



January 2016 News from the International Biochar Initiative

IBI Welcomes Three New Board Members

IBI is pleased to announce that Dr. Robert Brown, Ms. Kathleen Draper, and Dr. Genxing Pan have joined the IBI Board of Directors for three year appointments. We thank Dr. Marta Camps, Mr. John Lewis and Mr. Warwick Manfrinato for their service as they completed their appointments at the end of 2015.

Robert Brown is the Anson Marston Distinguished Professor of Engineering and Gary and Donna Hoover Chair in Mechanical Engineering at Iowa State University (ISU). He is the founding director of ISU's Bioeconomy Institute. He has been recognized by *Biofuels Digest* as one of the "Top 100 People" in bioenergy for four consecutive years since 2010.



Kathleen Draper is the US Director for the Ithaca Institute for Carbon Intelligence, a non-profit, open source organization focused on the use of biochar in climate farming, agroforestry as well as other industrial uses of biochar. She is one of the founders and editors of the *Biochar Journal* and frequently writes about a wide variety of biochar research topics. She has a Master's degree in Managing for Sustainability. Prior to becoming involved with the biochar world, she worked for an international consulting firm working on various internal and external areas including project and knowledge management, human resources, and more.



Genxing Pan is a Science Leader in the study of agriculture and climate change at Nanjing Agricultural University, China. His primary specialty is applied biogeochemistry of carbon cycling and carbon sequestration and dynamics in agro-ecosystems focusing on rice paddies of China, of which the most recent focus includes long-term monitoring of soil organic matter accumulation in agro-ecosystems. He leads an interdisciplinary group working on greenhouse gases emissions from croplands and mitigation countermeasures as well as on mitigation of climate change impacts on agriculture. Additionally, his group leads the research and technology development for biochar and specific agricultural applications.



Support IBI Today with your Donation

IBI is currently funded solely by members and without your support, IBI will be unable to continue to deliver the content, research and biochar updates you had come to enjoy in the past. Previously, IBI was able [to fund many of its services](#) to the community through grants from foundations, but is now at a stage

where the long-term financial support by foundations is not available, and the biochar community will need to carry a larger share of the responsibility to move IBI forward. Many of you are and have supported IBI over the past 10 years and we thank you very much for that. However, in order to keep its doors open and services available, we seek your continued support. [Please click here](#) to make a donation. (Memberships are not available at this time, but all current members will receive their year-long member benefits as well as those who donate \$75 or more.)

Thank you for your help in providing the global community with the information needed to develop the science, management, and implementation of sustainable biochar production and use.

COP 21 Report from IBI Board Members: A Synopsis on Opportunities for Biochar

In December 2015, delegates from around the world met in Paris, France for the 21st Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change to draft and agree to a new international agreement on climate change. The [text coming out of the meeting is available in full](#); an [excellent snapshot of outcomes is available here](#).

Three IBI Board Members, Johannes Lehmann, Guy Reinaud and John Lewis, were in attendance at the COP21. Mr. Reinaud and Mr. Lewis have produced a short report on the event entitled *Global Landscapes and Soil Carbon at COP21* and have included possible routes for biochar moving forward; this [report is available for IBI dues-paying members only or those who donate \\$75 or more](#). The report provides a quick inside look at the organizations and initiatives best positioned to more fully integrate biochar into their activities, mainly through “climate-smart” agriculture and supporting resilient forests and landscapes.

Dr. Johannes Lehmann produced a [short video highlighting the role of soil carbon sequestration and science](#) for the event and stated, “*Soils and agriculture are important emitters of greenhouse gases that we have to reduce, but can also be tremendous sinks. Soils contain much more carbon than the entire vegetation of the planet and atmosphere, combined. Small changes in soil carbon can have large effects on the greenhouse gas balance. And soils are the safest and most productive way of stashing away atmospheric carbon. Maybe it is the only way of drawing carbon dioxide from the atmosphere that has only positive outcomes.*”

Additional biochar-focused information coming out of COP21 include the [publication of a book by reporter Albert Bates](#), as well as an update by the [ALL Power Labs](#) company which was in attendance in Paris to showcase their gasification/biochar production units to highlight opportunities to generate power while drawing down atmospheric CO₂ levels.

For more information on biochar and carbon sequestration, please see:
<http://www.biochar-international.org/biochar/carbon>

New and Renewing Business Members

A listing of all current IBI [Business](#) and [Organization](#) Members can be found on our website. Please note, Business and Organization descriptions are submitted by each individual entity, and are not developed or written by IBI.

