

**SUNDAY, 19 JUNE 2022**

13:00-17:00 *Registration*

**Opening session (chair: Petr Baldrian)**

17:00 **Welcome** - Petr Baldrian

17:15 **Keynote:** David Storch: Macroecology of microorganisms: Lessons from the ecological theory

18:00 **Keynote:** Andreas Richter: Microbial growth, turnover and activity in a changing climate

19:00-21:30 *Welcome reception*

**MONDAY, 20 JUNE 2022**

8:00-11:00 *Registration*

**Biodiversity 1 (chair: Petr Kohout)**

8:30 Ulisses Nunes da Rocha: Genome-centric analysis of soil microbial communities: Prospects and Limitations (Invited lecture)

8:55 Florian Barbi: Fungal richness along elevation and latitude in Europe

9:10 Emilia Hannula: Temporal variation in soil microbiomes and plant-soil feedbacks

9:25 Christina Hazard: Soil virome structure and virus-host interactions across pH gradients

9:40 Daniel Kumazawa Morais: Unearthing genomic treasures of neotropical soils microbiome

9:55 Marc Piecha: Causes and consequences of peat microbiome actions: a mesocosm approach

10:10 Klára Řeháková: Bacterial and Plant Community Succession in Glacial Forefields of the Western Himalayas

10:25-10:55 *Coffee*

**Biodiversity 2 + Brief Talks (chair: Ondřej Uhlík)**

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## SCIENTIFIC PROGRAMME

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- 10:55 Petr Baldrian: Fungal biodiversity, biogeography and ecology across the globe viewed through the high-throughput sequencing results (Invited lecture)
- 11:10 Nadejda Soudzilovskaia: Recent advances in understanding of global distribution of mycorrhizae
- 11:35 Ella Thoen: Environmental factors driving the diversity and distribution of the ubiquitous Archaeorhizomycetes soil fungi
- 11:50 Haitao Wang: The impact of drought on peat soil microbiome structure and function -- A multi-proxy-comparison
- 12:05 Salvador Lladó Fernández: SOILGUARD: Unleashing soil biodiversity potential for environmental, economic and social wellbeing (Brief talk)
- 12:10 Martina Slaninova Kyselkova: Taxonomy assignment of bacterial genes: assessment of accuracy with implications for metagenomes (Brief talk)
- 12:15 Joao Saraiva: Data from 220 metagenomes highlights the need for expanding eukaryotic reference genomes and long-read sequencing to recover high-quality fungal genomes (Brief talk)
- 12:20 Brunon Malicki: Factors driving the diversity of eukaryotic organisms inhabiting natural boreal forest soils (Brief talk)
- 12:25 Tomáš Větrovský: GlobalFungi, an online atlas of global fungal distribution based on high-throughput sequence data (Brief talk)
- 12:30 Riccardo Mancinelli: Global analysis reveals the importance of mycorrhizal type to predict soil microbial composition and biomass across biomes (Brief talk)
- 12:35 Paola Rallo: Plant-soil feedbacks between and within grass species (Brief talk)
- 12:40 Tijana Martinovic: Bacterial community response to *Picea abies* stand clearcutting (Brief talk)
- 12:45 Lingling Shi: Microbial utilization of rhizodeposits in soil of an agroforestry system (Brief talk)
- 12:50 Iñaki Odriozola: Forest soil microbiome undergoes guild specific temporal dynamics. (Brief talk)
- 12:55 Theo Trabac: Soil microbiome metagenome composition in paired pasture and woodland reveals differing microbial life-history strategies. (Brief talk)
- 13:00 Lukáš Vlk: Role of exotic woody plant species in introductions of non-native symbiotic fungi (Brief talk)

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## SCIENTIFIC PROGRAMME

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13:05 José A. Siles: Soil microbial biomass across land uses and climates in Europe: elucidating its driving factors (Brief talk)

