

A photograph of a honeycomb fungus (Morchella) with a yellowish-brown, porous, honeycomb-like structure, resting on a green fern frond. The fungus is positioned behind the word 'Botany' in the main title.

Botany 2015

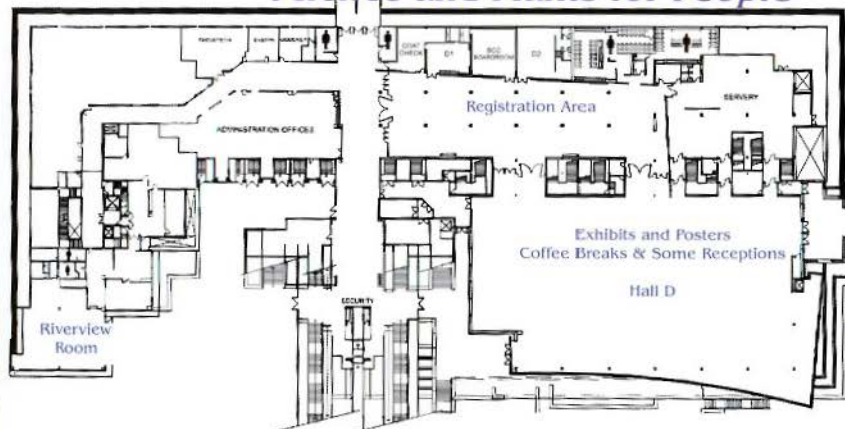
Science and Plants for People

Scientific Program

July 25 - 29, 2015
Edmonton - Alberta - Canada

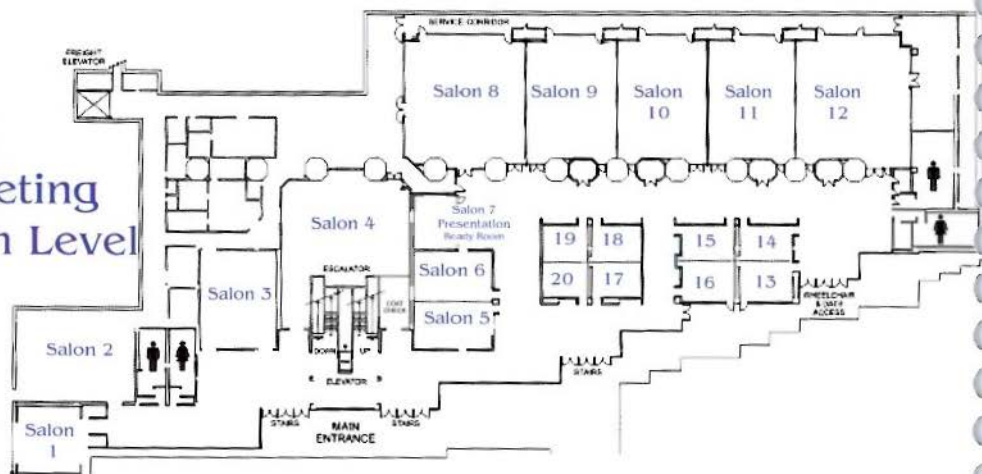
Botany 2015

Science and Plants for People

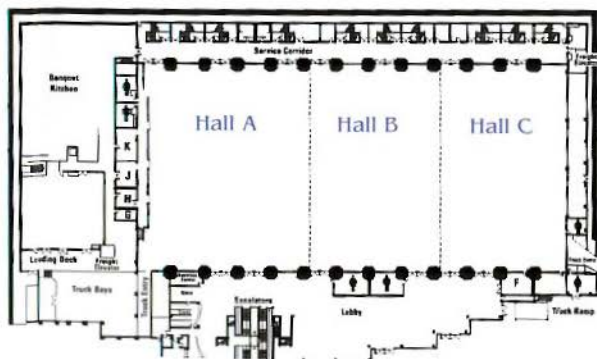


Hall D
and
Pedway Level

Meeting
Room Level



Assembly Level





Botany 2015

Science and Plants for People

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Botany 2015

Science and Plants for People

Greetings Society Members & Fellow Scientists!

We wish you a fruitful conference and enjoyable
experience here in Edmonton!
It is a pleasure to welcome all of you!

We are delighted to be jointly sponsoring an annual meeting of this magnitude that brings together scientists from a wide range of countries, societies, and botanical disciplines. We encourage you to take the time to enjoy the depth and breadth of the science on display. As a registrant, you are invited to explore any topic you like and attend as many talks and functions as you can fit in.

