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**Thematic Research Training 2022-2023**

**Crops and Soil group**

Session 2: Omics (Including genomics, pangenomics and proteomics)

**University of Dundee, 21 February 2023, 9:45-17:00**

**Event description:**

This seminar will focus on how various omic technologies, including genomics, proteomics, and metabolomics, can enhance our understanding of plant-microbe interactions, improve crop productivity, and promote sustainable soil management practices. As part of the seminar, we are thrilled to have Dr. Micha Bayer, an expert in pangenomics, as a guest speaker. Pangenomics involves analyzing the entire genetic content of a species or group of related organisms, which can provide a more comprehensive understanding of genetic diversity and evolutionary relationships within a species. This approach has potential applications in crop improvement, microbial ecology, and medical research. Dr. Bayer's presentation on pangenomics will offer valuable insights into this emerging field and its applications in agriculture and environmental science.

Additionaly, we will have an open table Journal club to evaluate current trends in omic sequencing in the field and argue about potential applications.

The seminar is designed for researchers in the fields of agriculture, plant sciences, microbiology, and environmental interactions. It aims to facilitate discussions on the future of these fields and how AI and other technologies may shape the way science is conducted. By providing a comprehensive framework, the seminar will offer a platform to initiate conversations on the potential impact of these emerging technologies and how they can be leveraged to drive progress in scientific research.

**Session Schedule:**

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| **Times** | **Sessions** |
| 10:00-10:30 am | Welcome (Coffee) |
| 10:30-11:15 am | Talk by Dr Micha Bayer on Pangenomics |
| 11:00-11:30 am | Q&A |
| 11:30 am-12:30 pm | Interactive workshop-Pangenomics |
| 12:30-13:30 pm | Lunch break |
| 13:30-14:15 pm | Journal club |
| 14:15-14:30 pm | Coffee break |
| 14:30-3:30 pm | Workshop |
| 3:45-4:30 pm | Open table- AI and machine learning on omic analysis- What does this mean for scientists and researchers? |
| 4:30-5:00 pm | Closing statements |

**Session organisers**: Cristina Ponce Lilly C.Ponce-Lilly@sms.ed.ac.uk; **Alasdair Iredale** (University of Dundee) and **Emma Hardy** (University of Dundee)

Email enquiries@eastscotbiodtp.ac.uk if you have any questions about the session.