Recap of this Month’s News

In this month’s newsletter, there are many entries of news, ideas and trends that you won’t want to miss, including:

- Advertising space available on the IBI website
- Kilns popping up all over
- Various opportunities to obtain funding
- Ecological crises spurring growth of the biochar industry
- A peek into some of the latest research

Biochar related jobs, scholarships, and volunteer opportunities

The University of Nebraska (Lincoln) has an opening for a Post-Doctoral Researcher in Soil Science to conduct field research, publish findings, make presentations, and conduct reviews in soil physical processes and properties, water quality, water use efficiency, and carbon and nutrient cycling under highly managed agricultural systems including high-C char, biochar, cover crops, dedicated bioenergy crops (perennial warm-season grasses), conservation tillage, and intensified cropping systems throughout Nebraska.

The Norwegian University of Science and Technology (NTNU) (Trondheim), has opened a PhD candidate position (3 year duration) on environmental sustainability of biochar applications in agriculture. Candidate should hold a relevant master’s degree in engineering, environmental science, or climate science.

The Università degli Studi di Foggia (Italy) seeks a researcher who will integrate microalgae production and anaerobic digestion of vegetable feedstocks, agricultural and livestocks wastes in a biorefinery pilot plant.

Kadoorie Farm and Botanic Garden in Hong Kong is looking for a tree climber who will also operate biochar production machinery. Must have 3 years post-qualification experience in tree work and be fluent in spoken and written Cantonese.

Women farmers in Africa, Asia, and Latin America can apply through Grow Ahead’s crowdfunding platform for a $2,500 training scholarship to learn about and then promote the use of biochar.
Regional Briefs

South America

*Terra Preta* soils, estimated to cover a tenth of the Amazon River watershed, could be more easily located by means of near-infrared satellite imagery based on similarity to known *terra preta* locations.

And what better place to employ biochar for soil restoration than the region that first proved its lasting value? *Camino Verde* is over half-way to its funding goal that will help it to restore degraded Amazonian agricultural soil using biochar. [Donations](#) as small as $10 can help them make their $50,000 goal.

The [Biochar for Sustainable Soils (B4SS) Peru](#) project wrapped up a multi-year project earlier this month. The global project, funded by the Global Environment Facility (GEF) and the United Nations Environmental Programme (UNEP), was spearheaded by Starfish Initiatives with local Peruvian assistance provided by researchers at Universidad Cientifica del Sur and Aprodes, an NGO that works with farmers. The project focused on educating farmers on how to make and use biochar and included trials on maize and other crops. In Peru they found using biochar enhanced soil amendments reduced fertilizer use by 30%, increased farmer incomes by at least 15% and improved soil structure. The team produced several videos which explain the process for making and using biochar which will be available soon.

Caribbean and Central America

While drought and beetle-killed trees offer abundant feedstock in many areas, the increasing intensity of hurricanes may also deliver windfalls (literally) to biochar makers. Many trees that aren’t uprooted eventually die from storm damage.

Africa

Awareness of the potential for biochar to remediate contaminated soils is growing in [Nigeria](#), where contamination often comes from oil spills, as well as from mines.
Europe
The Interreg2Seas programme has launched a 3-year regional effort titled Horti-blueC, to increase adoption of new circular economy solutions including exploration of 4 valorization chains which include the use of a pilot biochar gasification plant and farm application in combination with chitosan.

The island of Mallorca, Spain has its first Kon-Tiki kiln, made locally using the open-source design available from the Ithaka Institute for Carbon Intelligence. Kon-Tiki’s have been employed in at least 66 countries.

United States
Scaling up your biochar operation may not require a bigger machine. Replicating smaller ones works well, as this Berthoud, Colorado company demonstrates with forty kilns and plans for expansion.

Under a relaxation of environmental restrictions included in the recently approved federal spending bill, the Forest Service can now expeditiously permit brush and small tree clearing on areas less than 3,000 acres as a fire prevention measure, potentially giving biochar companies more access to suitably-sized feedstock.

Regenerative agriculture is catching a lot of attention for its reputed ability to restore soil organic carbon, but biochar is included among more innovative measures in a recent Forbes Magazine article featuring Cool Planet who recently completed their 100th field trial.

Y Combinator, the tech incubator that helped kick-start companies like Airbnb and Dropbox, is requesting innovative biochar and other carbon removal start-ups to apply for funding. The next funding round starts in June.

IBI member Joshua Frye’s pioneering work in making poultry litter char has earned him the 2018 West Virginia Vanguard Agriculture Competition prize from the Robert C. Byrd Institute.

The James C. Hageman Sustainable Agriculture Research and Extension Center (SAREC) in Wyoming is planning on conducting a trial of biochar’s ability to improve the growth of pasture grasses beginning this summer, as well as using it in their high-tunnel shelter.