13:10 Sunil Mundra: Date palm (*Phoenix dactylifera*) root and bulk soil fungal communities are distinct and altered by salinity of irrigation water (Brief talk)

13:15-15:00 Lunch

### **Agricultural Soils 1 (chair: Taina Pennanen)**

15:00 Christoph Tebbe: Microbial community dynamics in cropland soils (Invited lecture)

15:25 Doreen Babin: Effect of long-term farming practices on the efficacy of beneficial microorganisms and soil-plant-microbe interactions under field conditions

15:40 Andrew Giguere: Activity and community composition of ammonia oxidizers in a long-term agricultural fertilization experiment

15:55 Kian Jenab: Effects of long-term nutrient deficiencies on soil and root arbuscular mycorrhizal fungal communities in a managed grassland

16:10 Michael Bonkowski: Assembly patterns of the rhizosphere microbiome along the longitudinal root axis of maize (*Zea mays* L.)

16:25-16:55 Coffee

17:00-19:15 **POSTER SESSION 1**

**TUESDAY, 21 JUNE 2022**

### **Forest ecosystems (chair: Jan Jansa)**

8:30 Hannu Fritze: Reindeers, methane fluxes and methanogenic archaea in arctic fens (Invited lecture)

8:55 Sue Grayston: Linking microbes to GHG in managed forest soils (Invited lecture)

9:20 Zander Human: Coniferous forest soil habitats are differentiated by function and differ in seasonality

9:35 Mathias Mayer: Successional trajectories after forest disturbance impact soil carbon and nitrogen cycles through microbial communities

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## SCIENTIFIC PROGRAMME

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9:50 Fabian Weigl: Reduced by numbers, beech and spruce root fungal communities retained their potentials during five years of severe drought

10:05 Rubén López-Mondéjar: Digging into the guilds of bacterial decomposers in forest soils: enzymatic systems of specialist and generalist taxa

10:20-10:50 *Coffee*

### **Agricultural Soils 2 + Brief Talks (chair: Christoph Tebbe)**

10:50 Ellen Kandeler: Abundance and function of soil microorganisms in microhabitats of grassland soils under different land use intensity (Invited lecture)

11:15 Katharina Keiblinger: Suitability of microbial and organic matter indicators for on-farm soil health monitoring

11:30 George Muscatt: Continuous cropping primes the activity of microbial viruses in rhizosphere soil

11:45 Christian Poll: Preferential transport and biodegradation dynamics of glyphosate in an arable field after simulated heavy rain

12:00 Paula Rojas Pinzon: Uncovering biological nitrification inhibitors and their efficacy in different soil types (Brief talk)

12:05 Dana Elhottová: Specific footprint of outdoor cattle farming in the soil (Brief talk)

12:10 Sabine Huber: Soil resource, microbial biomass and enzymatic stoichiometry affect the C sequestration potential in arable soils – evidence from a multiple site on-farm approach (Brief talk)

12:15 Eva Kaštovská: Formation and stabilization of soil organic matter in eroded agricultural soils: role of soil texture and residue quality (Brief talk)

12:20 Paula Buil Maldonado: Arbuscular mycorrhizal fungi in arable soils: more mutualistic than expected, less mutualistic than possible (Brief talk)

12:25 Vendula Brabcová: Microbiomes of fungal fruit bodies: fresh and decomposed deadwood fungi represent a specific microbial habitat (Brief talk)

12:30 Michal Choma: Recovery of ectomycorrhizal fungi community after forest dieback in the course of vegetation regeneration (Brief talk)

12:35 Sarah Piché-Choquette: Every Fungi is “not” everywhere, but the environment “still” selects (Brief talk)

