



## PROGRAM

### MONDAY 15<sup>th</sup>

14:00 – 16:30 **REGISTRATION** (*FIESTA INN*)

16:30 – 18:30 **REGISTRATION** (*CONFERENCE CENTER ROOM 2*)

17:00 – 17:30 **OPENING REMARKS**

17:30- 18:30 **ERICH GROTEWOLD** (Michigan State University, USA)  
**Biological activities of flavonoid pathway intermediates.**  
*INAUGURAL CONFERENCE*

18:30 – 20:00 **WELCOME RECEPTION** (*LA CARRETA*)

### TUESDAY 16<sup>th</sup>

*CONFERENCE CENTER ROOM 2*

8:45 – 9:00 **ANNOUNCEMENTS**

#### **CHEMISTRY, FOOD SECURITY, & METABOLIC WELLNESS SYMPOSIUM**

9:00 – 10:00 **ELIZABETH FLOYD** (Pennington Biomedical Research Center, USA)  
**Bioactive Compounds from *Artemisia dracunculus* L. Improve Insulin Sensitivity in Skeletal Muscle.**

10:10 – 10:30  **$\beta$ -Substituted Alanine Synthase 4;1 from Common Bean (*Phaseolus vulgaris* L.) is Inhibited by Benzoic Acid and Salicylic Acid.** MARSOLAIS, Frédéric. *Agriculture and Agri-Food Canada, London Research and Development Centre, London, Ontario, CANADA.*

10:30 – 10:50 **Folate Biosynthesis is Triggered at the Transcriptional Level in Common Bean Grains During Storage.** AVIÑA-ÁVALOS, Itzel A. *Institute for Obesity Research - Tecnológico de Monterrey, MÉXICO*

10:50 – 11:10 **Interkingdom folate and 1C metabolism.** DÍAZ DE LA GARZA, Rocío. *Institute for Obesity Research, Tecnológico de Monterrey, Monterrey, MÉXICO.*

11:10 – 11:30 **One Trichome to Rule them All – Assessing Chemical Diversity in *Cannabis* through Genome-Scale Modeling.** LANGE, B.M. *Institute of Biological Chemistry and M.J. Murdock Metabolomics Laboratory, Washington State University, Pullman, WA, USA.*

11:30 – 12:00 **COFFEE BREAK**

## **GENE DISCOVERY & FUNCTIONAL GENOMICS: PLANTS AND HUMAN FUNCTIONAL CONNECTIONS SYMPOSIUM**

12:00 – 13:00 **ANDREA DOSEFF** (Michigan State University, USA)  
**Tapping flavonoids as biomedicines to control obesity-induced inflammation.**

13:00 – 14:15 **LUNCH** (CONFERENCE CENTER ROOM 3)

14:15 – 14:35 **Decoding the glyceollin biosynthetic pathway in soybean: insights into role of cytochrome P450 monooxygenases in defense against *Phytophthora sojae*.** KHATRI, Praveen. *London Research and Development Centre, Agriculture and Agri-Food Canada, London, ON, CANADA.*

14:35 – 14:55 **Moving metabolites: Characterizing a MATE transporter in Madagascar periwinkle.** LI Fanfan. *Plant Science, McGill University, Sainte-Anne-de-Bellevue, QC, CANADA.*

14:55 – 15:15 **A chromosome level reference genome of Diviner's sage (*Salvia divinorum*) provides insight into salvinatorin A biosynthesis.** FORD Scott A. *Department of Cell and Systems Biology, University of Toronto, Toronto, ON, CANADA.*

15:15 – 15:35 **Exploring the *Mitragyna* Genus: Accessing new scaffolds from novel genomes.** NADAKUDUTI Satya Swathi. *Plant Molecular and Cell Biology Program, University of Florida, Gainesville, FL, USA.*

15:35 – 15:55 **Integrating multiomics data from multiple species for candidate screening in gene discovery.** RODRIGUEZ-LOPEZ Carlos E. *Institute for Obesity Research, Tecnológico de Monterrey, MÉXICO.*

15:55 – 16:10 **COFFEE BREAK**

16:10 – 17:10 **INTERNATIONAL COLLABORATIONS / GRANT APPLICATIONS WORKSHOP**

17:10 – 19:10 **POSTER PRESENTATION I** (CONFERENCE CENTER ROOM 3)

