolysis parameters
Jaroslav Moško, Institute of Chemical Process Fundamentals of the CAS; University of Chemistry and Technology, Czech Republic. Matěj Hušek, Institute of Chemical Process Fundamentals of the CAS; University of Chemistry and Technology, Czech Republic. Michael Pohořelý, Institute of Chemical Process Fundamentals of the CAS; University of Chemistry and Technology, Czech Republic.

17:40 – 18:00 140 - Stable polycyclic aromatic carbon (SPAC) content as an improved parameter for determining biochar stability
Clement Uguna, University of Nottingham, Faculty of Engineering, United Kingdom. Will Meredith, University of Nottingham, Faculty of Engineering, United Kingdom. Colin Snape, University of Nottingham, Faculty of Engineering, United Kingdom. Philippa Ascough, Scottish Universities Environmental Research Center, United Kingdom.

18:00 – 18:20 164 - Physical and mechanical properties of pyrolyzed pellets
Magdalena Joka Yildiz, Bialystok University of Technology, Poland. Christian Wurzer, University of Edinburgh, United Kingdom. Thomas Robinson, University of Edinburgh, United Kingdom. Ondrej Mašek, University of Edinburgh, United Kingdom

18:20 – 18:40 165 - Evaluation of the effect of torrefaction and slow pyrolysis on porosity and adsorption performance of biochar and activated carbons obtained from palm kernel shell
Marlon Cordoba, University of La Guajira, Colombia. Farid Chejne, National University of Colombia, Colombia. Jader Aleán, University of La Guajira, Colombia. Carlos Gómez, National University of Colombia, Colombia.
Tuesday, September 19, 2023 (continued)

18:40 – 19:00  
**154 - Comparison of hydrochar fractionation and composition in batch and continuous hydrothermal liquefaction**  
Maria J. Rivas-Arrieta, Department of Biological and Chemical Engineering, Aarhus University, Denmark. Patrick Biller, Affiliation, Department of Biological and Chemical Engineering, Aarhus University, Denmark.

19:00 – 19:20  
**146 - Vine-canes as slow-release fertilizers for soil incorporation**  

19:30 – 21:00  
Dinner (served)

21:00 – 22:30  
Poster Session with Social Hour
Wednesday, September 20, 2023

07:30 – 08:30  Breakfast

08:30 – 08:50  167 - Characterization of biochars by nuclear magnetic resonance
Yann LE BRECH, CNRS-University of Lorraine, France. Roger GADIOU, CNRS-
University of Haute-Alsace, France. Luc DELMOTTE, CNRS-University of Haute-
Alsace, France. Jésus RAYA, CNRS-University of Strasbourg, France. Younes
BOUIZI, University of Lorraine, France. Gwendal KERVERN, University of
Lorraine, France. Sebastien LECLERC, CNRS-University of Lorraine, France.
Sabine BOUGUET-BONNET, University of Lorraine, France. Anthony DUFOUR,
CNRS-University of Lorraine, France.

08:50 – 09:10  143 - Biochars from bioresidues, grouped for easier logistics in fertilizer
application
Rianne Visser, TNO Biobased and Circular Technologies, Netherlands

09:10 – 09:30  149 - Characteristics of sewage sludge biochar produced at a wide range of
pyrolysis temperatures
Yassir Makkawi, Bioenergy and Solar Conversion Research Group (BSCRG),
College of Engineering, American University of Sharjah, United Arab Emirates
(UAE). Omar Moussa, Bioenergy and Solar Conversion Research Group
(BSCRG), College of Engineering, American University of Sharjah, United Arab
Emirates (UAE).

09:30 – 09:50  152 - Passivation of contaminated biochars by tar conversion over their
surface
Patrycja Wąsik, Silesian University of Technology, Poland. Agnieszka Korus,
Silesian University of Technology, Poland. Andrzej Szlęk, Silesian University of
Technology, Poland. Franz Winter, TU Wien, Austria.

09:50 – 10:10  145 - Study of possibility to foresee the activated chars properties knowing
the intrinsic characteristics of raw biomass
Luis Angel, IMT Atlantique, GEPEA UMR CNRS 6144, France. Audrey Villot, IMT
Atlantique, GEPEA UMR CNRS 6144, France. Jenny Peña, GEPEA UMR CNRS
6144, France. Maxime Hervy, GEPEA UMR CNRS 6144, France. Mohamad
Dieme, GEPEA UMR CNRS 6144, France. Yves Andres, IMT Atlantique, GEPEA
UMR CNRS 6144, France. Claire Gerente, IMT Atlantique, GEPEA UMR CNRS
6144, France. Manuel Rodríguez Susa, Universidad de los Andes, Colombia.
Jaime Plazas-Tuttle, Universidad de los Andes, Colombia.

