



IGSTC funded Indo-German Bilateral Workshop: “Agricultural Management Practice Effects on Soil- And Plant-associated bacterial communities and their resistome” – AMPESAP

AMPESAP project coordination: Prof. Dr. Annapurna Kannepalli and Prof. Dr. Kornelia Smalla

In combination with Annual Meeting of the German Working Group Human Pathogen on Crop Plants (PD Dr. Adam Schikora)

Date: 20.06.2022 – 22.06.2022

Host: Hosted by the Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), Potsdam, GERMANY (Prof. Dr. Gabriele Berg)

Local organizing committee:

Kornelia Smalla (JKI), Gabriele Berg (ATB), Rita Grosch (IGZ), Adam Schikora (JKI)

Timetable

Talks (20 min) + 10 min Discussion

Day 1 - 20.06.2022	
Registration : 10.00 - 12.00	

Lunch (12:00 – 13:00)

Welcome at ATB			
	13:00 – 13:10	Kornelia Smalla & Annapurna Kannepalli	Welcome to the workshop
	13:10-13:15	Gabriele Berg	Welcome at ATB
	13:15-13:25	Ludwig Kammesheidt	Welcome address by the representative of DLR- BMBF
	13.25-13.30	Madhusudan Reddy	Welcome address by the representative of DST in Berlin

Session 1: Antibiotic Resistance Genes in Plant Environment

Chair: Adam Schikora

Nr.	Time	Presenter	Title
1	13:30 – 14:00	Kornelia Smalla	The resistome of plant and soil bacteria affected by agricultural management?
2	14:00 – 14:30	Annapurna Kannepalli	Factors shaping the plant microbiome and its resistome
3	14:30 – 15:00	David Drissner	Persistence of antibiotic resistant bacteria and resistance genes in soil and lettuce after introduction via manure or water
4	15:00 – 15:30	Rajagopal Raman	Are salads a source of Antibiotic Resistance Bacteria / Genes
5	15:30 – 16:00	Ahmed Abdelfattah	Understanding the post-harvest apple resistome
16:00-16:20 Coffee break			
	16:20-16:30	Barbara Sturm	Welcome by the ATB director
6	16:30 – 17:00	Gabriele Berg	New clues to understand emergence of multi-resistance from environmental microbiomes
7	17:00 – 17:30	Ramkoti Reddy Kondamadugula	Microbiome optimization to mitigate Anti Microbial Resistance
8	17:30 – 18:00	Amit Khurana	Intensive food systems and connections with antimicrobial use and AMR

Social dinner (starting at 19:00)**Day 2 - 21.06.2022****Registration :9.00 – 9:30****Session 2. Impact of Agricultural Management on ARG – One Health**

Chair: Kornelia Smalla

Nr.	Time	Presenter	Title
9	9:30 - 10:00	Henry Müller	Genome-based risk assessment and tools for strain-specific monitoring of a bacterial consortium for plant stress protection
10	10:00 – 10:30	Rita Grosch	Factors shaping the soil and root-associated microbiota in agro-ecosystems
11	10:30 – 11:00	Ramakrishnan Balasubramanian	Rhizosphere and beyond: Do agricultural inputs and practises influence the trait of anti-microbial resistance?
12	11:00 – 11:30	Stefanie Gläser	Strain collections of AMR strains from manure and wastewater to test plant colonization efficiency of bacteria released into the agricultural environment
Coffee break			
13	12:00 – 12:30	Avinash Sharma	Mass gatherings and AMR
14	12:30 – 13:00	Shilpi Sharma	One-Health perspective for controlling human pathogens residing in soil: Bioinoculants against <i>Listeria monocytogenes</i>

Lunch 13:00 – 14:00

Day 2 - 21.06.2022

Session 3. AG Human Pathogens on Crop Plants and *plantinfect* Project

Chair: Rita Grosch

Nr.	Time	Presenter	Title
15	14:00 – 14:30	Adam Schikora	Adaptation of human pathogens to plant environment
16	14:30 – 15:00	Jasper Schierstaedt	Microbial diversity influences the fate of <i>S. enterica</i> in soil
17	15:00 – 15:30	Abhishek Shrestha	Elucidating factors that affect the persistence and colonization of <i>Salmonella enterica</i> in agricultural soil and fresh produce
Coffee break			
18	16:00 – 16:30	Katharina Dethert	Uptake of pathogenic <i>E. coli</i> into crop plants
19	16:30 – 17:00	Michaela Projahn	Shiga toxin-producing <i>Escherichia coli</i> (STEC) in plant-based foods in Germany
20	17:00 – 17:30	Hendrik Frentzel	<i>Bacillus thuringiensis</i> from biopesticides on vegetable food
22	17:30 – 18:00	Ulrike Binsker	Occurrence and characteristics of Colistin-resistant Isolates from livestock and their impact on agriculture

Discussion on registration of biostimulants (snacks and drinks provided)

