



**University of  
Nottingham**  
Future Food

## **Future Food Beacon newsletter**

**April 2021**

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Our amazing new [Research engagement map](#) is live! Get a visual perspective on the international reach of the Future Food Beacon's transdisciplinary and interdisciplinary projects!

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## An introduction to the Ionomics Facility

### TECHNOLOGY PLATFORMS VIDEO SERIES!

We are pleased to present the second video in our series highlighting the work of the technology platforms funded by the Future Food Beacon. This video is also embedded in our [Ionomics Facility](#) page. Thank you to the talented Assoc. Prof. Tristan Dew for directing, recording and editing this video!



# LA MILPA MAYA MAAYA KOOL



[Karla Hernandez-Aguilar](#) and her colleagues have created a unique, downloadable [Maya Milpa \(Kool\) calendar](#), in Spanish and Yucatec Maya! The calendar celebrates the farmers of the Yucatan peninsula in Mexico and Belize who practice the traditional Milpa farming system. It also serves as a handy [data collection and research tool](#), check it out!

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# iE

# Ion Explorer



The incredible [Ion Explorer](#) is a [free-to-use online tool](#) allowing researchers to access and interact with the leaf and seed ionic data of more than 1000 *Arabidopsis thaliana* accessions. Read this [open access article](#) in The Plant Journal to find out how it works.





The **Food Innovation Centre** at the University of Nottingham is supporting food and drink manufacturers in Derbyshire and Nottinghamshire with advice about the latest developments in sustainable packaging.

Experts are on hand to give advice and information – and are urging SMEs to consider the issue now, ahead of the reform of the UK packaging EPR (Extended Producer Responsibility) system, which is likely to be introduced in 2023, along with a Plastic Packaging Tax. Take a look at the sustainable packaging **factsheet** that's been drafted or **visit the website** for useful toolkits and reports.



Please take a moment to enjoy our concise, colourful and engaging **Annual Report 2020**. We hope that our transdisciplinary and interdisciplinary research inspires you collaborate with us, and others around the world.

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## Future Food News

**SAVE THE DATES!** - Future Food Beacon June Briefings at 10.30-12.30 on 15-17 June 2021

Andrew Salter is a co-author of a great new paper in *Nature Food* analysing **historic dietary shifts** in order to help our transition to more sustainable diets in the future. A helpful **explanatory article** by the lead author, Emily Moberg, offers a summary of the paper.

Lisa Yon and her colleagues in Brazil have persevered with their collaborative project in the face of the Covid-19 pandemic and have succeeded in **publishing their findings** in *Agriculture, Ecosystems and Environment*. They model 3 possible scenarios in the expected levels of sedimentation and agrochemical pollution in the Brazilian Pantanal. This is a great outcome of the pump priming funds the Beacon has been able to provide via its EMBRAPA project and partnership funding: this research team is building towards becoming world class!

The **recent paper by Elliot Owen, Tristan Dew et al** on fruit and vegetable biomarker development and dietary assessment was nominated as **Editor's Choice** in the latest edition of the Journal of Nutrition.

Congratulations to Hina Kamal and Andrew Salter of the Future Proteins Platform on the publication of their **review of extraction techniques for recovering protein from food waste**.

Matt Jones has co-written an **article on palaeoscience** in a brand new magazine for

younger readers called [Past Global Changes Horizons](#).

We followed the bumper double-length blog by Levi Yant about his amazing [Baobab Genome Project](#) with the first in a new series of career development blogs by Peter Noy, starting at [episode 1- 'The Osprey'!](#)

### **Interesting articles and reports**

The United Nations Environment Programme [UNEP Food Waste Index Report 2021](#) reveals that around a third of the food grown never gets eaten.

UKRI's [10 year roadmap for plant scientists](#) is a must-read for many of our subscribers.

Watch GODAN's recent [Empowering women in agriculture with open data mapping](#) webinar for inspiration.

Fox in the box! Not a football article unfortunately but an entertaining video showing how [mobile processing units in lorries](#) could help to shorten supply chains.

The ever-interesting KTN Agrifood newsletter this month features an intriguing report on [Plant biostimulants and their role in sustainable agricultural production systems](#).

