AI between Plant and Agricultural Science: Green Paths towards Environmental Intelligence

Alan Turing Institute
16 December 2019

Agenda

9.30-10
Registration

10-10:30
Welcome and Introduction. Chair: Sabina Leonelli
- Challenges in data linkage and analysis for the plant sciences. *Sabina Leonelli* (University of Exeter)
- The Environmental Intelligence initiative. *Gavin Shaddick* (University of Exeter)

10:30-11:30
Presentation session 1: Plant and agricultural science at the Turing

- Mapping plant data infrastructures. *Hugh Williamson* (University of Exeter)
- Environmental signal integration in plants. *Daphne Ezer* (University of York)
- Multimodal, multi-task deep learning for plant phenotyping: an open science approach. *Sotirios Tsaftaris* (University of Edinburgh)
- Growing underground. *Ruchi Chaudhary* (University of Cambridge)
- Decision models and support for agri-environmental contexts. *Julia Brettschneider* (University of Warwick)
- AI in plant science: Opportunities and limitations. *George Bassel* (University of Warwick)

11:30-12.00 Break

12.00-13.00
Presentation session 2: Integrating plant data for environmental intelligence. Chair: Hugh Williamson

- Genomics data in plant pathology. *David Studholme* (University of Exeter)
- Approaches for plant disease surveillance. *Richard Morris* (John Innes Centre)

- Using large genomic datasets to drive forward plant breeding. *Anthony Hall* (Earlham Institute)
- The opportunities and challenges of using AI in agricultural research. *Chris Rawlings* (Rothamsted Research)
- Recoding regulation. *Nicola Patron* (Earlham Institute)
- Solving the challenges of food security. *Rob Davey* (Earlham Institute)

13:00-13:45 Lunch

13.45-15.15
Panel session: Between plant and data science – Mapping needs. Chair: Sabina Leonelli.

- *Ruth Bastow* (DEFRA), *Mario Caccamo* (NIAB), *Carole Goble* (University of Manchester), *Neil Hall* (Earlham Institute), *Richard Harrison* (NIAB) & *Paul Kersey* (Royal Botanical Gardens, Kew)

15.15-15.30 Break

15.30-16.30
Breakout session: Future paths – Identifying proposals and collaborations

16.30-17.00
Summary and closing remarks