

9:30 - 9:50 Analysis of volatile and semi-volatile components in hydrochar: prospects and challenges
Roland Becker

9:50 - 10:10 Potential socio-economic impacts of biochar on smallholder farmers in Kenya
Mahmoud Yahia

10:10 - 10:30 ■ Coffee Break

10:30 - 11:50 Hall 1
The influence of biochars on soil biota
Chair: *Rosenani Abu Bakar*

10:30 - 10:50 Effects of biochar on potential nitrification and LAS ecotoxicity in agricultural soil
Lars Elsgaard

10:50 - 11:10 Impact of biochar on the population structure of soil biota
Philip Rebenburg

11:10 - 11:30 Effects of biochar and digestate on the nematode community and the soil food web in an agroecosystem
Stefanie Menzel

11:30 - 11:50 Effects of different biochars on soil meso- and macrofauna in a field trial
Katharina Reibe

11:50 - 12:50 ■ Lunch

12:50 - 13:30 The influence of biochars on soil biota
Chair: *Monika Joschko*

12:50 - 13:10 Analysis of pore space characteristics of different biochars and potential as microhabitat
Laura Sophie Schnee

13:10 - 13:30 Influence of charring biomass on soil microorganisms and phosphorus availability in a tropical agroforest in South Cameroon
Luc Gérard Onana Onana

13:40 - 14:10 **Hall 1**
Plenary Talk III
Farmer scale biochar production and nutrient enhancement
Hans-Peter Schmidt

14:10 - 15:00 **Panel Discussion**
Chair: *Tinia Mod. Ghazi*

15:00 Closing of the symposium
Andreas Meyer-Aurich

N₂O suppression by biochar in soil; to what extent is this a pH effect?
Simon Weldon

Impacts of empty fruit bunch biochar on nitrogen leaching and ¹⁵N-labelled fertilizer recovery in maize on an oxisol
Sherwin Chan Kit Lee

Hall 2
The influence of biochars on soil C and N dynamics
Chair: *Zhencai Sun*

Stability in soil of miscanthus biochar of light industrial scale: chemical tests, laboratory incubations, and 4-year field experiment
Daniel Rasse

A long-term incubation study of the microbial decay of hydrothermal carbonized materials from sewage sludge in soil: linking chemical and biological effects
Elke Schulz

Short-term response of soil respiration and microbial communities after addition of chars – effect of nitrogen and readily available carbon
Giacomo Lanza

Biochar stability: Effects of pyrolysis temperature, feedstock and soil
Dane Dickinson

The influence of biochars on soil C and N dynamics
Chair: *Stephan Wirth*

Effects of biochar on nutrient availability, pH and crop yield in acidic tropical soils
Vegard Martinsen

Loss of nutrient retention capacity of biochars after seven-month in-situ field incubation
Marco Gronwald

International Biochar Symposium 2015 Biochar – Contribution to Sustainable Agriculture

May 28 - 29, 2015
Potsdam, Germany

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Prof. Dr. Frank Ellmer, HU Berlin
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Prof. Dr. Azni Idris, UPM, Malaysia
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The project „**Biochar in Agriculture – Perspectives for Germany and Malaysia**“ is funded by the Leibniz Association in the context of the „Joint Initiative for Research and Innovation“.

The project „**Anaerobic Pathways to Renewable Energies and Carbon Sinks - APECS**“ was funded by the German Federal Ministry of Education and Research (BMBF).