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## Upcoming talks, seminars and conferences

### **APRIL**

#### **21 April**

Multi-scale Assembly of Plant Biomacromolecules: Towards Healthy & Sustainable Foods presented by Gleb Yakubov, Assistant Professor in Food Composites - (Midday - UoN only via MS Teams, with apologies)

#### **21 April**

**Future Food Beacon seminar** - The history of science and the future of food: two 'lessons' from the conservation of crop diversity by Dr Helen Anne Curry, University of Cambridge - 14.00 on [MS Teams](#)

#### **22 April**

**So many worlds, so much to do: what data science can do for you** STFC webinar with Jens Jensen - 14.00-15.00

**22 April**

**Food systems planning in cities: the power of engaging citizens to inform urban food policy and planning** webinar - 17.30-19.00

**27 April**

**Westminster Food & Nutrition Forum** - seminar

**MAY**

**14 May**

Deadline for abstracts for Phenom UK's **Plant Feature Extraction workshop** (10.30-15.30 on 1 July 2021)

**19 May**

Shedding light on the architecture of crop yield by Alexandra Burgess - (UoN only via MS Teams, with apologies)

**20 May**

IFST Sensory Science Group webinar: **Olfaction in the time of Covid-19** - 14.00

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## New publications from Future Food

### **Futureproofing agricultural systems**

**Simulating land use changes, sediment yields, and pesticide use in the Upper Paraguay River Basin: Implication for conservation of the Pantanal wetland** de Oliveira Roque et al (2021)

**Mapping groundwater recharge in Africa from ground observations and implications for water security** MacDonald et al (2021)

**Maintenance of adaptive dynamics and no detectable load in a range-edge out-crossing plant population** Takou et al (2021)

**Adaptive introgression: how polyploidy reshapes gene flow landscapes** Schmickl and Yant (2021)

**The potential of resilient carbon dynamics for stabilizing crop reproductive development and productivity during heat stress** Ferguson et al (2021)

**Novelty and convergence in adaptation to whole genome duplication** Bohutinska et al (2021)

**De-novo mutation and rapid protein (co-) evolution during meiotic adaptation in *Arabidopsis arenosa*** Bohutinska et al (2021)



**The evolutionary genomics of serpentine adaptation** Konecna et al (2021)

**Help or hindrance? The evolutionary impact of whole-genome duplication on immunogenetic diversity and parasite load** Bell et al (2021)

**Plant roots sense soil compaction through restricted ethylene diffusion** Pandey et al (2021)

### **Food for health**

**Combined innovations in public policy, the private sector and culture can drive sustainability transitions in food systems** Moberg et al (2021)

**Magnesium and calcium over accumulate in the leaves of a *schengen3* mutant of *Brassica rapa*** Alcock et al (2021)

**Influence of environmental and genetic factors on food protein quality: current knowledge and future directions** Szepe et al (2021)

**Selenium speciation and bioaccessibility in Se-fertilised crops of dietary importance in Malawi** Muleya et al (2021)

**A stable isotope approach to accurately determine iron and zinc bioaccessibility in cereals and legumes based on a modified INFOGEST static in vitro digestion method** Muleya et al (2021)

**Ionomic analysis of spring wheat grain produced in Kazakhstan and Russia** Abugalieva et al (2021)

**Insects: a potential source of protein and other nutrients for feed and food** Hawkey et al (2021)

**Why Garden in Schools?** book - Earl and Thomson (2021)

### **Food for sustainable livelihoods**

**Extraction of protein from food waste: An overview of current status and opportunities** Kamal et al (2021)

**Role of novel protein sources in sustainably meeting future global requirements** Salter and Lopez-Viso (2021)

**Derivation and validation of a total fruit and vegetable intake prediction model to identify targets for biomarker discovery using the UK National Diet and Nutrition Survey** Owen et al (2021)

**Genomic and pedigree-based predictive ability for quality traits in tea (*Camellia sinensis* (L.) O. Kuntze)** Lubanga et al 2021

**Thermal taster status: temperature modulation of cortical responses to sweetness perception** Eldeghaidy et al (2021)

**Farmer adoption of sustainable intensification technologies in the maize systems of the Global South. A review** Jones-Garcia et al (2021)

**Building a resilient and sustainable food system in a changing world - A case for climate smart and nutrient dense crops** Mustafa et al (2021)

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**To tell us your news, share conference registrations or abstract opportunities, as well as any food-related reading please email:**

**Andrew Edwards** (Ed), Acting Communications Officer for the Future Food Beacon



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