## WEDNESDAY 17<sup>th</sup>

### CONFERENCE CENTER ROOM 2

8:45 – 9:00 ANNOUNCEMENTS

### PLANT SYNTHETIC BIOLOGY SIMPOSIUM

9:00 – 10:00 **CODRUTA IGNEA** (McGill University, CANADA)

**Engineering Production of New-to-Nature Terpenoids in *Saccharomyces cerevisiae*.**

10:10 – 10:30 **Uncovering the Impact of Enzyme Mutations on Yeast Geranylgeranyl Diphosphate Synthase through Computational Analysis.** DONG Yueming, *Department of Bioengineering, Faculty of Engineering, McGill University, Montreal, QC, CANADA.*

10:30 – 10:50 **Lipid droplet-driven production of phytochemicals in yeast cell factories.** ESCOBAR OLIVA Magdalena. *Department of Bioengineering, Faculty of Engineering, McGill University, Montreal, QC, CANADA.*

10:50 – 11:10 **Differential Allocation of Fatty Acids and Aliphatic Acetogenins Across Avocado Tissues Reveals Potential Roles in Energy Metabolism and Lipid Regulation.** COLIN-OVIEDO, Álvaro. *Tecnológico de Monterrey, School of Engineering and Sciences, Monterrey, NL, MÉXICO.*

11:10 – 11:40 **COFFEE BREAK**

### TRANSLATIONAL PHYTOCHEMISTRY SYMPOSIUM

11:40 – 12:40 **JING-KE WENG** (Northeastern University, USA)

**Unlocking the Secrets of Phytochemistry: Bridging Traditional Wisdom and Modern Science for Human Health.**

12:40 – 14:00 **LUNCH** (*CONFERENCE CENTER ROOM 3*)

14:00 – 14:20 **Efforts Towards Enhancing Bioengineered Production of a Valuable Anti-Diabetic Plant Metabolite, Montbretin A.** EASSON, Michael. *Michael Smith Laboratories, University of British Columbia, Vancouver, BC, CANADA.*

14:20 – 14:40 **Identification of Bioactive Minor Cannabinoids from Cannabidiol-depleted Hemp Extract by Using Machine Learning Approach.** GU, Inah. *Linus Pauling Institute, Oregon State University, USA.*

14:40 – 15:00 **Metabolomics and the Cannabis–Human Dyad.** GANG, David R. *Institute of Biological Chemistry and Center for Cannabis Policy, Research and Outreach, Washington State University, Pullman, WA, USA.*

15:00 – 15:30 **COFFEE BREAK**

15:30 – 16:30 **PLANT METABOLIC NETWORK (PMN) WORKSHOP**  
By **CHARLES HAWKINS** (Michigan State University, USA)

16:30 – 18:30 **POSTER PRESENTATION II** (CONFERENCE CENTER ROOM 3)

19:00 – 21:00 **TRIVIA NIGHT** (LA CARRETA)

## **THURSDAY 18<sup>th</sup>**

*CONFERENCE CENTER ROOM 2*

7:30 – 8:45 **PHYTOCHEMICAL STORIES BREAKFAST** (TEC LOUNGE)

### **ECOLOGY & PLANT-ENVIRONMENT INTERACTIONS SYMPOSIUM**

9:00 – 10:00 **LAILA P. PARTIDA MARTÍNEZ** (CINVESTAV Irapuato, MÉXICO)  
**Chemical Communication in Plant Holobionts.**

10:10 – 10:20 **Nutritional Effects on Growth, Biomass, and Photosynthetic Traits in *Rosmarinus officinalis* L. in a Hydroponic Substrate System.** REYES-VUELVAS, Omar A., *Instrumental Analysis Laboratory, Technological Institute of Tlajomulco, Tlajomulco de Zúñiga, Jalisco, MÉXICO.*

10:20 – 10:40 **Potential Protective Role of ZnO-NPs and/or Se-NPs in Mitigating Arsenic Toxicity in Soybean.** ZEESHAN, Muhammad. *National Key Laboratory of Green Pesticide, South China Agricultural University, 510642 Guangzhou, CHINA.*

10:40 – 11:00 **Advancing pea crop resilience: Coated Blade-Solid-Phase Microextraction for precise *in-situ* sampling of pea root exudates in response to *Aphanomyces euteiches*.** HALANE, Hodan H. *London Research and Development Center, Agriculture and Agri-Food Canada, London, Ontario, CANADA.*

