

Phyllosphere 12 Program

Friday, 6th of June

Session 1	8:30–9:00	Arrival	
	9:00–9:15	Welcome remarks	
	9:15–10:00 Keynote Lecture	Kei Hiruma University of Tokyo, Japan	Enhancement of plant growth and fitness mediated by tripartite interactions among plants, fungi, and bacteria within the root environment
	10:00–10:25	Johan Leveau Univ. of California, Davis, USA	Isolation and characterization of phyllosphere bacteriophage vB_PeuS_DEOXYs
	10:25–10:40	Yao Su Xishuangbanna Tropical Botanical Garden of Chinese Academy of Sciences, China	The influence of secondary metabolite heterogeneity on phyllosphere microbial diversity in tropical rainforest tree species varies across niches
Session 2	10:40–11:00	Coffee Break	
	11:00–11:25	Akio Tani Okayama University, Japan	<i>Methylobacterium</i> on the move: Methylo taxis and motility
	11:25–11:40	Hiroya Yurimoto Kyoto University, Japan	Physiological functions of methylo trophic bacteria in the phyllosphere and their application to improve rice crop yield
	11:40–11:55	Andrea Ghigi ETH Zurich, Switzerland	Uncovering host factors contributing to <i>Sphingomonas</i> -mediated protection against <i>Pseudomonas syringae</i> DC3000
	11:55–12:15	Kadeem Gilbert Michigan State University, USA	Phylloplane pH regulation shapes microbial communities at the functional gene level
Session 3	12:15–13:30	Lunch	
	13:30–13:45	Amanpreet Kaur Auburn University, USA	Unfolding the interaction between climate and pathogen diversity of an endemic foliar pathogen in the Southeastern United States
	13:45–14:00	Frank Keppler Heidelberg University, Germany	Phyllosphere cycling of climate-relevant gases: New insights from an interdisciplinary perspective
	14:00–14:15	Kaoru Tsuji Kobe University, Japan	Potential application of nectar microbes in an agriculture crop, buckwheat
	14:15–14:35	Luke Moe University of Kentucky, USA	Metagenomic analysis of hemp retting
	14:35–15:00	Kosuke Shiraishi Kyoto University, Japan	Survival strategy of the methylo trophic yeast in the phyllosphere: Methanol utilization and biological interactions

Friday, 6th of June, cont'd

Session 4	15:00–15:20	Coffee Break	
	15:20–15:35	Jean-Baptiste Leducq Université Laval, Canada	Hide and seek in the phyllosphere: <i>Lichenibacterium</i> revealed as the elusive “1174-901-12”
	15:35–15:50	Kai Wu Univ. of California, Berkeley, USA	From field to flower: disease ecology of a multi-pathogen system in Callery pear
	15:50–16:15	Hongda Fang Zhejiang University, China	A disease-promoting fungal-bacterial symbiosis in the phyllosphere
	16:15–16:30	Hannah McMillan Duke University, USA	Microbiota alter plant leaf epidermal properties at elevated temperature
	16:30–16:45	Aurelien Carlier INRAE Occitanie-Toulouse, France	Bacterial leaf symbiosis: Evolution and functions of heritable plant symbionts
Session 5	16:45–17:00	Coffee Break	
	17:00–17:25	Itumeleng Moroenyane Stellenbosch Univ., South Africa	Developmental gateways: Harnessing plant growth regulators to reprogram soybean phyllosphere microbiome assembly for stress resilience
	17:25–17:50	Isheng Jason Tsai Academia Sinica, Taiwan	An acidophilic fungus promotes prey digestion in a carnivorous plant
	17:50–18:05	Steven Kembel Université du Québec à Montréal, Canada	Priority effects influence phyllosphere bacterial community assembly
	18:15–20:30	Group Banquet at OIST Cafe	

Saturday, 7th of June

Session 6	8:30–9:00	Arrival	
	9:00–9:20	Isabelle Laforest-Lapointe Université de Sherbrooke, Canada	Moss-microbe interactions differ between green and brown gametophytes revealing diverging roles in nutrient cycling
	9:20–9:35	Sara Leino University of Helsinki, Finland	The impact of anthropogenic disturbance on foliar plant diseases in boreal forest understory: Insights from <i>Vaccinium myrtillus</i>
	9:35–9:50	Wenke Smets University of Antwerp, Belgium	Ecological differences between upper and lower leaf side
	9:50–10:10	Nadav Kashtan The Hebrew University of Jerusalem, Israel	Can aerosols protect the leaf microbiome from daytime dryness and provide them nutrients?
Session 7	10:10–10:30	Coffee Break	
	10:30–10:55	Fletcher Halliday Oregon State University, USA	Diversity and interactions of foliar pathogens in grassland ecosystems
	10:55–11:20	Elizabeth Waters San Diego State University, USA	Reverse chimneys: understanding plant-microbe interactions that accelerate atmospheric methane consumption
	11:20–11:35	Stephen Wanjiru Catholic University of Eastern Africa, Kenya	A route to decreasing N pollution from livestock: Use of <i>Festulolium</i> hybrids improves efficiency of N flows in rumen simulation fermenters
	11:35–11:50	Hao-Xun Chang National Taiwan University, Taiwan	Seed microbiome and seed-associated bacteria confers soybean resistance to soilborne pathogens
	11:50–12:00	Group Photo	
	12:00–12:45	Bento Lunch	
	12:45	Bus leaves OIST for excursion	
	13:45–17:30	Ocean Expo Park visit	
	17:30	Bus leaves Ocean Expo Park for Onna	
	~ 18:30	Drop-off at Seaside House and Onna	