With the many contributions of our members and the hard work of our organizing committee, a great program has been assembled, and we wish you all the best with the challenge of narrowing down your choices. This meeting represents a marvelous opportunity to share ideas and build collaborations in a wide range of disciplines that you may not have previously considered.

For networking opportunities, the city of Edmonton is within short walking distance of the convention center, has dozens of restaurants and bars for you to meet in a fun atmosphere. As well, attendees at our meetings consistently mention in our annual post-meeting surveys the importance of field trips. Edmonton has marvelous natural areas that will be the focus of a wide range of field trips – don't miss these opportunities to enjoy plants and reconnect with your friends.

If there is anything we can do to make your conference more comfortable, please feel free to discuss your needs with our support staff. Look for us at the information booth and in the registration area right outside the Exhibit Hall.

Wishing you all the best over the next few days as
you experience all Edmonton has to offer!

Enjoy the conference!



Botany 2015

Science and Plants for People

Botany 2015 Conference Organizers

Plant Canada

Dr. Shahrokh Khanizadeh

Canadian Botanical Association L'Association Botanique du Canada

President – John Markham
Local Rep – Jocelyn Hall

The Canadian Society of Plant Biologists La Société Canadienne de Biologie Végétale

Vice President – Anja Geitmann
Local Rep - Janice Cooke

Mycological Society of America

President – D. Jean Lodge
Program Director – Dan Durell

Canadian Phytopathological Society La Société Canadienne de Phytopathologie

President – Deena Errampalli
Local Rep – Stephan Strelkov

American Fern Society

President – Eddie Watkins
Program Director – Eric Schuettpetz

Canadian Weed Science Society Soci t  Canadienne de Malher bologie

President – David Clements

American Society of Plant Taxonomists

President – Pat Herendeen
Program Director – Harvey Ballard
Local Rep – Jocelyn Hall

Society for Hebarium Curators

Andrea Weeks

Canadian Society of Agronomy La Soci t  Canadienne d'Agronomie

President – Brian Beres

American Bryological and Lichenological Society

President – Jon Shaw
Program Director – Larry St. Clair
Local Rep - Catherine LeFarge

Canadian Society of Horticultural Science La soci t  canadienne de science horticole

President – Samir Debnath

International Association for Plant Taxonomy

President – Vicky Funk
Secretary – Karol Marhold

Field Trip Coordinator

Diane Haughland

Botanical Society of America

President – Tom Ranker
Program Director – Amy Litt
Executive Director – Bill Dahl
Director of Conferences - Johanne Stogran

General Conference Information

Registration Area Hours

On-site registration, pickup of registration packets for those who have pre-registered, and late purchase of social event tickets can be done at the Registration Area. Registration is located in the Meadow Foyer

Friday, July 24 6:00 pm to 9:00 pm

Saturday, July 25.....7:00 am to 6:00 pm

Sunday, July 26 7:00 am to 7:00 pm

Monday, July 27 7:00 am to 5:00 pm

Tuesday, July 28.....7:00 am to 12:00 pm

Wednesday, July 29....7:00 am to 12:00 pm

Special Services

If you require special accommodations, assistance, or services, please let a Botany 2015 representative know by contacting the Conference Office - D-2

Child Care

Attendees are responsible for making all arrangements for sitting services. Botany 2015 assumes no responsibility for any difficulties or consequences arising from the use of a child care provider and recommends that the provider be screened carefully. If you are needing sitting service check at the information desk in the registration area.

Coffee Breaks - In the Exhibit Hall

Complimentary coffee breaks will be held in Hall D which will serve as the hub of the conference. Check the Schedule of Events.

Internet Cafe

Wireless Internet accessibility will be available in the common areas of the Shaw Conference Centre. Internet connected computers will be available in the Presentation Ready Room - Salon 7

Exhibits

Be sure to visit the outstanding array of commercial and scientific exhibits offered. The Exhibition Hall will be open:

Sunday, July 26 - 9:00 am to 5:00 pm

for hanging posters and exhibit set-up

Sunday, July 26 - 7:30 - 10:00 pm

Monday, July 27 9:00 am to 7:00 pm

Tuesday, July 28 9:00 am to 5:00 pm

Wednesday, July 29 9:00 to 4:00 pm

Hall will close after the afternoon coffee break.