10:10 – 10:30  131 - Biochar enhanced bioplastics
Jamie Bakos, P. Eng., Titan – Carbon Smart Technologies, Canada. Satya
Panigrahi, P.Eng., Ph.D., SaskPolytech, Canada.

10:30 – 11:00  Coffee Break

APPLICATIONS

11:00 – 11:20  158 - Adsorption of emerging pollutants with different biochar adsorbents
Heejin Lee, Western University, Canada. Bruna De Luca, DIATI, Politecnico di
Torino, Italy. Silvia Fiore, DIATI, Politecnico di Torino, Italy. Franco Berruti,
Western University, Canada.
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<th>Time</th>
<th>Session</th>
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| 11:20 – 11:40 | **114 - Innovative applications of biomass gasification char in adsorption and catalysis**  
Ali Abdelaal, IMT Atlantique, GEPEA, France; Free University of Bozen-Bolzano, Italy. Audrey Villot, IMT Atlantique, GEPEA, France. Francesco Patuzzi, Free University of Bozen-Bolzano, Faculty of Engineering, Piazza Università 5, Italy. Claire Gerente, IMT Atlantique, GEPEA, France. Marco Baratieri, Free University of Bozen-Bolzano, Faculty of Engineering, Italy. |
| 11:40 – 12:00 | **168 - Biochar as a catalyst for hydrogen production from methane conversion**  
Anthony DUFOUR, CNRS, ENSIC, Nancy, France. Alain CELZARD, Univ. Lorraine, CNRS, France. Vanessa FIERRO, Univ. Lorraine, CNRS, France. François BROUST, CIRAD, Montpellier, France. Jean-Noël ROUZAUD, retired, previously CNRS, France. André ZOULALIAN, Univ. Lorraine, , France |
| 12:00 – 12:20 | **144 - Functional biochar for destructive removal of formaldehyde**  
Mariem Zouari, InnoRenew CoE; Faculty of Mathematics, Natural Sciences, and Information Technologies; University of Primorska, Slovenia. Laetitia Marrot, FRISSBE, Slovenian National Building and Civil Engineering Institute (ZAG). David B. DeVallance, College of Science and Technology, Commonwealth University of Pennsylvania, USA. |
| 12:20 – 12:40 | **117 - High carbon wood ash biochar for mine tailings remediation: a field assessment of planted tree performance and metals uptake**  
Jasmine M. Williams, University of Toronto, Canada. Sean C. Thomas, University of Toronto, Canada. |
| 12:40 – 13:00 | **111 - The effects of walnut shell-derived carbon characteristics on vanadium redox reactions for flow battery**  
Ha H. Phan, School of Engineering, Newcastle University, United Kingdom. Jon G. Bell, School of Engineering, Newcastle University, United Kingdom. Greg A. Mutch, School of Engineering, Newcastle University, United Kingdom. Alan J. McCue, Department of Chemistry, University of Aberdeen, United Kingdom. Anh N. Phan, School of Engineering, Newcastle University, United Kingdom. K. Mark Thomas, School of Engineering, Newcastle University, United Kingdom. |
| 13:00 – 14:00 | Lunch (buffet) |
| 14:15 | Be in the lobby for excursion to UNESCO World Heritage Site: Convento de Cristo. Tomar’s most famous landmark, the Convento is on a hill overlooking town. It is within walking distance of the hotel. The Convento combines architectural styles from the 12th through 17th centuries. An ornate octagonal canopy protects the high altar of the Templo dos Templares, modeled after the Holy Sepulcher in Jerusalem, and the grounds of the convent contain eight cloisters embracing a variety of styles. After the Convento de Cristo, the tour will continue in the historic area of Tomar. Time for leisure in town afterwards. |
| 14:20 | Depart with guides on excursion |
| 18:00 – 18:30 | Return from excursion |
| 18:30 | Social hour in Lobby Bar |
| 19:30 – 21:00 | Dinner |
21:00 – 22:30  Poster Session with Social Hour
Thursday, September 21, 2023