Sunday, 8th of June

Session 8	8:30–9:00	Arrival	
	9:00–9:15	Asa Conover UC Berkeley, USA	Bacterial-fungal interactions in the digestive microbiome of the California pitcher plant (<i>Darlingtonia californica</i>)
	9:15–9:40	Hidehiro Ishizawa University of Hyogo, Japan	Duckweed as an exceptional model system for leaf surface microbiology
	9:40–10:00	Posy Busby Oregon State University, USA	Knockout of alkene biosynthesis alters leaf surface waxes, exudates, and fungi in <i>Populus trichocarpa</i>
Session 9	10:00–10:20	Coffee Break	
	10:20–10:45	Talia Karasov University of Utah, USA	Weaponized phages used for competition in the phyllosphere
	10:45–11:00	Tebogo Masetlana Stellenbosch University, South Africa	Holobiont responses to nitrogen and phosphorus stress in <i>Glycine max</i> : Metabolomic and microbial interactions
	11:00–11:15	Talia Backman University of Utah, USA	Wild populations of plant pathogens re-purpose phage to kill competitors
	11:15–11:30	Anika Keuck Stellenbosch University, South Africa	Aboveground microbiomes in plantation forest trees: insights from <i>Pinus</i> , <i>Populus</i> and <i>Eucalyptus</i>
	11:30–11:55	Cathe Aime Purdue University, USA	The biology and evolution of rust fungi
Session 10	12:00–14:00	Lunch	
	14:00–14:15	Tacha-Marie Joubert Stellenbosch Univ., South Africa	Deciphering the soybean phyllosphere: microbiome adaptations to nutrient deficiency and their role in plant resilience
	14:15–14:40	Leonora Bittleston Boise State University, USA	Connecting microbial functioning and host characteristics in leaf-associated microbiomes
	14:40–14:55	Julia Boyle University of Michigan, USA	Multitrophic community structure of the phyllosphere influenced by the repeated evolution of leaf traits
	14:55–15:20	Kenichi Tsuda Huazhong Agricultural University, China	Dissecting bacterial genetic determinants for tissue-specific colonization in maize
	15:20–15:40	Coffee Break	
Session 11	15:40–15:55	Natalie Wieber University of Wisconsin-Madison, USA	What doesn't kill you makes you stronger? fungicides' impact on the spread of antibiotic resistance genes within the phyllosphere
	15:55–16:10	Gaele Lajeunesse Université de Sherbrooke, Canada	How can the foliar microbiota impact a phytopathogen in planta: a <i>Pseudomonas syringae</i> and <i>Arabidopsis</i> story
	16:10–16:35	Britt Koskella UC Berkeley, USA	Biotic drivers of phyllosphere community assembly and function
	16:35–18:00	Poster Session	
	18:00–20:30	Dinner	

Monday, 9th of June

Session 12	8:30–9:00	Arrival	
	9:00–9:15	Hanareia Ehau-Taumaunu New Zealand Inst. for Plant and Food Research and Bioprotection Aotearoa, New Zealand	Geographic location has a greater influence on Maire Tawake (<i>Syzygium maire</i>) phyllosphere microbiome than neighbouring plants
	9:15–9:40	Marion Donald Landcare Research, New Zealand	Microbial signatures of honey bees in Mānuka (<i>Leptospermum scoparium</i>) flowers
	9:40–10:00	Hanna Susi University of Helsinki, Finland	Host species and environment mediating pathogen – microbiota dynamics
	10:00–10:15	Sophie Boutin Université de Sherbrooke, Canada	Metagenomics analyses reveal key drivers of apple phyllosphere microbiome in Québec (canada)
Session 13	10:15–10:35	Coffee Break	
	10:35–11:00	Henriette Schluepmann Utrecht University, The Netherlands	An N ₂ -fixating rabbit hole in the leaves of floating ferns <i>Azolla</i>
	11:00–11:15	Jacob Heil Boise State University, USA	Context-dependent effects of microbial inoculation on sagebrush seedlings during drought stress
	11:15–11:40	Cecilia Grossi INGEBI-CONICET, Argentina	Biochemical, genetic, and functional analyses of <i>Methylobacterium</i> sp. 2A, a highly potent plant growth promoter
	11:40–11:55	Filipe Jose Dias Vieira Ludwig Maximilian University, Germany	Harnessing the <i>Arabidopsis</i> phytomicrobiome reveals a novel protein inhibiting xylella fastidiosa
	11:55–12:10	Evan Kear Freie Universität Berlin, Germany	Uncoupling the impact of topography on microbial community assembly in the phyllosphere using biomimetic surfaces
	12:10–12:20	Closing remarks	
	12:30	Departure	