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- 12:40 Friederike Roy: Impact of elevated nitrogen deposition on deadwood decomposition is tree species dependent (Brief talk)
- 12:45 Jason Bosch: Patterns of bacterial-fungal co-occurrence in European beech (*Fagus sylvatica* L.) deadwood (Brief talk)
- 12:50 Chenguang Gao: The response of plant community to alterations in soil biotic conditions is decoupled between above- and belowground traits (Brief talk)
- 12:55 Sven Marhan: The function of the hyphosphere in carbon and nutrient partitioning between plants and microorganisms in a grassland soil (Brief talk)
- 13:00 Julius Nweze: The possible role and metabolic profile of bacterial communities in the hindgut of methane- and non-methane-releasing millipedes (Brief talk)
- 13:05 Johannes Schweichhart: Changes of arbuscular mycorrhizal communities along a 4000m elevation gradient in the NW Himalayas suggest increasing specialisation in higher elevations (Brief talk)
- 13:10 Valliammai Alaguvel: Protists modulate enteric bacterial communities in treated wastewater irrigated soils (Brief talk)

13:15-15:00 *Lunch*

### **Agricultural Soils 3 (chair: Hannu Fritze)**

- 15:00 Taina Pennanen: Forest to field - value of wood fibres to feed soil fungi (Invited lecture)
- 15:25 Marie Uksa: Field-scale prediction of soil microbial activity using remote and proximal sensing technologies
- 15:40 Sannakajsa Velmala: How diversity of soil microbiome in boreal croplands connects to soil properties, management, landscape, and to soil carbon change
- 15:55 Damien Finn: Aromatic amino acid cross-feeding interactions stabilize growth and diversity in Maize rhizosphere and bulk soil aggregate communities
- 16:10 Ondrej Uhlík: Ecological functions of soil microorganisms governed by plant metabolites

16:25-16:55 *Coffee*

17:00-19:15 **POSTER SESSION 2**

**WEDNESDAY, 22 JUNE 2022**

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## SCIENTIFIC PROGRAMME

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### Interactions (chair: Jan Kopecký)

- 8:30 Petr Kohout: A meta-analysis of global distribution and ecology of arbuscular mycorrhizal fungi (Invited lecture)
- 8:55 Roey Angel: Do millipedes depend on their gut microbiome to digest leaf litter?
- 9:10 Anna Maria Fiore-Donno: Wide metatranscriptomic overview of seasonal changes in soil microbial food webs in the Alps
- 9:25 Jan Frouz: The effect of soil fauna on stoichiometry and microbial activity
- 9:40 Jan Jansa: Arbuscular mycorrhiza and nitrification: Insights from using synthetic nitrification inhibitors
- 9:55 Elly Morriën: Nature restoration via bottom-up and top-down steering of soil organisms: Fundamental insights from trace-labelling carbon through the food chain
- 10:10 Graeme Nicol: Characterising active host-virus interactions in soil by following transfer of assimilated carbon
- 10:25 Benjamin Poodiack: The scent of rain along an aridity gradient

10:40-11:10 *Coffee*

### Biogeochemistry 1 + Brief Talks (chair: Jan Frouz)

- 11:10 Colin Averill: Forest mycobiome composition dictates tree growth and carbon capture across Europe (Invited lecture)
- 11:35 Jiří Bárta: Buried but not dead: Microbiomes of Arctic Cryosols
- 11:50 Tessa Camenzind: The fungal carbon pump – physiological traits give important insights on the role of saprobic fungi in soil biogeochemical cycles
- 12:05 Maede Faghihinia: Microbial interactions in the hyphosphere of arbuscular mycorrhizal fungi affect nutrient cycling in soil-plant systems (Brief talk)
- 12:10 Andrea Braun-Kiewnick: Monitoring *Gaeumannomyces tritici* an important soil-borne pathogen in continuous wheat rotations by qPCR and selection of potential beneficial rhizobacteria for plant health management (Brief talk)
- 12:15 Daria Rapoport: Co-cultivation with indigenous actinobacterial strains influences metabolite pool and cultivable part of soil bacterial community (Brief talk)
- 12:20 Jingjing Yang: Impacts of drying-wetting cycles and food-type on microbial community within casts of *Lumbricus terrestris* during ageing process (Brief talk)