11:00 – 11:20 **Metabolodynamic analysis of metal ions as elicitors and modulators of saponins biosynthesis in *Agave salmiana* *in vitro* cultures.** RODRÍGUEZ DE LA GARZA, Enrique. *Escuela de Ingeniería y Ciencias, Tecnológico de Monterrey. Monterrey, Nuevo León, MÉXICO.*

11:20 – 11:40 **Tobacco Deacetylase SIP428 is a Negative Regulator of Biotic and Abiotic Stress.**  
KUMAR, Dharendra. *Department of Biological Sciences, East Tennessee State University, Johnson City, TN, USA.*

11:40 – 11:55 **COFFEE BREAK**

## INDIGENOUS CONNECTIONS SYMPOSIUM

11:55 – 12:55 **BLANCA MARINA VERA KU** (CONACYT-GERMOLAB, CICY, Yucatán, MÉXICO).  
**The Ethnopharmacology of Mayan Traditional Medicine: Bridging Ancient Wisdom and Modern Science.**

12:55 – 13:00 **GROUP PHOTO**

13:00 – 14:10 **LUNCH** (*CONFERENCE CENTER ROOM 3*)

14:10 – 15:10 **LETICIA M. CANO ASSELEIH** (Universidad Veracruzana, MÉXICO)  
**Totonaca Herbal Knowledge from Tlalpila, Veracruz, México, a Therapeutic Biocultural Resource of Medical Importance.**

## NASH AWARD TALKS

15:10 – 15:35 **Extending and shortening very-long-chain fatty acids from cuticular waxes.**  
GONZALES-VIGIL, Eliana. *Department of Biological Sciences, University of Toronto, Scarborough, Toronto, ON, CANADA.*

15:35 – 16:00 **Spontaneous cell death drives alkaloid accumulation in *Catharanthus roseus*.**  
DASTMALCHI, Mehran. *Assistant Professor, Department of Plant Science, McGill University, CANADA.*

## FRIDAY 19<sup>th</sup>

*CONFERENCE CENTER ROOM 2*

## COMPUTATIONAL BIOLOGY & PATHWAY DISCOVERY SYMPOSIUM

9:00 – 10:00 **JOSÉ ENRIQUE HERBERT PUCHETA** (Instituto Politécnico Nacional, MÉXICO)  
**The role of magnetic resonance spectroscopy in the OIV Digital Transformation Plant.**

10:00 – 11:00 **MEMBERS MEETING & PRESENTATION PSNA 2025** by NIKOLA KOVINICH

11:00 – 11:20 **COFFEE BREAK**

11:20 – 11:40 **Shuffling of C3 metabolic intermediates in Arabidopsis harmonizes the MEP and shikimate pathways.** PHILLIPS, Michael A. *Department of Cell and Systems Biology, University of Toronto, Toronto, Ontario, CANADA.*

11:40 – 12:00 **Rubisco supplies pyruvate for the 2-C-methyl-D-erythritol-4-phosphate pathway.** SONIA E. Evans. *Department of Cell and Systems Biology, University of Toronto, Toronto, CANADA.*

12:00 – 12:20 **Carbon assimilation in plants through a synthetic Entner-Doudoroff shunt and its redirection to isoprenoid biosynthesis.** FRANKS, Anya E. *Department of Cell and Systems Biology, University of Toronto, Toronto, Ontario, CANADA.*

12:20 – 12:40 **Conserved Transcription Factors Regulate Divergent Biochemical Defenses - On the Verge of a Paradigm Shift?** KOVINICH, Nikola. *Department of Biology, York University, Toronto, Ontario, CANADA*

12:40 – 13:00 **Selective loss of function of lignan O-methylation activity in lignan/flavonoid O-methyltransferase.** TOSHIAKI Umezawa. *Research Institute for Sustainable Humanosphere, Kyoto University, Uji, JAPAN.*

13:00 – 14:00 **DAVID WISHART** (University of Alberta, CANADA)  
**When Computational Chemistry Meets Phytochemistry.**  
*CLOSING CONFERENCE*

14:00 – 14:15 **CONCLUDING REMARKS**

14:15 **BOX LUNCH/PSNA BOARD MEETING**

**FREE TIME**

19:00 – 23:00 **CLOSING DINNER** (*FIESTA INN Hotel, Salón BC, 3<sup>rd</sup> floor*)