TECHNOLOGICAL FRONTIERS IN FOOD SECURITY AND SUSTAINABILITY

University of Oxford
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Call for Papers

New technologies in plant and livestock breeding, climate modeling, and natural resource use have emerged within the past decade presenting opportunities for achieving greater food security and sustainability. These range from genome editing tools like CRISPR to new ways of harvesting solar power to extract water in arid regions. With the advent of new technologies comes concerns about the impact of such developments, including biodiversity loss and conflicts with traditional practices. The 2016 Food Forum, organized jointly by the Oxford Food Forum and the Cambridge Food Security Forum, seeks to engage graduate and early career researchers, as well as those from outside academia, to present original research on the potential biological, ecological, economic and social implications of incorporating new technologies into more sustainable and environmentally sensitive food systems.

Papers are invited in the following three areas:

1. *Technological Advances in Breeding: Opportunities and Impact*

Genomic selection and genome editing are but two of a number of developments within crop and livestock breeding that offer the potential to enhance the traits of staple foods including by drawing upon the genetic resources harbored by biodiverse ecosystems. We invite papers based on original laboratory and/or field research addressing how technologies such as these are being applied, how they can complement 'traditional' breeding programs as well as the technical and social challenges that may result from adoption of these technologies.

2. *Innovation in Natural Resource Management*

Modeling has dramatically changed the way we understand land use and livestock production systems. Climate and environmental data can now be used to estimate existing natural resources as well as forecast how these resources might change under different scenarios (e.g. increasing aridity, increased population). Alongside such approaches that harness big data and computational power to shape resource management, communities continue to innovate to meet the needs of the local environment. We invite papers based on original research on new innovation at the water, energy, and food nexus.

3. *Disruptive solutions? Barriers to Social Acceptance of New Technologies*

Do new breeding technologies lead to food products that detrimentally impact the health of those who consume them? What are the implications of new plant and livestock breeding technologies on biodiversity? Are new modeling programs used within natural resource management effective at the local level or do they conflict with local land management practices? Is misinformation harming the social acceptance of these new technologies that are shaping our food system? We invite papers looking at the philosophical, ethical, and sociological ramifications of *specific* new technologies within food production and natural resource use.

Abstracts of **300 words** should be sent to **ocff2016@gmail.com** by 20 January 2016. Each session will consist of four papers followed by a panel discussion. **Papers** should be 15 minutes long. **Posters** addressing these themes are also invited.