Day 1 - Wednesday, October 17, 2018

7:30 to 8:45 a.m. Conference Foyer
Registration and Continental Breakfast

8:45 to 9:00 a.m. Adam Ballroom
Welcome and Opening Remarks
Dr. Maurice Moloney, P²IRC Program Director, Executive Director and CEO, Global Institute for Food Security

9:00 to 10:00 a.m. Adam Ballroom
Theme 1: Phenometrics
Alison Thompson, Research Geneticist, USDA-ARS, US Arid-Land Agriculture Research Center: High-Throughput Phenotyping and Data Processing in the Arid Southwest United States
Scott Noble, Associate Professor, Mechanical Engineering, University of Saskatchewan: Mobilizing Field Data Acquisition: P²IRC Three Years In (P²IRC Project Lead)

10:00 to 10:30 a.m Adam Ballroom
Tala Awada, Associate Dean/Director, Agriculture Research, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln: Role of High Throughput Plant Phenotyping and its Adoption for Addressing Current and Emerging Issues in Agricultural Research

10:30 to 10:45 a.m. Conference Foyer
Break

10:45 to 11:45 a.m. Adam Ballroom
Theme 2: Image Acquisition Technologies
Yufeng Ge, Assistant Professor, Biological Systems Engineering, University of Nebraska-Lincoln: NU-Spidercam: A Large-scale, Cable-driven, Integrated Sensing and Robotic System for Precision Phenotyping, Remote Sensing and Agronomic Research
Chithra Karunakaran, Beamline Scientist, Canadian Light Source: Technological Advancements in Understanding Plant Cuticular Waxes and it's Relation to Drought Tolerance (P²IRC Project Lead)
Derek Peak, Professor, Soil Science, Agriculture and Bioresources, University of Saskatchewan: Development of Synchrotron-Based Excitation-Emission Matrix Spectroscopy for Soil Chemo-Phenotyping (P²IRC Project Lead)

11:45 to 12:45 p.m Adam Ballroom
Theme 3: Computational Informatics of Crop Phenotype Data
John Sulik, Assistant Professor, Precision Agriculture, University of Guelph: Precision Agriculture at the University of Guelph
Ian Stavness, Associate Professor, Computer Science, University of Saskatchewan: Computational Tools for Plant Phenotyping from Outdoor Images (P²IRC Project Lead)

12:45 to 1:30 p.m. Adam Ballroom
Lunch

1:30 to 2:30 p.m. Adam Ballroom
Theme 4: Societal and Developing World Impact
Philip Pardey, Professor of Science and Technology, Applied Economics, University of Minnesota: Enabling Food and Agricultural Innovation in an Increasingly Proprietary and Private Data World
Stuart Smyth, Assistant Professor, Agriculture and Resource Economics, University of Saskatchewan: Pathways and Barriers to NBT Adoption (P²IRC Project Lead)

2:30 to 3:30 p.m. Adam Ballroom
Workshop: Panel discussion on potential commercial opportunities for P²IRC
Chris Barker, P²IRC, Research and Business Development, Global Institute for Food Security
Panel members:
Jamie Denbow, Global Digital Ag Lead, FarmersEdge
Katy Navabi, Developmental Breeding Lead, Cargill
Masood Rizvi, Discovery Lead, Corteva Agriscience, Agriculture Division of DowDupont
Devin Dubois, CEO, FieldAlytics
David Yee, Vice President, Prairie Agricultural Machinery Institute

3:30 to 3:45 p.m. Conference Foyer
Break

3:45 to 4:15 p.m. Adam Ballroom
Theme 2: Image Acquisition Technologies
Xavier Sirault, Director, High-Resolution Plant Phenomics Centre, Commonwealth Scientific and Industrial Research Organization: A Practical Application of Phenomics Technologies in Breeding Programs

4:15 to 4:45 p.m. Adam Ballroom
P²IRC Poster Flash Talks

4:45 to 5:45 p.m. William Pascoe
Poster Viewing Session

5:00 to 8:00 p.m. William Pascoe
Cocktail Networking Reception & Appetizers

Day 2 - Thursday, October 18, 2018

8:00 to 8:30 a.m. Adam Ballroom
Continental Breakfast

8:30 to 9:30 a.m. Adam Ballroom
Theme 1: Phenometrics
Wolfgang Busch, Associate Professor, Salk Institute for Biological Studies, La Jolla, California: Dissecting Root Growth Control Using High Throughput Phenotyping and Systems Genetics
Steven Siciliano, Professor, Soil Science, Toxicology Center, University of Saskatchewan: The Yin and Yang of Breeding for the Canola Microbiome (P²IRC Project Lead)

