

2018 Northeast Potato Technology Forum

March 21-22, 2018

Crowne Plaza Lord Beaverbrook Hotel

Fredericton, NB Canada

Wednesday March 21, 2018

- 1:00 **Welcome**
Loretta Mikitzel, New Brunswick Department of Agriculture, Aquaculture and Fisheries
- 1:15 **Preferential Spread of Novel Recombinant PVY Strains, and their Effects on Symptom Expression, Yield and Tuber Quality in Popular Potato Varieties**
Tyler MacKenzie*, Jacques Lavoie, Xianzhou Nie and Mathuresh Singh
- 1:30 **Introduction of Molecular Diagnostic Methods for the Rapid and Sensitive Detection of Potato Viruses in Support of CFIA Seed Potato Certification Program**
Huimin Xu*, Desmond L Hammill, Sean Li and Jingbai Nie
- 1:45 **High Resolution DNA Melting (HRM) Assay for Detection of Rx1 and Rx2 for Rapid High-Throughput Selection for Extreme Resistance to Potato Virus X in Potato**
Xianzhou Nie*, Virginia Dickison, Sydney Brooks, Bihua Nie, Mathuresh Singh, David De Koeyer and Agnes Murphy
- 2:00 **Photosynthetic Characteristics of Potato Plants Varying in Verticillium Wilt Resistance**
Keshav Dahal* and Helen Tai
- 2:15 **Applying Real-Time PCR to Rapidly Detect and Quantify Verticillium Species in Soil Samples**
Laura Sanderson*, Tyler MacKenzie and Mathuresh Singh
- 2:30 **Improving Resistance of Existing Varieties to Common Scab using Somaclonal Variation**
Claudia Goyer*, Vicki Gustafson, Agnes Murphy, Benoit Bizimungu, Sylvia Soucy and Kaitlin Forward
- 2:45 **Candidate Gene Expression Biomarkers for Potato Growth and Storage Quality**
Jonathan Neilson*, M. Lagüe, S. Thomson, F. Aourousseau, A. Murphy, V. Dickison, B. Bizimungu, V. Deveaux, Y. Bègue, J. M. E. Jacobs, C. Davidson, J. Shannon and Helen Tai

3:00 **BREAK**

3:30 **Application of Sequence Based Genotyping for Genomics Assisted Breeding in Potato**
Kyle M. Gardner* and Katheryn Douglass

3:45 **Genetic Mapping of Colorado Potato Beetle Resistance-related Metabolites in Potato**
Jamuna R. Paudel*, Kyle Gardner, Benoit Bizimungu, Jun Song, Leslie Campbell, David De Koyer and Helen Tai

4:00 **N-Responsive Gene Expression Biomarkers for Predicting Tuber Yield and Specific Gravity**
Helen Tai*, Bernie Zebarth, Athyna Cambouris, Alison Nelson, Judith Nyiraneza, José Héctor Galvez, Martina Strömik and Martin Lagüe

4:15 **Impact of Chloropicrin Soil Fumigation in Potato Production Systems**
Chad Hutchinson* and Jeff Douglas

4:30 **Soil Health and Soil Borne Disease Management in Michigan Potato Production**
Noah Rosenzweig

5:30 **Hospitality suite courtesy of Syngenta**

Thursday March 22, 2018

7:00 **Breakfast**

8:30 **Relating Apparent Soil Electrical Conductivity to Soil Properties in Commercial Potato Fields in Eastern Canada**
Athyna Cambouris*, Isabelle Perron, Bernie Zebarth, A. Lajili and K. Chokmani

8:45 **Spatial Variation of Indices of Soil Health in a Commercial Potato Field in New Brunswick**
Bernie Zebarth*, Mohammad Islam, Athyna Cambouris, Isabelle Perron, David Burton, Gilles Moreau and Louis-Pierre Comeau

- 9:00 **Enhancing Ground Cover in Potato Production Systems with Nurse Crops and Winter Cover Cropping in Prince Edward Island**
Judith Nyiraneza*, Josée Owen and Bernie Zebarth
- 9:15 **The Use of Nurse Crops in Potato Production in NB**
Sheldon Hann*, Josée Owen, Judith Nyiraneza, Bernie Zebarth and Sherry Fillmore
- 9:30 **Comparing Whole Seed with Cut Seed for Processing Potato Production in Prince Edward Island**
Ryan Barrett* and Steve Watts
- 9:45 **Planting Early Makes Money - for Both Seed and Processing Growers**
Loretta Mikitzel
- 10:00 **BREAK**
- 10:30 **DualEM Sensor Based Management Zones for Site-specific Nutrient Management in Potato Fields**
Aitazaz Farooque*, Khalil Al-Mughrabi, Q. U. Zaman and T. J. Esau
- 10:45 **Potatoes From Seed to Seed - Can we Change the Approach?**
Bourlaye Fofana*, Ashok Somalraju, David Main, Jason McCallum, Benoit Bizimungu and Kaushik Ghose
- 11:00 **New Insights on Wireworm Biology**
Suqi Liu* and Christine Noronha
- 11:15 **Potato Early Dying – Survey and Disease Management**
Salah Eddin Khabbaz*, Khalil Al-Mughrabi and René Poirier
- 11:30 **Potato Cultivar Effects on Pathogenic Streptomyces spp. Abundance and Bacterial Communities**
Kamrun Nahar *, Claudia Goyer, Bernie Zebarth, David Burton and S. Whitney
- 11:45 **Current Research Progress in Potato Zebra Chip Disease**
Sean (Xiang) Li*, Jingbai Nie and Huimin Xu

12:00 **Buffet lunch**

1:15 **Potato Performance and Nitrogen Cycling as Impacted by Drip Irrigation and Different Crop Rotations**

Judith Nyiraneza*, Yefang Jiang, Vernon Rodd, Aaron Mills and Christine Noronha

1:30 **Developing Sustainable Varieties- Late blight Resistance in Advanced Potato Selections**
Benoit Bizimungu

1:45 **Evaluation of the Link Between Soil Microbial Communities Structure and Potato Field Production**

Svetlana Yurgel

2:00 **Screening of Potato Cultivars for Heat Tolerance**

Xiu-Qing Li*, Ruimin Tang, Suyan Niu, Guodong Zhang, Guanshui Chen, Muhammad Haroon and Qing Yang

Posters

Bug Off: Developing Green Antimicrobial Agents & Pesticides

Christopher M. Vogels, Stephen J. Geier, Glen G. Briand, Tyson J. MacCormack and Stephen A. Westcott*

Variation of Organelle DNA Content and Dry Matter Content During Tuber Development in Shepody and Russet Burbank

Suyan Niu, Guodong Zhang, Xiubao Li, Muhammad Haroon, Huaijun Si, Guoqiang Fan and Xiu-Qing Li*

Genome Editing in Potato Plants by Agrobacterium-Mediated Transient Expression of TALENs

Jin Ma, Heng Xiang, Danielle J. Donnelly, Fan-Rui Meng, Huimin Xu, Dion Durnford, and Xiu-Qing Li*