Monday July 8, 2019

Morning sessions

Keynote address (8:30 - 9:30; Salon B & C)

Tiina Roose: Multiscale image based modelling of rhizosphere processes

Poster pitches (9:30 - 10:00; Salon B & C)

Health break (10:00 - 10:30)

Parallel sessions (10:30 - 12:30)

1. The root microbiome (Gallery A)

Chairs: Sue Grayston & Simeon Smaill

10:30 - 11:00  Plant microbiome: Unravelling the biota black box
                V. Gupta

11:00 - 11:15  Does the seed microbiome persist in the plant rhizosphere over time?
                C.L. Khodadad

11:15 - 11:30  Development of the rhizosphere microbiome is dependent on root age
                and the preceding detritusphere
                M.D. Denton

11:30 - 11:45  Plant functional group and their associated root traits as predictors of the
                saprophytic fungal communities in experimental grasslands
                D. Francioli

11:45 - 12:00  Contrasting long-term fertilization regimes differentially impact
                root-associated microbial communities during the development of
                field-grown maize
                A. Bourceret

12:00 - 12:15  Soil-borne legacies of plant disease
                G. Vismans

12:15 - 12:30  Structural equation modelling of a winnowed soil microbiome identifies
                how invasive plants re-structure microbial networks
                S.D. Siciliano
2. Spatio-temporal organization in the rhizosphere (Gallery B)

**Chair:** Doris Vetterlein

10:30 - 11:00  X-ray CT based platform for integration of physical, chemical and biological information on spatiotemporal patterns at single root and root system scale  
D. Vetterlein

11:00 - 11:15  Roots change the pore structure only if they have to – development of biopores and compaction around roots  
M. Lucas

11:15 - 11:30  Rhizosphere modelling reveals the spatiotemporal distribution of daidzein, which alters bacterial communities in the rhizosphere  
A. Sugiyama

11:30 - 11:45  Hydraulic bridges at the root-soil interface: insights from high-resolution synchrotron X-ray CT  
M.A. Ahmed

11:45 - 12:00  Contrasting impacts of rhizodeposits on the physical formation and functioning of the rhizosphere  
P.D. Hallett

12:00 - 12:15  Simulating and characterizing spatio-temporal patterns of rhizodeposits-the development of the rhizosphere in 3D  
C. Sheng

12:15 - 12:30  Response of soil microbial community to photosynthetic product secretion activity of plant roots indicated by rhizosphere live imaging method  
Y. Unno

3. Root exudates (Gallery C)

**Chairs:** Melissa Arcand & Eduardo Mitter

10:30 - 11:00  Sampling root exudates – mission impossible?  
E. Oburger

11:00 - 11:15  Digging into soil chemistry – metabolomics analysis of root exudates and rhizosphere metabolites  
A. Weinhold

11:15 - 11:30  Quantifying citrate-enhanced phosphate uptake by roots  
D. McKay Fletcher

11:30 - 11:45  Organic acids and phosphatase enzymes determine phosphorus availability in the rhizosphere of different plant species  
D. Touhami

11:45 - 12:00  How rice root exudates shape the nitrification process  
W.M. Shi

12:00 - 12:15  Who’s your neighbor? Plants neighbors induce species-specific changes in a focal plants’ root exudation and rhizosphere community composition  
T.C. Ulbrich

12:15 - 12:30  Comparative analysis of root exudates and bacterial diversity in aeroponics and soil  
A. Zancarini
Afternoon sessions

Keynote address (14:00 - 15:00; Salon B & C)
Corné Pieterse: The soil-borne supremacy: root microbiome and plant immunity

Parallel sessions (15:15 - 16:45)

4. The root microbiome (Gallery A)

**Chairs:** Davide Francioli & Sue Grayston

15:15 - 15:45 How biotic interactions shape the movement of fresh and decaying root carbon into soil
J. Pett-Ridge

15:45 - 16:00 Close-up on informational war between Gram opposite rhizobacteria
A. Chane

16:00 - 16:15 Shotgun metagenomics sequencing of the rhizosphere microbiota associated to seven ecotypes of Medicago truncatula
B. Pivato

16:15 - 16:30 Intended and unintended consequences of planted forest management for microbial rhizobiome properties
S.J. Small

16:30 - 16:45 A synthetic community approach to understanding the Poplar microbiome
D. Carper

5. Spatio-temporal organization in the rhizosphere (Gallery B)

**Chairs:** Doris Vetterlein

15:15 - 15:45 Insights into the spatial organization of rice-associated diazotrophs and their nitrogen fixation activity
H. Schmidt

15:45 - 16:00 Spatial evaluation of carbon flow and microbial function through the root-rhizosphere-soil continuum
J. Moran

16:00 - 16:15 Benchmarking models of root architecture and function
A. Schnepf

16:15 - 16:30 Influence of root mucilage gel properties on pore-scale processes in the rhizosphere
M. Brax

16:30 - 16:45 Root position and trait shifts depending on a neighbor’s nutrient-acquisition strategy in kwongan nutrient-impoverished soils
P. de Britto Costa
6. Rhizosphere of extreme environments (Gallery C)

Chair: Steve Siciliano, Marcus Griffiths & Milko Jorquera

15:15 - 15:45  Rhizobacterial communities associated with flowering desert phenomenon (Atacama Desert, Chile) and their potential as plant growth-promoting bacteria
M. Jorquera

15:45 - 16:00  Flavonoids are involved in phosphorus deficiency-induced cluster-root formation in white lupin
C.Y. Xiong

16:00 - 16:15  Root system architecture and salt dynamics at the root zone
U. Nachshon

16:15 - 16:30  Rhizosphere microbiome of halophytes as a source of osmoregulatory genes
S. Mukhtar

16:30 - 16:45  Bacterial communities associated with the native Antarctic grass Deschampsia antarctica
A. Znoj

Poster session, exhibits, and drinks (16:45 - 18:00)

Graduate Student Social (19:00 - 23:00)
An opportunity for graduate students to meet, socialize and talk about Science (or not). Meet at the Cathedral Social Hall (located at 608 Spadina Crescent E) at 7:00 pm for drinks, appetizers and conversation.

Black Fox Distillery Tour (18:00 - 21:00)
(prior registration required)

http://blackfoxfarmanddistillery.com/

Tour Includes:
- Round trip transportation from TCU Place
- Distillery tour and tasting (includes charcuterie and sampling of Black Fox spirits
- Farm tour (tour of flower, orchard, and pumpkin fields)
- A catered light supper