



4th International Workshop on

Interactions between crop plants and human pathogens

AIT, Tulln 6.12.2019

Time table



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4th International Workshop on Interactions between crop plants and human pathogens

Organized by

CA COST Action CA16110

Control of Human Pathogenic Micro-organisms in Plant Production Systems

WP1 Ecology of HPMO in plants and in environments relevant for plant production

and

WP4 Agricultural practices and sanitary measures undertaken for the control of HPMO in plant production

Food-borne disease outbreaks resulting from consumption of plant-derived fresh produce have been reported worldwide. It is clear that particular groups of human pathogenic micro-organisms (HPMO) can find their ecological niches in plant production systems. Contamination routes of HPMO to plants are poorly understood. Basic resources for agro-production, such as soils, water and fertilizers can play a role in contamination of plants, but micro-organisms taxonomically closely related with HPMO are also present in plant microbiomes. HPMO must be considered as integral components of the plant microbiome and it is the intention of HUPPLANTcontrol to investigate the potential negative aspects of plant microbiomes on human health and to integrate novel scientific insight into sanitary measures and agricultural management practices. The HUPPLANTcontrol network consists of working groups focusing on the ecology of HPMO in plants, the taxonomical identification of HPMO from plants, on characterization of the potential human-threatening nature of HPMOs, and on sanitary and agricultural management procedures to control HPMO in plant production facilities. The achieved knowledge is discussed and shared between science groups and relevant stakeholders from agriculture, industry and public health authorities. The aim of this workshop is to bring together researchers and stakeholders and discuss the newest achievements in understanding of ecology of HPMO in plant environment as well as new achievements in sanitary measurements allowing to prevent plant-originated foodborne outbreaks.

Organizers

Adam Schikora

Julius Kühn-Institut Federal Research Centre for Cultivated Plants (JKI), Institute for Epidemiology and Pathogen Diagnostics, Braunschweig, Germany

Fiona Brennan

Teagasc Environmental Research Centre, Johnstown Castle, Ireland

Local Organizer

Birgit Mitter, AIT (Birgit.Mitter@ait.ac.at)

Registration:

Adam Schikora, JKI (adam.schikora@julius-kuehn.de)

The meeting will take place at AIT Universitäts und Forschungszentrum Tulln, Konrad-Lorenz-Straße 24, Tulln an der Donau
Room *tba*, on December 6. 2019, between: 10:00 and 16:00

Timetable:

Please note: presentation time = 60% talk and 40% discussion

Part 1**Presentations of the objectives and aims of this workshop**

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| 10:00 – 10:05 | Welcome and introduction of the meeting participants |
| 10:05 – 10:10 | Rita Grosch (IGZ) COST HUPLANTcontrol Introduction and Welcome |

Part 2**Question: How agricultural management, crop plant and soil influence ecology of HPs?**

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|---------------|---|
| 10:10 - 10:40 | Maeli Melotto (UC Davis) On the way to breeding for food safety: a case study of lettuce-human pathogen interactions |
| 10:40 – 11:10 | Shirley A. Micallef (University of Maryland) Agricultural and environmental factors in the agricultural setting that drive crop microbiomes |
| 11:10 – 11:25 | Jasper Schierstaedt (IGZ) Agricultural production systems can serve as reservoir for human pathogens |
| 11:25 – 11:40 | Xingchen Zhao (Ghent University) Interactions between BTa ABTS-1857 and <i>Salmonella</i> inoculated on spinach plants and cut leaves |
| 11:40 – 12:00 | Leo van Overbeek and Els Nijhuis (WUR) Transmission of <i>Escherichia coli</i> via manure to plants |

lunch break 12:00 – 12:45

Part 3**Question: Which impact have plant microbiome as reservoir of ARGs and virulence factors on the plasticity of HP?**

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|---------------|---|
| 12:45 – 13:15 | Kornelia Smalla (JKI-EP Braunschweig) Hydroponic cultivation of produce on treated waste water - effects on the abundance of antibiotic resistance genes, their transferability and potential human pathogens |
| 13:15 – 13:45 | Sascha Patz (University of Tübingen) Real-time Risk Management using a Combined Approach implemented in MAIRA |
| 13:45 – 14:00 | Azhar A. Zarkani (JKI-EP Braunschweig) Comparative study of the interaction among different <i>Salmonella</i> strains and different plants |
| 14:00 – 14:15 | Hilal Samut (Middle East Technical University, Ankara) Effect of Climate Change on Biofilm Forming Abilities of Pathogenic <i>Escherichia coli</i> Groups during the Production of Green Leafy Vegetables |
| 14:15 – 14:30 | Marina Lamparter (BfR Berlin) Characterization of Shiga Toxin-Producing <i>Escherichia coli</i> in flour |
| 14:30 – 14:45 | Fiona Brennan (Teagasc) <i>tba</i> |

coffee break 14:45 – 15:15

Part 4 (till 16:00) – Open Discussion / Questions /Coffee

1. Joint Projects
2. Contact to the EFSA
3. Short report from the COST Action 16110 HUPLANTcontrol Activities
4.