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- 12:25 Martin Rozmoš: Microbial loop involved in organic nitrogen utilisation by an arbuscular mycorrhizal fungus (Brief talk)
- 12:30 Sergey Blagodatsky: Soil microbial biomass and its activity in soils of an agricultural post-mining chronosequence (Brief talk)
- 12:35 Petr Čapek: Understanding variability in macromolecular composition of soil microorganisms as a way to determine its growth rate (Brief talk)
- 12:40 Fadwa Khalfallah: Forest trees species shape the biochemistry of soil organic matter under the control of their associated microbial communities (Brief talk)
- 12:45 Weilin Huang: Mycorrhizal impact as mediators of the litter decomposition process, regulate the global litter decomposition dynamics (Brief talk)
- 12:50 Petra Vinšová: Soil development of a High Arctic glacier forefield: microbial community succession and nutrient availability limitation (Brief talk)
- 12:55 Songyu Yang: Soil respiration and priming effect controlled by the addition of soluble and insoluble fractions of spruce roots (Brief talk)
- 13:00 Jana Voriskova: The effect of permafrost thaw on soil microbial community and potential aerobic respiration (Brief talk)
- 13:05 Stijn van den Bergh: Compost as a vector for the introduction of methanotrophic bacteria in agricultural soils: effects on atmospheric methane uptake (Brief talk)
- 13:10 Gabriele Tosadori: Effects of short-term warming on bacterial communities in Arctic soils (Brief talk)

13:15-15:00 *Lunch*

### **Biogeochemistry 2 (chair: Dana Elhottová)**

- 15:00 Stefano Manzoni: Advances in soil microbial modelling at the intersection of ecology, soil physics, and thermodynamics (Invited lecture)
- 15:25 Matthias Kästner: Microbial necromass in soil organic matter - implications for soil microbial ecology
- 15:40 Victoria Martin: Cryptogam identity shapes microbial communities and organic matter pools in soils of maritime Antarctica
- 15:55 Julia Wiesenbauer: Temporal dynamics of soil metabolites in the immediate vicinity of a simulated root exudation hotspot

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16:10 Kristiina Karhu: Effect of N availability on the accumulation of microbial residue C in soil

16:25-16:55 *Coffee*

17:00-19:15 **POSTER SESSION 3**

19:15-22:15 *Conference dinner*

## THURSDAY, 23 JUNE 2022

### **Global change and human impact 1 (chair: Martina Slaninová Kyselková)**

8:30 Michael Van Nuland: Forecasting climate disruptions and geographic mismatches in ectomycorrhizal symbioses (Invited lecture)

8:55 Diana Andrade Linares: Microbial functionality loss and plant productivity under a warming climate: Towards the definition of microbial indicators

9:10 Evgenia Blagodatskaya: The microbial capacity to maintain the stability of soil organic matter is limited when the warming exceeds 2 degrees

9:25 Carla Cruz Paredes: Will experimental warming change soil microbial temperature thresholds for heat-tolerance?

9:40 Federica D'Alò: Alpine soil microbiome composition and functioning under different vegetation types in the climate change context

9:55 Frank Hagedorn: Long-term irrigation of a dry pine forest impacts carbon cycling through soil microbial and faunal communities

10:10 Qian Li: CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O profiles in forestry-drained peat soil under selection harvesting

10:25-10:55 *Coffee*

### **Global change and human impact 2 (chair: Jiří Bárta)**

10:55 Brianne Palmer: Evidence for Fire Resistant Microorganisms in Biological Soil Crusts

11:10 Jörg Schneck: Microbial response to soil cooling

11:25 Osnat Gillor: The fate of pathogens, antibiotics and resistance genes in treated wastewater irrigated soils and crops