Day 3 - 22.06.2022

Session 4. ARG in Diverse Environments

Chair: K. Annapurna

Nr.	Time	Presenter	Title
23	9:00 – 9:30	Bernd-Alois Tenhagen	What can we expect in faeces and dung from animal production - an example from Germany
24	9:30 – 10:00	Gabriele Bierbaum	The environmental dimension of antibiotic resistance – the role of the hospital
25	10:00 – 10:30	Sivaraman Gopalan Krishnan	Multi-drug resistant (MDR) bacterial pathogen in fisheries and its environment
Coffee break			
26	11:00 – 11:30	Shashidhar Thatikonda	Fate and transport of antibiotics and its resistant bacteria in a riverine environment
27	11:30 – 12:00	Abhrajyoti Ghosh	Spatial dynamics and ecological dissemination mechanism of antibiotic resistome in the mangrove sediment of Sundarban, India
28	12:00 – 12:30	Elisabeth Grohmann	Thermophilic composting shapes the microbial community and their resistome
29	12:30 – 13:00	Kristin Hauschild	Transferable plasmids and ARGs in biosolids from wastewater treatment plants of different catchment sizes

Lunch break (13:10 – 14:15) and joint social activity (optional) historical walk through Potsdam (see attachment)

Workshop Participants

Indian Participants

No.	Name	Affiliation
1	Dr. Annapurna Kannepalli	ICAR-Indian Agricultural Research Institute, New Delhi
2	Dr. Ramakrishnan Balasubramanian	ICAR-Indian Agricultural Research Institute New Delhi
3	Dr. Amit Khurana	Program Director, Sustainable Food Systems, Centre for Science and Environment, New Delhi
4	Dr. Shilpi Sharma	Department of Biochemical Engineering IIT, New Delhi
5	Dr. Abhrajyoti Ghosh	Bose Institute P 1/12. C.I.T. Road, Scheme-VII-M, Kolkata
6	Dr. Sivaraman Gopalan Krishnan	ICAR-Central Institute of Fisheries Technology, CIFT Junction, Willingdon Island, Matsyapuri P.O. Cochin
7	Dr. Avinash Sharma	DBT/Wellcome Trust India Alliance Fellow DBT-National Centre For Cell Science, Pune
8	Prof. Dr. Rajagopal Raman	Department of Zoology, Gut Biology Laboratory, Lab. No. 117, University of Delhi
9	Dr. Shashidhar Thatikonda	Deptt. of Civil Engineering Indian Institute of Technology, Hyderabad
10	Dr. Ramkoti Reddy Kondamadugula	Sri BioAesthetics Pvt. Ltd.

German Participants

No.	Name	Affiliation
1	Prof. Dr. Kornelia Smalla	JKI, Institute for Epidemiology and Pathogen Diagnostics, Braunschweig
2	Dr. Rita Grosch	Leibniz Institute for Vegetable and Horticulture, Grossbeeren
3	PD Dr. Adam Schikora	JKI, Institute for Epidemiology and Pathogen Diagnostics, Braunschweig
4	Prof. Dr. Gabriele Berg	Department of Bioengineering at the Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB) & University of Potsdam.
5	Dr. Ahmed Abdelfattah	Department of Bioengineering at the Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB)
6	Dr. Stefanie Gläser	Justus-Liebig-University Gießen
7	Prof. Dr. Gabriele Bierbaum	Medical Microbiology, Immunology and Parasitology, University Bonn
8	Prof. Dr. Elisabeth Grohmann	Beuth University of Applied Sciences Berlin
9	Dr. Hendrik Frentzel	German Federal Institute for Risk Assessment Unit Bacterial Toxins, Food Service Berlin
10	Kristin Hauschild	JKI, Institute for Epidemiology and Pathogen Diagnostics, Messeweg 11-12, D-38104 Braunschweig
11	Dr. Jasper Schierstaedt	Leibniz Institute for Vegetable and Horticulture, Grossbeeren
12	Dr. Abhishek Shrestha	Justus-Liebig-University Gießen
13	Katharina Dethert	Department of Food Microbiology and Hygiene, University Hohenheim, Stuttgart
14	Dr. Michaela Projahn	German Federal Institute for Risk Assessment National Reference Laboratory for <i>Escherichia coli</i> (NRL- <i>E.coli</i>); Unit Food Microbiology, Pathogen-Host- Interaction

		Department of Biological Safety
15	Prof. Dr. David Drissner	University of Applied Sciences, Albstadt Sigmaringen
16	Dr. Ulrike Binsker	German Federal Institute for Risk Assessment Unit Epidemiology, Zoonoses and Antimicrobial Resistance, Department Biological Safety
17	Prof. Dr. Bernd-Alois Tenhagen	German Federal Institute for Risk Assessment Unit Epidemiology, Zoonoses and Antimicrobial Resistance
18	Dr. Holger Heuer	JKI, Institute for Epidemiology and Pathogen Diagnostics, Braunschweig
19	Dr. Henry Müller	Department of Bioengineering at the Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB)
20	Dr. Gregor Fiedler	Max-Rubner-Institut,, Institute for Microbiology and Biotechnology Kiel