New Business Member: BIOMACON GmbH

BIOMACON produces modern Combined Heat and Biochar (CHB) pyrolysis technology with the following characteristics:

- Heat and biochar incidentally
- Clean biochar
- Excellent emission values
- A reliable, durable and cost-effective system



If you have any questions, please feel free to contact them at www.biomacon.com or email at info@biomacon.com.

Renewing Business Members: ArSta Eco and TR Miles Technical Consultants, Inc

ArSta Eco: ArSta Eco is a technology company working on innovative methods of production and commercialization of biochar. Set in the heart of the Coconut growing belt of Karnataka, India, the company utilizes the abundant residues from the industry. Coconut shell, husk, and frond are all utilized in producing various grades of biochar targeting buyers in water treatment, agricultural, and associated industries. Deploying a modern stand-alone multi feed constant fed reactor that has multiple product streams of biochar, energy and distillates, the company is negotiating to commission further reactors to key clients keen to solve multiple agricultural and municipal waste problems existing within a developing India. ArSta Eco targets to set up multiple reactors in a distributed model to produce biochar and clean energy thereby contributing to meaningful GHG reductions.



Working with rural farm clusters, ArSta Eco educates farmers in crop yield enhancement, improved irrigation, waste management and decentralized power generation leading to increased living standards. They strongly believe that "Localization is the key to sustainability and rural livelihood security". In addition they collaborate with key universities to explore new uses for biochar and welcome research enquiries. For more information, see <http://www.arstaeco.com>.

T.R. MILES TECHNICAL CONSULTANTS, INC. provides technical assistance primarily to industry for complete system design, product, and process development for the wood, food, agricultural and energy industries. The firm continues the innovative consulting design engineering started by Thomas R. Miles, P.E., in 1947. Their equipment is used throughout the world. Projects include harvesting and processing of field crops and residues; harvesting and processing of forest residues and urban wood; boilers, combustion, carbonization and gasification; organic recycling, composting and manure management.



Their special expertise is the development of energy conversion and materials handling systems for wood, crop residues, and food processing residues. They have unique experience in the transformation of ash in wood, straws, stalks, and manures. They design systems for densification, carbonization, gasification, power generation, and residue and nutrient management with a special interest in biochar.

They have sponsored and hosted internet discussions on biomass energy and biochar since 1994, including anaerobic digestion, gasification, improved cooking stoves, [a biochar website](#) and a biochar discussion list since 2006 (biochar@yahoogroups.com). Tom Miles is on the board of directors of IBI, the US Biochar Initiative, and a coordinator of the [Pacific Northwest Biochar Working Group](#). For more information, see <http://www.trmiles.com>.

Did you know that the IBI Online Biochar Training Course is Ongoing?

If you are interested in gaining more in-depth knowledge on biochar and biochar systems, consider registering for IBI's online course, [Biochar Training for Environmental Sustainability and Economic Development](#). This ten week, ongoing course provides participants an intensive training series on all aspects of biochar, presented by leading biochar experts. Participants have the opportunity to learn about best-science updates on biochar to promote the uptake of biochar production and use, and actions necessary to overcome the barriers to commercialization of the biochar industry. The course contains 19 separate lessons—each with a subject overview, a recorded audio/video presentation lasting 30 – 45 minutes (some lessons contain more than one video), and quizzes to test comprehension and retention. There is also an optional introductory presentation on the basics of biochar and the IBI so that all participants start the course with a common understanding of both. Course materials are presented in a user-friendly online format and participants can access the course at their convenience over ten weeks and will receive a certificate of completion at the conclusion of the course.

Course materials are based on presentations from the June 2014 in-person biochar training course titled, "*Biochar for Environmental Sustainability and Economic Development*," hosted by the University of Santiago de Compostela, Spain, and developed and presented by IBI and collaborators. For more information on member and non-member pricing and registration, please see www.biochar-international.org/online_course.

The Nigerian Biochar Initiative Formed in Meeting at Bowen University, Iwo, Nigeria

The 1st Biochar Technology Stakeholders' meeting was hosted by Bowen University, Iwo, Nigeria in March 2015 by the University's Faculty of Agriculture with the program theme: *Putting the Earth Back in the Black for Sustainable Food Security and a Safer Environment*. The meeting was held in order to draw the attention of participants to the many benefits of biochar technology for sustainable agricultural development and the mitigation of climate change. One of the main outputs of this meeting was the formation of the Nigerian Biochar Initiative—the first major regional biochar group operating in Africa.