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## SCIENTIFIC PROGRAMME

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- 11:40 Alica Chroňáková: Evaluation of the risk of pharmaceutical exposure to soil microorganisms
- 11:55 Flavien Maucourt: Prokaryotic, microeukaryotic and fungal composition in a long-term polychlorinated biphenyl-contaminated brownfield
- 12:10 Alessandro Florio: Evidence for Biological Nitrification Inhibition (BNI) from forest tree species
- 12:25 Michaela Dippold: Intracellular carbon storage by microorganisms: an overlooked pathway of microbial biomass growth in soils

**12:40-13:00 Conference closing**

*13:00-13:30 Takeaway Lunch*

**LIST OF POSTERS**

**POSTER SESSION 1 (MONDAY 20.6.2022)**

1. Dalinda Bouraoui - Environmental factors across Switzerland drive soil fungal community composition
2. Kate Buckeridge - Soil microbial diversity across land use and farm management in Luxembourg
3. Florian Gschwend - Soil equilibration prior to chloroform-fumigation-extraction based biomass determination induces consistent shifts in bacterial and fungal communities
4. Chunkai Li - Biotic and abiotic drivers of coalescence asymmetry between soil and manure microbiomes
5. Bei Liu - Effects of nitrogen fertilization and crop diversification on soil microbial community and carbon use efficiency
6. Salvador Lladó Fernández - SOILGUARD: Unleashing soil biodiversity potential for environmental, economic and social wellbeing
7. Brunon Malicki - Factors driving the diversity of eukaryotic organisms inhabiting natural boreal forest soils
8. Riccardo Mancinelli - Global analysis reveals the importance of mycorrhizal type to predict soil microbial composition and biomass across biomes
9. Tijana Martinovic - Bacterial community response to *Picea abies* stand clearcutting
10. Alena Máslová - Monitoring diversity of vegetation and soil microbial communities in natural habitats
11. Iñaki Odriozola - Forest soil microbiome undergoes guild specific temporal dynamics.
12. Juliette Ohan - Microbial community composition of biocrusts converge between two highly saline potash tailings piles
13. Eva Petrová - How can methanogens, strict anaerobes, survive oxygen stress and desiccation?
14. Paola Rallo - Plant-soil feedbacks between and within grass species
15. Alexandre Rosado - Extreme Soils: Unraveling the diversity and functions of extremophile bacteria from deserts and volcanoes in Saudi Arabia and Antarctica
16. Joao Saraiva - Data from 220 metagenomes highlights the need for expanding eukaryotic reference genomes and long-read sequencing to recover high-quality fungal genomes
17. Lingling Shi - Microbial utilization of rhizodeposits in soil of an agroforestry system
18. Karsten Schlich - MICROSOIL - Investigation of alternative test methods to correctly assess the impact of plant protection products, biocides and pharmaceuticals on soil microorganisms
19. Martina Slaninova Kyselkova - Taxonomy assignment of bacterial genes: assessment of accuracy with implications for metagenomes
20. Eliška Suchopárová - Culturability of rhizospheric and endospheric bacterial communities of common sunflower (*Helianthus annuus* L.)
21. Theo Trabac - Soil microbiome metagenome composition in paired pasture and woodland reveals differing microbial life-history strategies.

