UNIVERSITY OF
LINCOLN

8.30am - Arrival and Breakfast

9.00am - Welcome
Prof. Simon Pearson, Director of LIAT, College of Science, University of Lincoln, UK.

9.10am – Prof. Matthew Goddard, School of Life Science, College of Science, University of Lincoln, UK.

The unseen millions - what is the role of soil microbes?

Most life on earth, and in soils, is unseen. There are more microbes in a kilo of soil than there are humans on the planet.
But what do these microbes do, importantly for agriculture - do these microbes affect crop production?
Mat's talk will recap some of the cutting-edge methods to evaluate the unseen millions and go on to look at this in Lincolnshire soils.

9.25am –Prof. Marc Hanheide, Professor of Intelligent Robotics & Interactive Systems, School of Computer Science, College of Science, University of Lincoln, UK.

Low-hanging Fruits in Robotic Agriculture - The prospect of human-robot collaboration and robotic support

Agri-Food is the largest manufacturing sector in the UK, twice the scale of automotive and aerospace combined. It supports a food chain that generates over £108bn p.a., with 3.9m employees in a truly international industry and exports £20bn of UK manufactured goods.
However, the global food chain is under pressure from population growth, climate change, political pressures affecting migration, population drift from rural to urban regions and the demographics of an ageing global population.
While the long-term aim of a lot of robotics research in the domain is full automation of operations, some low-hanging fruits in terms of productivity and quality gains are almost readily available when looking at the autonomous robotic technology designed to support the human workforce, from fruit pickers to farm managers.
Marc will discuss the research and market prospects of introducing robots in logistics, crop and field scouting, and harvesting along some of the recent advances made in research projects at the University of Lincoln.

9.40am – Dr. Amir Badiee, Research Fellow, School of Engineering, College of Science, University of Lincoln, UK.

How Science is Transforming Horticulture/Agriculture to Secure Good Food for the Future.

Amir's talk will outline the design of the third generation of greenhouse cladding material;
Multi-tier strawberry growing using artificial lighting systems and passive soil moisture measurement using cosmic-ray neutrons.

9.55am – Khaled Elgeneidy, Research Fellow, Centre for Autonomous Systems - Lincoln Institute for Agri-Food Technology, College of Science, University of Lincoln, UK.

3D Printed Soft Robotic Grippers for Agri-Food Manipulation Tasks.

Handling delicate crops and food products without damaging or bruising is a challenge facing the automation of many tasks within the agri-food industry. This has encouraged the development of soft robotic grippers that are inherently safe to interact with delicate targets and can passively adapt to shape variations. Khaled will present a brief overview of the development of low-cost soft grippers with embedded sensing that can be customised and directly 3D printed based on application needs across the sector.

10.10am - Discussion and Networking

10.30am – Event ends