07:30 – 08:30  Breakfast (buffet)

08:30 – 09:05  PLENARY 3
135 - Opportunities and challenges with the production and use of biochar-based catalysts
Naomi Klinghoffer, Western University, London, Canada. Alexandra Frainetti, Western University, London, Canada

09:05 – 09:25  161 - Biochar application as a cover on storage manure tanks: Effect of biochar properties on ammonia emission

09:25 – 09:45  108 - Assess the mechanisms and adsorption capacities of ten biochar types for the removal of micropollutants from wastewater effluent

09:45 – 10:05  132 - Adsorption mechanisms of biochar for removal of organic contaminants in water

10:05 – 10:25  134 - Use of commercial biochar for river water purification in the Lazio region, Italy
Lorenzo Animali, Roma Tre University, Italy. Sveva Corrado, Roma Tre University, Italy. Paolo Tuccimei, Roma Tre University, Italy. Mauro Giorcelli, Turin’s Polytechnic, Italy.

10:25 – 10:55 Coffee Break

10:55 – 11:15  133 - Application of biochar for the treatment of retting effluent and use as growth substrate
Neha Batta, University of Western Ontario, Canada. Spencer M. Heuchan, University of Western Ontario, Canada. Franco Berruti, University of Western Ontario, Canada. Cesar Moreira Valenzuela, Escuela Superior Politécnica del Litoral, ESPOL, Ecuador.

11:15 – 11:35  113 - The potential of gasification-derived woody biochar for sustainable agriculture
Nina Schaaf, MCI | The Entrepreneurial School, Austria. Dominik Zlöbl, MCI | The Entrepreneurial School, Austria. Lucas Schuchter, MCI | The Entrepreneurial School, Austria. Jan Back, MCI | The Entrepreneurial School, Austria.
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<tr>
<td>11:35 – 11:55</td>
<td><strong>102 - Balanced mixture of biochar and synthetic fertilizer increases seedling quality of acacia mangium</strong></td>
<td>Giovanni Reyes M. Universidad Nacional de Colombia, Colombia.</td>
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<td>11:55 – 12:15</td>
<td><strong>109 - Rice straw biochar and struvite composite as a slow-release fertilizer for direct use as fertilizer</strong></td>
<td>Abhilasha Tripathi, Indian Institute of Technology Kanpur, India. Purnendu Bose, Department of Civil Engineering, IITK.</td>
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<td>12:15 – 12:35</td>
<td><strong>157 - Processing of hydrothermal liquefaction biochar from biogas residue for direct use as fertilizer</strong></td>
<td>Kamaldeep Sharma, Department of Energy, Aalborg University, Denmark. Thomas Helmer Pedersen, Department of Energy, Aalborg University, Denmark.</td>
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<td>13:00 – 14:00</td>
<td><strong>Lunch (buffet)</strong></td>
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<td>14:00 – 15:00</td>
<td><strong>Short Networking Break</strong></td>
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<td>15:00 – 15:20</td>
<td><strong>138 - Influence of biochar filler on mechanical properties of basalt fiber reinforced polyamide-6 composite for automotive applications</strong></td>
<td>Mohammad Mezbah Ul Hoque, Washington State University, USA. Muhammad Khusairy Bin Bakri, Washington State University, USA. Vikram Yadama, Washington State University, USA. Manuel Garica-Perez, Washington State University, USA.</td>
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Thursday, September 21, 2023 (continued)

15:40 – 16:00  163 - Biochar performances as drug-carrier of bioactive molecules used for intestinal disease treatment

16:00 – 16:20  159 - Solvent and supercritical desorption of adsorbates from biochars
Heejin Lee, Institute for Chemicals and Fuels from Alternative Resources, Western University, Canada. Bruna De Luca, DIATI, Politecnico di Torino, Italy. Silvia Fiore, DIATI, Politecnico di Torino, Italy. Franco Berruti, Institute for Chemicals and Fuels from Alternative Resources, Western University, Canada.

16:20 – 17:00  Afternoon Refreshments (Coffee Break)

MARKETS, COMMERCIALIZATION, POLICIES, REGULATIONS AND CARBON OFFSET CREDITS

17:00 – 17:35  PLENARY 4
136 - Status of Biochar and Carbon sequestration policy: how can market development be driven?
David Chiaramonti, Politecnico di Torino, Italy

17:35 – 17:55  155 - Economic analysis of business models with multiple potential value streams: Application to the biochar system
Yuzhou Tang, School of Mechanical Engineering, University of Leeds, United Kingdom. Tim T Cockeril, School of Mechanical Engineering, University of Leeds, United Kingdom.

