



University of
Nottingham
Future Food

Future Food Beacon newsletter

February 2021



Photo by Lisa Gilligan-Lee

Assoc. Prof. Levi Yant's fundamental research into how plants have evolved via whole genome duplication has resulted in a 4-year Leverhulme Trust grant for his forthcoming project *"PREADAPT: revealing the basis of whole genome*

duplication-mediated adaptation". This project is now further strengthened by **Dr Tuomas Hämälä** winning a Marie Skłodowska-Curie Fellowship to work with Levi on PREADAPT.

The publications keep flowing too, with:

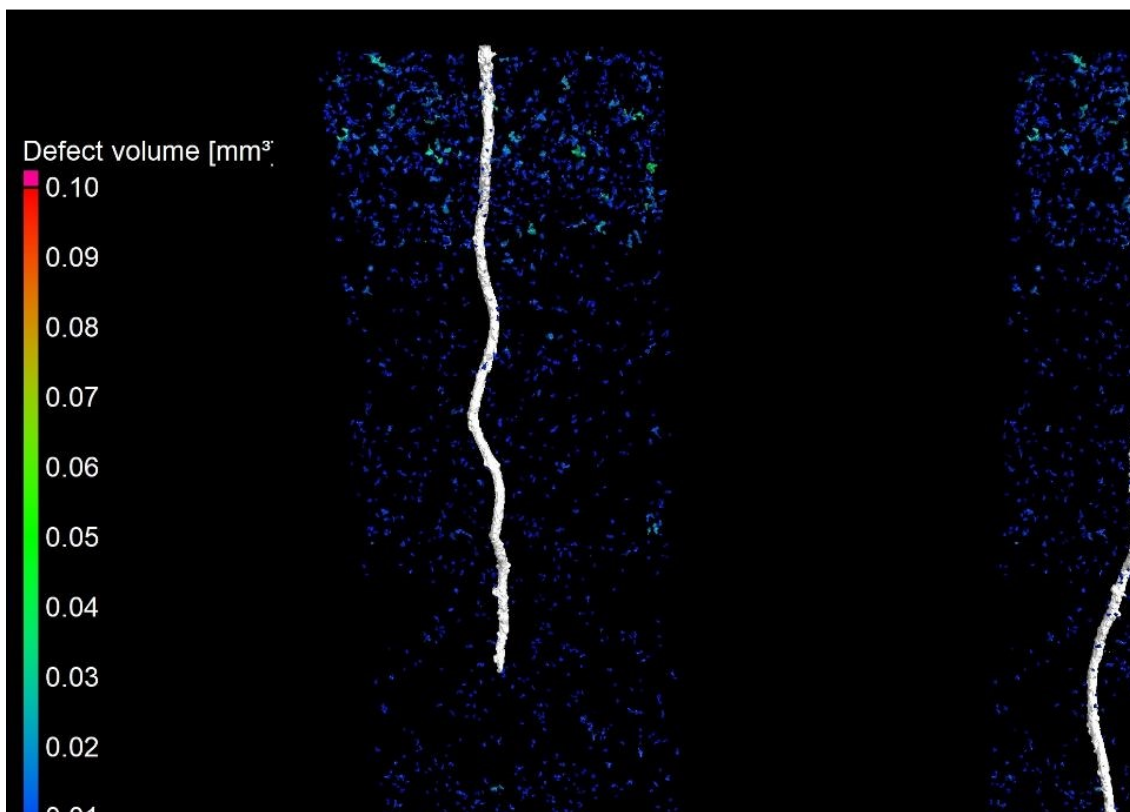
- **The evolutionary genomics of serpentine adaptation**
- **Adaptive introgression: how polyploidy reshapes gene flow landscapes**
- **Maintenance of adaptive dynamics and no detectable load in a range-edge out-crossing plant population**
- ***De-novo* mutation and rapid protein (co-) evolution during meiotic adaptation in *Arabidopsis arenosa***
- **Formation and diversification of a paradigm biosynthetic gene cluster in plants**



Elliot Owen, of Manchester Metropolitan University and the Future Food Beacon, is the lead author of a new publication about **improving predictive models of fruit and veg intake in the UK**.

Tristan Dew, his PhD supervisor and co-author, explains: *"..accurate measurement of fruit and vegetable (FV) intake is problematic but incredibly important for long term health. Total FV intake model gives us a road map for high value targets for biomarker discovery. This is the foundation for several dietary intervention and metabolomics studies to this effect, using our new Molecular Phenomics facility. We also intend to see how well the model works in other countries."*

Congratulations to Elliot, Tristan and their team, from everyone at the Beacon!



Last month, we led with the ground breaking new paper in Science called '**Plant roots sense soil compaction through restricted ethylene diffusion**'. We followed this up in our blog with **an interview with the lead author Bipin Pandey and the Beacon's Rahul Bhosale** to zoom in on their particular contributions.