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## SCIENTIFIC PROGRAMME

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22. Tomáš Větrovský - GlobalFungi, an online atlas of global fungal distribution based on high-throughput sequence data
23. Lukáš Vlk - Role of exotic woody plant species in introductions of non-native symbiotic fungi
24. Haotian Wang - Development of a peptide nucleic acid to suppress amplification of soil fungal DNA when studying soil protistan communities
25. Muhammad Waqas - Isolation and identification of EPS producing bacteria from the permafrost degraded soil of Fairbanks, Alaska
26. Gennuo Wang - Genome-centric analysis of a successful experiment in soils contaminated with bromoxynil recovered 307 metagenome-assembled genomes
27. Paula Buil Maldonado - Arbuscular mycorrhizal fungi in arable soils: more mutualistic than expected, less mutualistic than possible
28. Dana Elhottová - Specific footprint of outdoor cattle farming in the soil
29. Laura Häkkinen - Effects of farming practices on fungal community structure in soil vertical profile
30. Tereza Hammerschmiedt - Effect of biochar-enriched digestate on soil health and quality
31. Jiri Holatko - Contrasting effect of elemental sulfur, compost, and combined amendment on microbial activities in rapeseed field culture soil
32. Sabine Huber - Soil resource, microbial biomass and enzymatic stoichiometry affect the C sequestration potential in arable soils – evidence from a multiple site on-farm approach
33. Tingting Chen - Effects of nitrogen inhibitors on soil microbial respiration
34. Eva Kaštovská - Formation and stabilization of soil organic matter in eroded agricultural soils: role of soil texture and residue quality
35. Nuria Martín Wentzien - Effects of agricultural management on the olive tree root microbiome
36. Sunil Mundra - Date palm (*Phoenix dactylifera*) root and bulk soil fungal communities are distinct and altered by salinity of irrigation water
37. Eduardo Pérez-Valera - Biotic factors underpinning microbial community assembly and ecosystem function in manured agricultural soils
38. Paula Rojas Pinzon - Uncovering biological nitrification inhibitors and their efficacy in different soil types
39. Rashmi Shrestha - Cover crop diversity effects on seasonal soil microbial activity and microbial community diversity in boreal agriculture
40. José A. Siles - Soil microbial biomass across land uses and climates in Europe: elucidating its driving factors
41. Callum Williams - Enriching communities of soil bacteria for biocontrol of *Fusarium* wilt of banana.
42. Kunal Jani – Culturomics and Genome-Scale Metabolic Modeling to Infer Metabolic Potential of Thermophiles

**POSTER SESSION 2 (TUESDAY 21.6.2022)**

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## SCIENTIFIC PROGRAMME

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43. Sandra Awokunle Hollá - The response of ectomycorrhizal, arbuscular mycorrhizal and nonsymbiotic fungi to tree diversity in a temperate forest
44. Lukas Bell-Dereske - Identifying plant-associated fungi from a global meta-study of meta-barcoding studies
45. Ewa Błońska - Soil biochemical properties and stabilization of soil organic matter in relation to deadwood in different climate conditions
46. Jason Bosch - Patterns of bacterial-fungal co-occurrence in European beech (*Fagus sylvatica* L.) deadwood
47. Vendula Brabcová - Microbiomes of fungal fruit bodies: fresh and decomposed deadwood fungi represent a specific microbial habitat
48. Jasmin Danzberger - Drought recovery of fine roots and development of root associated fungal communities is tree species specific
49. Tania Fort - Microbial and plant community responses to long-term NP additions and liming in a coniferous forest soil
50. Jordi Garcia-Pausas - Post-fire plant growth promotes the recovery of soil microbial functions
51. Niloufar Hagh Doust - Metagenomic profiling of soil Carbon, Nitrogen, and Phosphorus cycling capacity as affected by pH
52. Jussi Heinonsalo - The impact of plant-derived C allocation to soil processes and interaction between ectomycorrhizal and ericoid plants. Conclusions from a 5-year NITROFUNGI project
53. Michal Choma - Recovery of ectomycorrhizal fungi community after forest dieback in the course of vegetation regeneration
54. Jarosław Lasota - The effect of shrubs admixture in forest stands on accumulation of polycyclic aromatic hydrocarbons in relation to soil organic matter
55. Clémentine Lepinay - Successional development of wood-inhabiting fungi associated with dominant tree species in a natural temperate floodplain forest
56. Lenka Michalčíková - Controlling factors of dead wood decomposition in old growth temperate forest in central Europe
57. Tereza Patřmanová - Extracellular enzyme activities of soil microbial communities in response to food web interactions in temperate deciduous forest
58. Sarah Piché-Choquette - Every Fungi is "not" everywhere, but the environment "still" selects
59. Karin Pritsch - Relations between root fungal communities, tree species mixtures and tree growth
60. Eva-Maria Roth - Effects of forest management on soil fungal composition.
61. Friederike Roy - Impact of elevated nitrogen deposition on deadwood decomposition is tree species dependent
62. Katarzyna Rożek - The influence of fourteen tree species on soil chemical properties and the communities of soil microorganisms
63. Outi-Maaria Sietiö - Interactive effects of warming and insect herbivory on mineral soil fungal communities, microbial biomass and necromass in Finnish Subarctic region
64. Anna Stefanowicz - Herbaceous plant species and their combinations positively affect microorganisms and processes and modify physicochemical properties of beech and riparian forest soils
65. Karolina Tahovská - Microbial imprint in nitrogen losses across forested Czech catchments