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Thursday - May 28, 2015

9:30 - 10:30	Registration / Attach Posters	
10:30 - 11:00	Hall 1 Plenary session Welcome address, <i>Reiner Brunsch (Scientific Director of the ATB)</i> Introduction to biochar research at the ATB, <i>Andreas Meyer-Aurich (Symposium Organizer)</i>	
11:00 - 11:30	Plenary Talk I Biochar effects on soil health and ecosystem sustainability <i>Johannes Lehmann</i>	
11:30 - 12:00	Plenary Talk II The role of carbon markets in supporting adoption of biochar <i>Annette Cowie</i>	
12:00 - 13:00	■ Lunch	
13:00 - 14:20	Hall 1 Production and post-treatment of biochars Chair: <i>Hans-Peter Schmidt</i>	Hall 2 The influence of biochars on the Soil-Plant-System Chair: <i>Lars Elsgaard</i>
13:00 - 13:20	Biochar in biorefinery systems - nutrient cycling and carbon sequestration <i>Ondrej Mašek</i>	The Bespoke biochar concept - elements of evidence <i>Saran Sohi</i>
13:20 - 13:40	Biochar as part of a farm-based biorefinery <i>Jan Mumme</i>	Interaction effects of biochar with nitrogen fertilizer applications to agricultural soils <i>Andreas Meyer-Aurich</i>
13:40 - 14:00	Biochar production in cookstoves as an opportunity for small-holder farming systems in Kenya <i>Cecilia Sundberg</i>	Yield parameters, nutrient uptake and soil properties of rice cultivated on peaty soil amended with rice husk biochar <i>Rosenani Abu Bakar</i>
14:00 - 14:20	Investigation of phosphate and ammonium sorption capacities of treated and untreated biochars <i>Chibi Takaya</i>	Potential use of low-temperature gasification biochar as nutrient provider and soil improver – field evaluation <i>Henrik Hauggaard-Nielsen</i>

14:20 - 15:50 Postersessions

P Biochar production and use

Trends in the local manufacture of biochar reactors – the Ghanaian experience,
Moses Mensah

Comparison of the levels of polycyclic aromatic hydrocarbons in biochars and hydrochars,
Kelechi Anyikude

An African Biochar Consortium for capacity building on biochar production and use,
Cecilia Sundberg

Biochar as an opportunity for improving agricultural productivity in small-holder farming systems in Kenya, *Cecilia Sundberg*

P Influence of biochar to soil I

Feedstock and post-processing handling techniques of biochar influence on herbicide sorption characteristics, *Sharon Clay*

Reduction of pollution of fresh groundwater irrigated areas using organo-mineral supplements, *Gani Mavlyanov*

Biochar reduces soil salinity and increases dry season shallot yield in the Keta sand spit of Ghana, *Fauziatu Ahmed*

The reduction of chromium phytotoxicity and phytoavailibility to wheat (*Triticum aestivum* L.) using biochar and bacteria, *Sohail Yousaf*

Immobilization and plant uptake reduction of heavy metals in a mine soil using biochar, *Cleide Aparecida de Abreu*

Effect of biochar on soil temperature and rice yield in cold waterlogged paddy in southern China, *Yuxue Liu*

P Influence of biochar to soil II

Effects of different biochars and digestate on the denitrifying community and N₂O fluxes under field conditions, *Christiane Dicke*

Green use of black gasification biochar: a study on microbial community diversity and function in Danish agricultural soil, *Valentina Imparato*

Comparison of biochar effect on chemical and microbiological factors in a pot experiment on lettuce and tomato, *Silvia Baronti*

Biochar improve plant yields: results of pot experiment on lettuce and tomato, *Silvia Baronti*
Effects of biochar application and soil temperature on aggregate dynamics, C fractions and basal respiration of a loess soil, *Dennis Grunwald*

Is biochar a “competitor” for NH₄ availability in N fertilized systems? *Anita Maienza*

Influence of EPS on aggregate stability – an enzymatic method for biofilm detachment in sandy soils, *Frederick Büks*

P Influence of biochar to crop growth

Effect of biochar and fertilizer application to different soil types on the growth of maize, *Jude Odhiambo*

How soil amendment with biochar affects the productivity of a millet over millet field experiment at ISRA - CNRA research Centre of Bambey in Senegal, *Aliou Faye*