9:30 to 10:30 a.m. Adam Ballroom
Malcolm Morrison, Research Scientist, Ottawa RDC Crop Physiology, Crop Phenomics, Agriculture and Agri-Food Canada: Working Towards a National Phenomics Network
Emil Hallin, Senior Research Fellow, Penetrating Radiation Imaging, Global Institute for Food Security: Visualizing Plant Parts using Penetrating Radiation (P²IRC Project Lead)

10:30 to 10:45 a.m. Conference Foyer
Break

10:45 to 11:45 a.m. Adam Ballroom
Theme 3: Computational Informatics of Crop Phenotype Data
Sruti Das Choudhury, Research Assistant Professor, School of Natural Resources, Computer Science, Engineering, University of Nebraska-Lincoln: Intelligent Plant Phenotyping Analysis Using Multimodal and Multi-view Image Sequences
Carl Gutwin, Professor, Computer Science, University of Saskatchewan: Visualization for High-Throughput Phenotyping and Genotyping (P²IRC Project Lead)

11:45 to 1:45 p.m. Adam Ballroom
Banquet Lunch with Speaker
Carol Henry, Associate Professor and Assistant Dean, Nutrition Division, College of Pharmacy and Nutrition, University of Saskatchewan: Pulse for Improved Food and Nutrition Security in Southern Ethiopia

1:45 to 2:45 p.m. Adam Ballroom
Theme 3: Computational Informatics of Crop Phenotype Data
Przemyslaw Prusinkiewicz, Professor, Computer Science, University of Calgary: From Kepler to Synchrotron: Unraveling the Development and Structure of Sunflower Heads through Imaging and Modeling (P²IRC Project Lead)

2:45 to 3:45 p.m. Adam Ballroom
Workshop Session: Quantum Computing and IBM Q: An Introduction
Mehdi Bozzo-Rey, IBM Offering Manager and IBM Q Ambassador

3:45 to 4:00 p.m. Convention Foyer
Break

4:00 to 5:00 p.m. Adam Ballroom
Workshop Session: IBM Q Demonstration: Composer, Qiskit and Qiskit Aqua
Mehdi Bozzo-Rey, IBM Offering Manager and IBM Q Ambassador

5:00 to 5:30 p.m. Adam Ballroom
Closing Remarks - Dr. Maurice Moloney
Poster Award Announcements

Program Committee

Dr. Emil Hallin (Chair)
GIFS Researcher, Theme 2

Dr. Maurice Moloney
P²IRC Program Director, GIFS ED and CEO

Dr. Nisha Puthiyedth
Post-Doctoral Fellow – Matt Links, Project 3.3

Anupama Das
Master's Student Theme 3 – Kevin Stanley and Ian Stavness

Steve Hunt
CEO Qubit Systems,
Adjunct Professor at Queen's University

Katy Navabi
Canola Breeder, Cargill

Dominic Schofield
Director, GAIN Canada

Dr. Lana Awada
P²IRC Researcher, Theme 4

Dr. Raju Datla
P²IRC Researcher from NRC, Theme 1

Aram Teymurazyan
P²IRC Researcher, University of Regina, Theme 2

Dr. Andy Sharpe
P²IRC Theme Lead, Theme 1

Dr. Chithra Karunakaran
P²IRC Researcher, CLS, Theme 2

The Plant Phenotyping and Imaging Research Centre (P²IRC) has been made possible thanks to funding from the Canada First Research Excellence Fund (CFREF). P²IRC is located at the University of Saskatchewan (U of S) and managed by the Global Institute for Food Security (GIFS).

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Plant Phenotyping and Imaging Research Centre
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Welcome Message

Dear Colleagues and Friends of P²IRC:

Thank you for participating in our third annual symposium.

Last years' 2nd Annual P²IRC Symposium: Designing Crops for Global Food Security, was attended by nearly 300 participants from four continents including senior researchers, members of our International Scientific Advisory Committee, about 100 students, and more than 30 delegates and colleagues representing industry and producer groups.

As we move into the next phase of P²IRC, we thought it was appropriate that the theme of this years' Symposium represents the dynamic nature of our work. For this reason we have chosen: "Mobilizing P²IRC – Process. Target. Engagement" as our theme.

Our program includes a diverse range of speakers, including world-renowned international researchers, P²IRC researchers from across Canada, industry representatives, students and others. It also includes workshops on phenotypic sciences that cross traditional disciplinary boundaries. And our 3rd Annual P²IRC Student Poster Competition includes almost 60 poster entries, which will challenge the judges great in choosing the best.

This is my last P²IRC Symposium as I will be leaving GIFS towards the end of this year. However, I am confident that as the program moves into its Phase II, we shall see immense progress in our research and practical applications to plant breeding and agronomy.

Please enjoy the sessions and participate in the discussions. Don't miss the opportunities to network and build new collaborations.

Dr. Maurice Moloney,
P²IRC Program Director and Executive Director & CEO,
Global Institute for Food Security.