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## SCIENTIFIC PROGRAMME

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66. Szymon Zubek - The influence of herbaceous plant species with contrasting traits on the communities of arbuscular mycorrhizal fungi in beech and riparian forest soils
67. Priyanka - Deciphering the mechanism of synergism between plant growth promoting bacterial strains through metabolic profiling
68. Valliammai Alaguvel - Protists modulate enteric bacterial communities in treated wastewater irrigated soils
69. Andrea Braun-Kiewnick - Monitoring *Gaeumannomyces tritici* an important soil-borne pathogen in continuous wheat rotations by qPCR and selection of potential beneficial rhizobacteria for plant health management
70. Maede Faghihinia - Microbial interactions in the hyphosphere of arbuscular mycorrhizal fungi affect nutrient cycling in soil-plant systems
71. Chenguang Gao - The response of plant community to alterations in soil biotic conditions is decoupled between above- and belowground traits
72. Amira Hassan - The application of endophytic 1-aminocyclopropane-1-carboxylic acid deaminase-producing actinobacteria to mitigate salt stress in cucumbers in the United Arab Emirates
73. Sven Marhan - The function of the hyphosphere in carbon and nutrient partitioning between plants and microorganisms in a grassland soil
74. Kyle Mason-Jones - Nematode facilitation of soil bacteriophage dispersal
75. Julius Nweze - The possible role and metabolic profile of bacterial communities in the hindgut of methane- and non-methane-releasing millipedes
76. Jakub Papik - The link between the composition of below-ground microbiota and root metabolomic profiles in *Helianthus annuus* L.
77. Nadine Praeg - Aerobic soil methane oxidation is affected by root exudate input and selected carbon additives
78. Daria Rapoport - Co-cultivation with indigenous actinobacterial strains influences metabolite pool and cultivable part of soil bacterial community
79. Martin Rozmoš - Microbial loop involved in organic nitrogen utilisation by an arbuscular mycorrhizal fungus
80. Theresa Rzehak - Interactions among soil organisms of the Alpine pasture ecosystem
81. Johannes Schweichhart - Changes of arbuscular mycorrhizal communities along a 4000m elevation gradient in the NW Himalayas suggest increasing specialisation in higher elevations
82. Jingjing Yang - Impacts of drying-wetting cycles and food-type on microbial community within casts of *Lumbricus terrestris* during ageing process

