



Bonar Hall | Dundee, Scotland, UK

3rd Plant Microbiome Symposium

24th - 26th May 2022



Abstracts

Session 1: Plant microbiome assembly

Number	S1.K1
Authors	Thomas Bell
Affiliations	Imperial College London
Presenting author	Thomas Bell
Email address	thomas.bell@imperial.ac.uk
Presentation type	Keynote
Session Name	Plant microbiome assembly
Title	Invasion ecology of plant pathogens
Abstract text	<p>Many plant pathogens spend much of their life history away from plants. Plant pathogens often need to disperse through an environmental matrix (soil, air, water), during which time they are interacting and competing with a resident microbial community. The importance of these interactions with free-living organisms has been understudied, and may be important for understanding their ecology and dynamics. I will discuss whether there are any lessons to be learned from the invasion ecology literature for studying plant pathogens that have free-living life history stages, and describe some experiments that we have used to explore the role of resident communities in altering rates of movement of plant pathogens through soil.</p>

Number	S1.K2
Authors	Vanessa Nessner Kavamura ^{*1} , Ian Clark ¹ , Itamar Soares de Melo ² , Tim Mauchline ¹
Affiliations	¹ Sustainable Agriculture Sciences, Rothamsted Research, West Common, Harpenden, Hertfordshire, AL5 2JQ, UK.
Presenting author	Vanessa Nessner Kavamura
Email address	vanessa.nessner-kavamura-noguchi@rothamsted.ac.uk
Presentation type	Keynote
Session Name	Plant microbiome assembly
Title	Insights into the rhizosphere microbiome: past and future perspectives
Abstract text	<p>Microorganisms associated to plants can promote plant growth and development through direct and/or indirect mechanisms in addition to enabling them to tolerate biotic and abiotic stresses. Several factors are responsible for shaping the microbiome associated with plants and understanding how they influence the structure and functions of microbial communities is crucial for the development of sustainable agriculture. Using culture-independent methods and soils from Rothamsted Research, I will describe the importance of different factors in determining the root microbiome structure and diversity in wheat. In addition, I will describe a culture-dependent approach that led to the development of a microbial product for maize. I also discuss gaps and benefits of taking a multidisciplinary approach to explore the plant microbiome to generate microorganism-based solutions for sustainable intensification of crop production.</p>