The California Department of Food and Agriculture is accepting applications through 13 April for assistance with soil health improvement or demonstration projects.

An Eco-Business special report on the crisis that spawned the global soil health movement, i.e. land degradation, offers an excellent perspective on the subject, starting with an emphasis on the key ingredient - soil carbon. Diving into the details on how healthy soils operate, one recent study explores the diet preferences of different microbes and concludes that plants help to cultivate a soil microbe environment tailored to their own needs.

Australia and The Pacific
At the Dalwallinu Talkin’ Soil Health Conference, Biochar in Horticulture was the topic of a case study presented by IBI member Euan Beaumont and featured in an article by Farm Weekly.
The theme of the 2nd Australia New Zealand Biochar Conference coming up in August is “Building Viable Biochar Industries.” Calls for presenters’ abstracts closes end of April under the six topic areas noted on the ANZBC website.

The Australia / New Zealand Biochar Initiative (ANZBI) is seeking members to form an industry committee to strategize with their respective State and Federal governments on biochar-related issues in ANZ.
Please send your expression of interest to Don Coyne at: publicofficer@anzbi.org.
Upcoming Calendar Events

International Biomass Conference & Expo
April 16 – 18, Atlanta, Georgia. Billed as the World’s Largest Biomass Event, expected to draw nearly 1,200 attendees. IBI has collaborated with USBI and BBI International to present a Biomass Carbonization & Torrefaction Summit pre-conference on 16 April. IBI members and USBI sponsors will present information on biochar products and processes. www.biomassconference.com

First International Conference on Negative CO2 Emissions

26th European Biomass Conference & Exhibition
EUBCE is a world leading event in the biomass sector, sharing the latest research results, latest developments and innovative bioenergy applications from industry and the policy context. 14 - 18 May 2018, Copenhagen, Denmark. http://www.eubce.com

4th Korea Biochar Research Center International Biochar Conference

Australia New Zealand Biochar Conference (ANZBC18)

USBI Biochar 2018
Presentations from the 2017 IBI Biochar Study Tour in Stockholm, Sweden are available on your IBI Member page. IBI is tentatively planning at least 3 new biochar study tours for 2018. Each of these study tours will be hosted in a different country and will focus on distinct aspects of biochar production and/or uses. Current times, locations and themes for the 2018 study tours are highlighted below.

- June 18 – 21: Sonnenerde in Kaindorf, Austria – Biochar production, soil amendments, livestock feed additive, carbon farming
- October: Nanjing, China – Large scale biochar production & establishing biochar field trials (for commercial, not academic purposes)
- November: Nepal – Funding, planting & maintaining forest gardens with biochar

As agendas are planned and dates finalized, this information will be shared. Participation may be limited for some tours. If you would like to pre-register (no financial commitment required) to receive future updates, please contact Kathleen Draper at webinars@biochar-international.org.

Research News

A glimpse at some of the many interesting insights from recent papers By Robert Gillett

Here are a few notes from some of the more noteworthy papers recently published regarding biochar. Most of these are from the list of 141 papers from last month available on your IBI Member page. Not an IBI member? Access to all the exclusive biochar research lists is just one more reason to join IBI and keep up with all the exciting developments.

- **Biochar can be key to retrofitting Low Impact Development installations to attain water quality goals.**


  *From the Abstract:* “Biochar can adsorb pollutants, improve water-retention capacity of soil, retain and slowly release nutrients for plant uptake, and help sustain microbiota in soil and plants atop; all these attributes could help improve removal of contaminants in stormwater treatment systems.”

- **By adding low PAH biochar, PAH’s from sewage sludge soil amendments can be mitigated.**

**From the Abstract:** “This is the first field-based evidence that biochar soil amendment was effective to reduce ... the [(freely dissolved concentration, \(C_{free}\)] of PAHs in sewage sludge-amended soils.”

- **Biochar added to saline soil can put the plants on a balanced, low sodium diet.**
  
  
  **From the Abstract:** “Overall, biochar enhanced growth of a bean under saline condition, which may have contributed to the reduction of Na uptake and enhance of K, Ca, and Mg contents.”

- **Biochar is the latest and greatest form of carbon to be used for supercapacitor electrodes.**
  
  
  **From the Abstract:** “This study investigates biochar supercapacitor electrodes made several times larger than those in commercial application...”

- **Pinch analysis can be used in high-level planning to optimize carbon sequestration with biochar.**
  
  
  **From the Abstract:** “…scaling up biochar-based systems requires the planning of a carbon management network (CMN) consisting of biochar sources (i.e., production facilities) and biochar sinks (i.e., receiving tracts of land).”

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