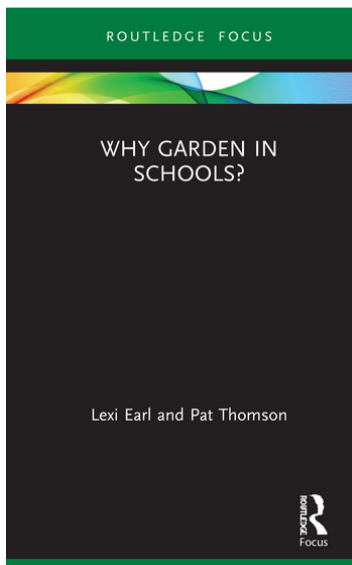


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Global Health and Wellk

There are many good reasons to apply for the **joint Nottingham-Adelaide PhD Scholarships** programme; if you apply for **Exploring the physiological mechanisms in patients with functional gastrointestinal disorders**, you get our **Sally Eldeghaidy** as your Nottingham supervisor! **DEADLINE 28 February 2021**



Lexi Earl's new book on gardening in schools is now **available to buy!**



Our **2019-2020 Yearbook** is a collection of all of our blogs from 1 August 2019 to 31 July 2020. Just pick and choose the articles you are interested in and treat it like a magazine!

Future Food News

Prof. Andy Salter provides a great summary of research into alternative proteins in the **Winter 2020 edition of Science in Parliament** (internal pp11-12 or pp13-14 of the pdf).

We are rolling out our series of interview blogs with the 2nd cohort of joint UoN-Rothamsted PhD candidates. Firstly we featured **Maureen Ng'ang'a** and her work on rice reproduction in hot conditions. Secondly, we introduced **Ika Nurziah**'s research into plant-based vaccines to tackle poultry disease. And hot off the press today is **Brighton Gapare**'s interview on his work identifying improved pearl millet germplasm!

Interesting reads from elsewhere

To eat fish or not to eat fish? That is the wrong question Intriguing blog on humans instead eating the types of fish that are currently fed to farmed salmon!

Soil carbon management on oil palm plantations in Sumatra

Startling statistics and interesting perspectives on **food waste regulation**

Witness the **resurrection of extinct varieties of rice!**

Farmers in the USA perceive alternative meats as a threat

And **is a vegan diet healthier anyway?** This article outlines the gaps in the data and the research

This article in The Conversation on **cheese and witchcraft** is highly entertaining!

Upcoming talks, seminars and conferences

Nottingham Festival of Science and Curiosity (FOSAC) - taking place this very February 2021!

February is **LGBT+ History Month at UoN** and there are online events taking place throughout the month.

Westminster Food & Nutrition Forum - seminar on 27 April 2021

Atomic Force Microscopy - Applications in Bioscience Challenges presented by Jacob Patten - 17 February 2021 (UoN only via MS Teams, with apologies)

Talk by Dr. Katharina Dulias (AHRC Postdoctoral Researcher, Department of Archaeology, University of York) - midday on 25 February 2021 (UoN only via MS teams, with apologies)

FDF webinar **Supply Chain Resilience: How to predict, manage and mitigate supply chain risks** - 11.00-12.00 on 25 February 2021

Food Industry Innovation 2021: Food, Nutrition and Health - 09.00 - 12.15 on 3 and 4 March 2021. Register an Expression of Interest first, then await allocation of tickets

National Imaging Facility at Harwell presented by Assistant Professor Lin Wang -17 March 2021 (UoN only via MS Teams, with apologies)

Phenom UK AGM - 13.00 on 24 March 2021; 09.30 on 25 March 2021

IFST Scotland Branch Event: **Net Zero Gin, Utilisation of Barley, find out innovative ways the food industry is becoming sustainable in Scotland?** - 18.00 on 23 March 2021

Black Botanists - the online lecture series continues into 2021

FDF Food and Drink Expo 2021 - 12-14 April 2021 at the NEC Birmingham

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 21 April 2021 on **MS Teams**

Multi-scale Assembly of Plant Biomacromolecules: Towards Healthy & Sustainable Foods presented by Gleb Yakubov, Assistant Professor in Food Composites - 21 April 2021 (UoN only via MS Teams, with apologies)

The history of science and the future of food: two lessons from the conservation of crop diversity - 14.00 on 21 April 2021 - UoN and external welcome on **MS Teams**

Shedding light on the architecture of crop yield by Alexandra Burgess - 19 May 2021 (UoN only via MS Teams, with apologies)

OFIC 20201 - Oils and Fats International Congress - 15-16 June 2021 at Hotel Istana, Kuala Lumpur, Malaysia (or online if necessary, decision to be made in early May 2021)

New publications from Future Food

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 Eldegahaidy et al (2021)

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

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)

Farmer adoption of sustainable intensification technologies in the maize systems of the Global South. A review Jones-Garcia 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)

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

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

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

Bambara Groundnut: An Underutilized Leguminous Crop for Global Food Security and Nutrition Tan et al (2020)

The evolutionary genomics of serpentine adaptation Konecna et al (2020)

Men Writing Eating Disorders: Autobiographical Writing and Illness Experience in English and German Narratives book - Bartel (2020)

A network of transcriptional repressors modulates auxin responses Truskina et al

(2020)

Coordination between microbiota and root endodermis supports plant mineral nutrient homeostasis Salas-Gonzalez et al (2020)

Targeted expression of the arsenate reductase HAC1 identifies cell type specificity of arsenic metabolism and transport in plant roots Fischer et al (2020)

A single bacterial genus maintains root growth in a complex biome Finkel et al (2020)

Increasing zinc concentration in maize grown under contrasting soil types in Malawi through agronomic biofortification: Trial protocol for a field experiment to detect small effect sizes Botoman et al (2020)

Formation and diversification of a paradigm biosynthetic gene cluster in plants Liu et al (2020)

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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