The event was the first of its kind in Nigeria and attracted both academics from national universities and research institutes, as well as farmers from local communities. In his keynote address titled “The Promise of Biochar Technology for Sustainable Agricultural Development, Climate Change Mitigation and Clean Environment”, Professor Oluwatoyin A. Babalola spoke on the potential functions of biochar technologies, stressing the effect of biochar on sustainable soil development and biochar as an agent of climate change mitigation. The co-host, Dr. John A. Fagbenro, welcomed guests and highlighted the purpose of the meeting. He stated that the program would create awareness among biochar technology stakeholders and also examined the potentials of biochar technology. Dr. Fagbenro informed the audience that the meeting would also create a forum for the exchange of ideas in biochar technology research and development in Nigeria. And before the end of the meeting, participants formed the Nigerian Biochar Initiative (NBI), nominating Dr. J.A Fagbenro as the Chairman of the 7-man Steering Committee. For more information, please see: <http://www.biochar-international.org/regional/Nigeria>.

Introducing the Jordan Biochar Research Initiative (JBRI)

The Jordan Biochar Research Initiative (JBRI) was initiated in Jordan on 2014 by Dr. Osama Mohawesh at Mutah University, with “*Support Research and Technological Development and Innovation initiatives and Strategies in Jordan*” funding from the European Union (EU-SRTDII). A number of researchers with related expertise have joined the research efforts of JBRI, which is aimed primarily at improving understanding of how biochar functions in modern agricultural systems. The JBRI envisions an intensive and broad-based scientific program as providing essential background and knowledge in advance of advocating the large-scale use of biochar in soil.



Sustainable agriculture and water productivity in Jordan need enhancement by the integration of innovative methods, knowledge, and extension services that allow stakeholders and farmers to evaluate the feasibility of new, user-friendly, and cost-effective technologies. The main objective of the JBRI is to start a research program to evaluate the benefits of biochar as a soil amendment to enhance nutrient and water use efficiency for different cropping systems in Jordan, and to highlight demonstration activities related to the use of biochar as a possible strategy to improving crop yield and reducing economic and health vulnerability to climate change. For more information on the Jordan Biochar Initiative, please see <http://www.biochar-international.org/regional/Jordan>.

Opportunities in Biochar

- Take advantage of a free subscription to Biomass Magazine. More information is available at <http://www.biochar-international.org/node/5537>
- Download the open access biochar book: *Biochar Culture*, by Dr Sai Bhaskar Reddy Nakka. The text highlights the use of biochar in communities and its potential for increased sustainable agriculture in smaller scale farmsteads and homes, focusing on work in India. The book can be accessed at <http://www.biocharculture.com>

- Job postings in biochar (as well as research/educational opportunities) can be accessed at <http://www.biochar-international.org/network/jobs>
- Looking for potential grant funding? Check out the Terra Viva Grants Directory which develops and manages information about grants for agriculture, energy, environment, and natural resources in the world's developing countries at <http://www.terravivagrants.org/Home>

Upcoming Calendar Events

- March 30 – April 1, 2016: Northeast Biomass Heating Expo 2016. Location: Burlington, VT, USA. For more information: <http://www.biochar-international.org/node/7389>
- April 11 – 14, 2016: 9th Annual International Biomass Conference & Expo. Location: Charlotte, NC, USA. For more information: <http://www.biochar-international.org/node/7430>
- April 17 – 22, 2016: European Geosciences Union General Assembly 2016 with the biochar-specific session: SSS5.8: Future challenges in biochar research. Location: Vienna, Austria. For more information: <http://www.biochar-international.org/node/7662>
- June 6 – 9, 2016: 24th European Biomass Conference and Exhibition. Location: Amsterdam, the Netherlands. For more information: <http://www.biochar-international.org/node/7651>
- Save the Date: August 2016. Biochar 2016: The Synergy of Science and Industry: Biochar's Connection to Ecology, Soil, Food, and Energy. Location: Corvallis, OR, USA. For more information: <http://usbi2016.org/>

See the [IBI Calendar page](#) for more events. To add an event to the calendar, send the information to info@biochar-international.org.

Recently Published Biochar Research

IBI tracks all published research on biochar and includes it in our [online bibliography](#). The following articles were added in the past two months. Please visit the website bibliography for more information on any of these articles. Due to copyright infringement laws, we cannot provide full copies of articles unless we have permission from the publisher. If you have published work that is not included, [please email us](#).

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