Poster Presentations

Epigenetic mechanisms underpinning soybean stress response and their eco-evolutionary consequences

Peter Reynolds, *Okinawa Institute of Science and Technology, Japan*

Methylotrophic yeast *Candida boidinii* enhances the growth of co-existing yeasts in the phyllosphere

Kana Shigeta, *Kyoto University, Japan*

Optimizing culture conditions of PPFMs for enhanced cell yield with high IAA production towards agricultural application

Sung Ting Hsuan, *Kyoto University, Japan*

Investigating the relationship between plant chemistry and the leaf microbiome

Elle Horwath, *Boise State University, USA*

Mitigation of methane emissions from plants by methanotrophs and methylotrophs in the phyllosphere

Johannes Lucas Kleiner, *Heidelberg University, Germany*

Exploring chloromethane Formation and degradation processes in the phyllosphere of *Ginkgo biloba*

Sandra Maria Brosch, *Heidelberg University, Germany*

Microbial functional succession across a latitudinal gradient

Jessica Bernardin, *Boise State University, USA*

Symbiont genome evolution: From plant sap to insect hosts

Pradeep Palanichamy, *Okinawa Institute of Science and Technology, Japan*

TBA

Cheng-Chun Huang, *National Taiwan University, Taiwan*

Survey of microbial symbionts between a hosts' native and introduced range reveals strong environmental influence on host-associated microbial communities regardless of provenance

Isabelle Stiver, *Oregon State University, USA*

TBA

Jia-Wei Wu, *National Taiwan University, Taiwan*

Fungal and bacterial symbiosis in *Drosera spatulata*: Exploring microbial contributions to nutrient acquisition

Hung-Wei Chen, *Academia Sinica, Taiwan*

Killer Moves: Tailocin diversity and warfare in the phyllosphere

Patricia Girardi, *University of Utah, USA*

Sphaerulina* sp. identified as an endophyte and common pathogen on *Darlingtonia californica

Lauren Holland, *University of California, Berkeley, USA*

Interactions within barley rhizosphere-associated bacteria

Asif Mahamud, *Okayama University, Japan*

Exploring replication mechanisms and structural adaptations in *Methylobacterium* genomes

Muhammad Ammar Latif, *Okayama University, Japan*

Humidity-triggered transcriptional regulation in *Arabidopsis thaliana* leaves during bacterial infection

Arullthevan Rajendram, *Nara Institute of Science and Technology, Japan*

Plant location sensing utilizing lanthanide concentration and PQQ-mediated chemical communication in methylotrophic bacteria

Ryoji Mitsui, *Okayama University of Science, Japan*

Nanoparticle-based strategies for controlling *Alternaria alternata*: A step towards sustainable crop protection

Ashwil Klein, *University of the Western Cape, South Africa*

Useful Information

Talks will be held at the **OIST Auditorium**. It is situated near the main tunnel entrance to the research buildings at OIST and next door to the parking garage.

Coffee breaks and lunches will be offered in the area adjacent to the main entrance of the conference hall. To minimize waste, participants are encouraged to save their coffee cups for re-use.

The **poster session** will be held on Sunday afternoon outside of the auditorium.

Wi-Fi will be available during the conference. OIST also provides access to an eduroam network.

The **conference dinners** will be held at the OIST cafeteria, in the center building (map attached).

Please be aware that due to OIST regulations, **drinks such as coffee and all food** (with the exception of water) is not permitted to be consumed in the auditorium.

Locations of nursing rooms and accessible restrooms

OIST MAIN CAMPUS
Diaper Changing Station / Ostomate
FOR VISITORS

Restroom with Diaper Changing Station
おむつ交換台のあるトイレ

CENTER BLDG : Level A

AUDITORIUM : Level S

: Level G

: MEETING ROOMS

VILLAGE CENTER :

RECREATION SERVICE :

Restroom with Ostomate
オストミイトのあるトイレ

CENTER BLDG Level C

AUDITORIUM : Level G

: MEETING ROOMS

AUDITORIUM MEETING ROOMS

AS OF 9 AUGUST 2022

Diaper Changing Station

Ostomate

OIST SEASIDE CAMPUS
Diaper Changing Station / Ostomate
FOR VISITORS

Restroom with Diaper Changing Station
おむつ交換台のあるトイレ

OIST SEASIDE HOUSE : Level 1

AS OF 9 AUGUST 2022

Diaper Changing Station

Sponsors

The Phyllosphere 12 conference is sponsored by the Okinawa Institute of Science and Technology Graduate University, the Japan Science and Technology (JST) Agency's Africa-Japan Collaborative Research Program, The International Society for Microbial Ecology (ISME), the Okinawa Convention and Visitor's Bureau (OCVB), TOMY Okinawa Novoscience Co. Ltd., and Okinawa Medix Co. Ltd.

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