The effect of sewage sledge and their bio-char as mulch and top-soil incorporated on some soil attributes, plant growth in a loss soil with high specific surface area in a temperate climate, *Hamed Fathi*

Effects of biochars, digestate and mineral N fertilizer on soil C and N and crop yields on a sandy soil, *Anja Sängner*

Root growth and yield of spring wheat influenced by different biochars, *Katharina Reibe*

Optimization of production conditions of hydrochars from sewage sludge for germination and growth of *Lolium perenne*, *Marina Paneque*

Exploring the agronomic and physiological benefits of biochar pyrolysed at different temperatures and compost for improved agricultural productivity, *Sifau Adejumo*

15:50 - 17:30 **Hall 1
Production and post-treatment of biochars**
Chair: *Azni Idris*

15:50 - 16:10 PAHs in biochar - influence of pyrolysis unit, pyrolysis conditions, feedstock and pre-/post treatment
Wolfram Buss

16:10 - 16:30 Anaerobic treatment of HTC waste water at different temperatures
Benjamin Wirth

**Hall 2
The influence of biochars on the Soil-Plant-System**
Chair: *María Luz Cayuela*

Soil pore structure characteristics after two years biochar application: a case study in a sandy loam field
Zhencai Sun

Response of root associated microbial activity to biochar amendment
Dilfuza Egamberdieva

16:30 - 16:50 Biochar colonization by anaerobic micro-organisms
Maja Werner

16:50 - 17:10 Characterization of organic compounds in biochar-mineral complexes generated from waste materials
Sarasadat Taherymoosavi

17:10 - 17:30 Characterization of biochar for agricultural use in north of Iran
Reza Najmi

17:30 - 17:40 ■ Coffee Break

17:40 - 18:40 **Hall 1
Integrated assessment of biochars**
Chair: *Jürgen Kern*

17:40 - 18:00 Biochar actions in the environment
Bruno Glaser

18:00 - 18:20 An economic assessment of soil carbon sequestration with biochar in Germany
Isabel Teichmann

18:20 - 18:40 Biochar soil amendment – an efficient strategy for climate change mitigation?
Martin Bach

19:00 - 22:00 ■ Social Evening (MS Sanssouci)

Friday - May 29, 2015

8:30 - 10:10 **Hall 1
Integrated assessment of biochars**
Chair: *Saran Sohi*

8:30 - 8:50 Business models for a sustainable land use by means of biochar substrates – a technical and economical modelled view
Stefan Zundel

8:50 - 9:10 Calculating the time-dependent climate impact from a biochar–bioenergy system
Niclas Ericsson

9:10 - 9:30 Biochar in Malaysia, Indonesia, Zambia and Nepal: soil dynamics, technology, life-cycle assessment and implementation
Gerard Cornelissen

Evaluation of pinewood biochar and olive mill effluent combinations effects on wheat, green beans, and bambara groundnuts growth using sand and ultisol pot trials
Obiageli Umeugochukwu

Effect of pyrochar and hydrochar amendments on sorption and mineralization of the herbicide isoproturon in an agricultural soil
Mirjam Helfrich

**Hall 2
The influence of biochars on the Soil-Plant-System**
Chair: *Martin Kaupenjohann*

Effects of biochar-compost on plant growth, biomass and crop yield in pot and field trials of selected plants from different climate zones
Kathrin Roessler

The use of biochar substrates for soil reclamation - results of experiments in Northeastern Germany
Michael Haubold-Rosar

Characterization of biochar from tender coconut husk and its impact on soil properties in ferralitic soils
Mariya Dainy

**Hall 2
The influence of biochars on soil C and N dynamics**
Chair: *Johannes Lehmann*

Compost vs. biochar amendment: a two-year field study evaluating soil C build-up and N dynamics in a semi-arid olive orchard
Maria Luz Cayuela

Biochar does not exert structural control over soil N₂O and N₂ emissions
Nele Ameloot

The effect of aged vs new biochar on soil N₂O emissions
Adam O'Toole