**POSTER SESSION 3 (WEDNESDAY 21.6.2022)**

83. Sergey Blagodatsky - Soil microbial biomass and its activity in soils of an agricultural post-mining chronosequence
84. Petra Bukovská - Arbuscular mycorrhiza mediates efficient recycling of organic nitrogen in soil-plant systems
85. Petr Čapek - Understanding variability in macromolecular composition of soil microorganisms as a way to determine its growth rate
86. Stefan Gorka - Soil bacterial neutral lipid fatty acids: Biomarkers for bacterial carbon storage or necromass?
87. Weilin Huang - Mycorrhizal impact as mediators of the litter decomposition process, regulate the global litter decomposition dynamics
88. Fadwa Khalfallah - Forest trees species shape the biochemistry of soil organic matter under the control of their associated microbial communities
89. Kaikai Min - Changes in microbial communities and functions depend on the litter quality
90. David Püschel - Mycorrhizal nitrogen uptake under variable soil moisture – what is the preferred source?
91. Pere Rovira - The build-up of soil organic matter in soils after crop abandonment and development of a secondary forest: a comparison of crops, young forests and old forests
92. Robert Starke - We are what we eat - Carbon and nitrogen manipulation of fungal biomass impacts its residence time in a forest soil
93. Milan Varsadiya - Extracellular enzyme ratios reveal locality and horizon-specific carbon, nitrogen, and phosphorus limitations in Arctic permafrost soils
94. Petra Vinšová - Soil development of a High Arctic glacier forefield: microbial community succession and nutrient availability limitation
95. Songyu Yang - Soil respiration and priming effect controlled by the addition of soluble and insoluble fractions of spruce roots process
96. Zubda Zahid - Comparing ameliorative role of corncob residues and its biochar on soil quality under drought conditions
97. Camelia Algora - Short-term warming in Arctic soils: effects on fungal communities
98. Martin Brtnický - Effect of biodegradable plastics poly-3-hydroxybutyrate and digestate on soil properties
99. Tomáš Cajthaml - Remedial trial of sequential anoxic/oxic chemico-biological treatment for decontamination of extreme hexachlorocyclohexane concentrations in polluted soil
100. Tomáš Engl - Biotransformation of chlorophenols by microbial consortia enriched on lignin and its structural motifs
101. Lilian Gréau - Impact of a PAH contamination gradient on microbial communities associated with *Populus canadensis*
102. Lýdie Jakobová - Lignin-utilizing consortia for reducing the concentrations of aromatic pollutants
103. Lenka Mészárošová - Biotic and environmental determinants of soil and root-associated microbiomes on a limestone quarry landfill
104. Andrea Moravcová - Climate driven shifts in plant and fungal communities will lead to soil carbon loss in alpine ecosystems

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## SCIENTIFIC PROGRAMME

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105. Diana Nebeská - Soil microorganisms characteristics during phytodegradation of diesel and PAH pollution
106. Vijay Shrivastava - Feeding pattern affects antibiotic resistance profiles of cattle manures
107. Adam Šťovíček - The influence of extremely high naturally occurring thallium concentration on soil microbial community
108. Gabriele Tosadori - Effects of short-term warming on bacterial communities in Arctic soils
109. Stijn van den Bergh - Compost as a vector for the introduction of methanotrophic bacteria in agricultural soils: effects on atmospheric methane uptake
110. Jana Voriskova - The effect of permafrost thaw on soil microbial community and potential aerobic respiration
111. Sara Winterfeldt - The effect of soil structure and climate on microbial resilience to drying and rewetting
112. Andrea Zubrova - Biphenyl 2,3-dioxygenase: induced by secondary plant metabolites and also involved in their transformation in *Pseudomonas alcaliphila* JAB1
113. Celia García Díaz - Alternative and sustainable sources of P for crop production
114. Gwenaëlle Lashermes - Nitrous oxide (N<sub>2</sub>O) emissions from decomposing plant litter in soils as a function of litter chemistry and N and C coupled dynamics
115. Rachel Danielson - Free-living Soil Diazotrophs Provide More Nitrogen to Pastures after Land Use Conversion from Amazon Rainforest
116. Ana Lara - Relations between pharmaceuticals, nutrients and microbial communities in agricultural soils amended with water, compost and biosolids from a water treatment plant
117. Fuad Ameen - Vermicomposting amended with microorganisms and biochar: phytopathogen resistant seedbeds for vegetables and heavy metal polluted waste treatment
118. Zaki Saati-Santamaría - Transcriptomics reveals bacterial behavior in the plant rhizosphere
119. Tatiana Trubnikova - Content of soil-derived carbon in soil biota and fauna living near soil surface: Implications for radioactive waste