17:55 – 18:15  128 - Biochar as a platform for circular economy in the wine industry
Yvan D. Hernandez-Charpak, Golisano Institute for Sustainability, USA. Harshal Kansara, Golisano Institute for Sustainability, USA. Sabit Nadhvee, Rochester Institute of Technology, USA. Jeffrey Lodge, Thomas H. Gosnell School of Life Sciences, USA. Carlos A. Diaz, Rochester Institute of Technology, USA. Thomas A. Trabold, Golisano Institute for Sustainability, USA.

18:15 – 18:35  112 - Pyrogenic carbon capture and storage through wood gasification – an up- and downstream investigation

18:35 – 18:55  115 - Scaling up biochar production. What to aim for? What to choose?
Thursday, September 21, 2023 (continued)

18:55 – 19:15  **116 - Expansion of the pacific northwest biochar atlas to a nation-wide decision support tool: Online resources for biochar users and producers**  
Kristin Trippe, USDA Agricultural Research Service, USA. Rachel Baschieri, USDA Agricultural Research Service, USA.

19:15 – 19:35  **148 - Agricultural residues: Going full circle on biochar resourcefulness**  
Isabel M. Lima, USDA-ARS Southern Regional Research Center, USA.

19:35 – 19:55  **156 - How biochar can increase profitability in palm oil industry**  
Luis Tejado, Prolade, Mexico.

20:00 – 21:45  Conference Banquet

21:45 – 23:00  Poster Session and Social Hour
Friday, September 22, 2023

07:30 – 08:30 Breakfast (buffet) and Departure
Posters

poster101 - Experimental study on evaluation of NOx/SOx reduction characteristics based on biochar
YongWoon Lee, Carbon Neutral Technology R&D Department, Korea Institute of Industrial Technology, South Korea. JaeWook Lee, Carbon Neutral Technology R&D Department, Korea Institute of Industrial Technology, South Korea.

poster102 – Green synthesis of jackfruit peel biochar and its application in methylene blue adsorption
Devika Venu, Research Scholar, Civil Engineering Department, India. Babu J. Alappat, Professor, Civil Engineering Department, India.

poster103 - Biochar benefits green infrastructure: a global meta-analysis and synthesis
Wenxi Liao, Institute of Forestry and Conservation, University of Toronto, Canada. Md Abdul Halim, Institute of Forestry and Conservation, University of Toronto, Canada. Imrul Kayes, Institute of Forestry and Conservation, University of Toronto, Canada. Jennifer A. P. Drake, Department of Civil and Mineral Engineering, University of Toronto, Canada. Sean C. Thomas, Institute of Forestry and Conservation, University of Toronto, Canada

poster104 - Effects of aging on biochar stability and soil amendment properties
Taisa Andrade Barbosa, Federal University of Sergipe, University of Edinburgh, United Kingdom. Raimundo Rodrigues Gomes Filho, Federal University of Sergipe. Alberto Wisniewisk Jr, Federal University of Sergipe. Ondrej Masek, University of Edinburgh

poster105 - Analysis of manure digestate and its major components as adsorbents solids for biogas cleaning
África Navarro-Gil, University of Zaragoza, Spain. Noemí Gil-Lalaguna, University of Zaragoza, Spain. Isabel Fonts, University of Zaragoza, Spain. Joaquín Ruiz, University of Zaragoza, Spain. Jesús Ceamanos, University of Zaragoza, Spain. Javier Ábrego, University of Zaragoza, Spain. Gloria Gea, University of Zaragoza, Spain.

poster106 - Facile functionalization of charcoal in water solution
Aida Kiani, University of Salerno, Italy. Giuseppe Valvano, University of Salerno, Italy. Maria Rosaria Acocella University of Salerno, Italy.

poster107 - Production and characterization of biochar from industrial sludge for potential agronomic use
Florencia Ponte, UPM / UTEC (UPM Biofore Company / University of Uruguay), Austria. Alejandro Amaya, UDELAR (Chemistry University of Uruguay). Hector Garcia, IHE/UTEC (Institute for water education/ University of Uruguay). Capucine Dupont, IHE Delft (Institute for water education).