Posters & Poster Sessions

Posters will be on display for the duration of the meeting in the Exhibit Hall Sunday-through Wednesday. All posters should fit onto bulletin boards that are 4 feet tall and 4 feet wide. Materials may be secured with push pins, which will be provided. Botany 2015 management, the Centre are not responsible for any poster materials remaining after 4:00 pm on Wednesday, July 29.

Poster set-up time is:

Sunday, July 26 - 12:00 pm to 5:00 pm

Poster take-down time is:

Wednesday, July 29 - 12:00 pm - 4:00 pm

All-Society Poster Sessions

Monday, July 27, 5:30 - 7:00 pm in the Exhibit Hall for all Posters. Poster numbers and locations are assigned when you check in to hang your poster.

Odd-numbered posters will be presented from 5:30 pm – 6:15 pm.

Even-numbered posters presented from 6:15 pm – 7:00 pm.

If you are presenting a poster you should be prepared to stand by your poster for your assigned time.

General Conference Information

Audio-Visual Information

All contributed paper and symposium sessions will be in a variety of meeting rooms. Audio amplification equipment will be provided in all rooms as needed. LCD projectors and computer stations will be available as standard presentation options. Computers will support Windows and Microsoft PowerPoint presentations.

Please visit the Presentation Ready Room (Salon 7) well before your scheduled session so your presentation can be loaded.

Be sure to double-check your presentation for accuracy as PowerPoint does not always carry over from MacIntosh to Windows operating systems. For computer presentations, files can be accepted on or USB stick.

Presentation Ready Room

A Presentation Ready Room will be available in Salon 7. Presenters are expected to load their presentations to the proper session folders the afternoon before their scheduled presentation time. Complete directions are posted in the Presentation Ready Room.

Technicians will be available to help with presenters' AV questions and needs for sessions, as well as to pre-load presentations.

The Presentation Ready Room will be open at the following times:

Sunday, July 26 Noon - 6:00 pm
Monday, July 27 7:00 am - 6:00 pm
Tuesday, July 28 7:00 am - 6:00 pm
Wednesday, July 29 7:00 am - Noon

Location of Scientific Sessions

All scientific sessions and most ticketed events will be held in the Shaw Conference Centre. Exhibits and Conference-wide coffee breaks are located in the Hall D. Building maps are located on the back inside cover of this program book.

Contributed Paper, Symposium and Colloquium Sessions

Contributed Paper and Colloquium Sessions include presentations that are scheduled for 15 minutes each (inclusive of questions and discussion). Most Symposium sessions include presentations that are scheduled for 30 minutes each (inclusive of questions and discussion).



Do you Twitter?

Follow the conference at
#BOTANY2015

We will be tweeting room changes, restaurant reviews, conference tips, and other bits of information through Twitter and our conference App. Be sure to join the conversation!



Looking for something to do while you're in Edmonton?

Want to see it all??

Pick up the Edmonton Attractions Pass for admission to 16 of the most visited attractions in the city and region. Prices range from \$24-\$60. The U-Pick Pass gives you entry to four participating attractions. Some of the attractions included are: The Valley Zoo, TELUS World of Science, Muttart Conservatory, Devonian Botanic Garden, Prairie Gardens and Adventure Farm, and many more!

John Janzen Nature Centre

1-780-442-5311



Devonian Botanic Gardens

1-780-987-3054

Alley Kat Brewing Company

Edmonton's oldest microbrewery! Go on a tour to learn how beer is made, then have a chance to sample some of their brews!





Want to go camping, but didn't bring your gear? Don't worry! **Elk Island National Park** has you covered! For \$55 a night (plus park entrance and fire permit), book an "equipped campsite" and enjoy the perfect wilderness experience. Campsites are stocked with a tent, sleeping pads, dining shelter, camping chairs, propane stove, lantern, and cooking gear.

Looking for something a little bit different?

Check out **Edmonton Escape**, a live-action scenario where you and your friends have 45 minutes to get out by solving challenging puzzles, riddles, and mind bending clues! \$25/person 1-780-757-9686 info@eescape.ca

Grab your buddies and go play some board games at either **The Hexagon Board Game Café** or **Table Top Board Game Café**.