poster108 - Bio-char post-processing – thermochemical activation of gasification carbon
David Gurtner, University of Natural Resources and Life Science – BOKU, Austria. Michael Kresta, University of Natural Resources and Life Science – BOKU, Austria. Angela Hofmann, Josef Ressel Centre for production of activated carbon from municipal residues, Management Center Innsbruck, Department of Environmental, Process and Energy Engineering, Austria. Christoph Pfeiffer, University of Natural Resources and Life Science – BOKU, Austria.

poster109 - One-step activation of residual wood – a contribution to the circular economy
Dominik Bosch, MCI–The Entrepreneurial School, Austria. Jan O. Back, MCI–The Entrepreneurial School, Austria. Luca Nohel, MCI–The Entrepreneurial School, Austria. Angela Hofmann, MCI–The Entrepreneurial School, Austria. Anke Bockreis, University of Innsbruck, Austria.
poster110 - Study of pyrolysis for biochar production from biomass feedstocks using a simplified Aspen Plus model
Disni Gamaralalage, The University of Nottingham, United Kingdom. Clement Uguna, The University of Nottingham, United Kingdom. Will Meredith, The University of Nottingham, United Kingdom. Colin Snape, The University of Nottingham, United Kingdom. Jon McKechnie, The University of Nottingham, United Kingdom.

poster111 - Gasification of waste wood fractions in a staged process – characterization of resulting bio-char
Michael Kresta, University of Natural Resources and Life Sciences; MCI–The Entrepreneurial School, Austria. David Gurtner, University of Natural Resources and Life Sciences; MCI–The Entrepreneurial School, Austria. Angela Hofmann, MCI–The Entrepreneurial School; Josef Ressel Centre for the production of powdered activated carbon from municipal residues, Austria.

poster112 - Various pyrolysis approaches to produce biochar from different waste materials as efficient soil conditioners
Martin Brtnicky, Brno University of Technology; Mendel University in Brno, Czech Republic. Tereza Hammerschmiedt, Mendel University in Brno, Czech Republic. Jiri Kucerik, Brno University of Technology, Czech Republic. Ludmila Mravcovà, Brno University of Technology, Czech Republic. Jiri Holatko, Mendel University in Brno, Czech Republic. Agrovyzkum Rapotin, Ltd., Rapotin, Czech Republic.

poster113 - Biochar-enriched poultry litter improves soil properties and maize yield
Jiri Holatko, Agrovyzkum Rapotin, Ltd., Rapotin; Mendel University in Brno, Czech Republic. Martin Brtnicky, Mendel University in Brno; Brno University of Technology, Czech Republic. Tereza Hammerschmiedt, Mendel University in Brno, Czech Republic. Adnan Mustafa, Brno University of Technology, Czech Republic. Jiri Kucerik, Brno University of Technology, Czech Republic.

poster114 - Pesticide detection using carbonaceous Micro-mesosystems via spectrophotometric technique
M. Habib, University of Souk-Ahras; Badji Mokhtar – Annaba University, Algeria. A. Nait-Merzoug, University of Souk-Ahras; Badji Mokhtar – Annaba University, Algeria. J. El-Haskouri, Instituto de Ciencias de los Materiales de la Universitat de Val`encia, Spain. O. Guellati, University of Souk-Ahras; Badji Mokhtar – Annaba University, Algeria. F. Abbaci, Badji Mokhtar – Annaba University, Algeria.

poster115 - Understanding biochar functionalities based on feedstock characteristics and processing conditions
Isabel M. Lima, USDA-ARS Southern Regional Research Center, USA. Amir Hass, West Virginia State University, USA.

poster116 - Biochar based nitrogen composites modulated nitrogen release dynamics and carbon footprint
Shivvendra Singh, Govind Ballabh Pant University of Agriculture and Technology; Graphic Era Hill University, India. Sumit Chaturvedi, Govind Ballabh Pant University of Agriculture and Technology, India.

poster117 - Degradation of phenol by perborate in the presence of iron and carbonaceous materials
Seok-Young Oh, University of Ulsan, South Korea. Jun-Hwan Kim, University of Ulsan, South Korea.

poster118 - Development of pilot scale pyrolysis reactors for biocarbon sequestration
Murlidhar Gupta, CanmetENERGY, Natural Resources Canada, Canada