Check out more at:
edmonton.ca
exploreedmonton.com



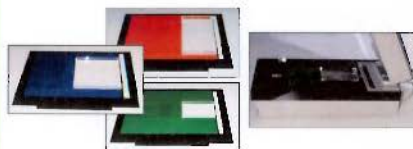
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- ✓ Developmental classification

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- ✓ Germination Count



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- ✓ Root morphology, topology and developmental analysis



- ✓ Leaf area, length and width of plants in soil

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wood cell anatomy



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YOUR INTERACTIVE GUIDE TO BOTANY 2015

* View the conference schedule, explore sessions and exhibitors.

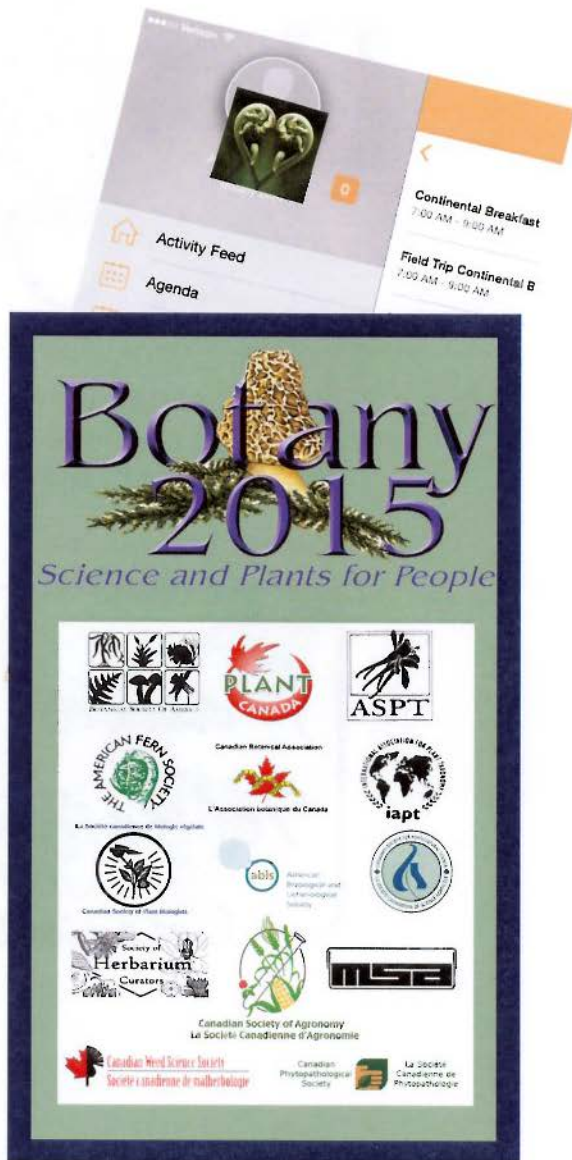
* Create your own profile and connect with your peers.

* Access location, presenter information, and interactive maps.

* Create your own personal schedule.

* View attendee photos and comments and contribute to the discussion.

App is sponsored the Botanical Society of America Publications



American Journal of
Botany

Get up-to-date information throughout the conference!

About the Logo



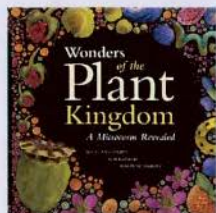
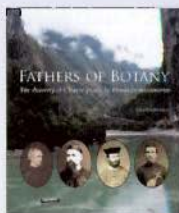
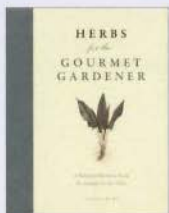
Botany 2015

Science and Plants for People

This year's conference logo is designed around morel mushroom. Art work provided by Paula Fong, botanical illustrator.



BOTANY NEW BOOKS from CHICAGO



Plant Sensing and Communication

Richard Karban
Interspecific Interactions
PAPER \$35.00

Fathers of Botany

The Discovery of Chinese Plants by European Missionaries
Jane Kilpatrick
CLOTH \$64.00

Wonders of the Plant Kingdom

A Microcosm Revealed
Wolfgang Stuppy, Rob Kessler,
and Madeline Harley
PAPER \$25.00

Herbs for the Gourmet Gardener

A Practical Resource from the Garden to the Table
Caroline Holmes
CLOTH \$25.00

Costa Rican Ecosystems

Edited by Maarten Kappelle
With an Introduction by Rodrigo Gómez
and a Foreword by Thomas E. Lovejoy
PAPER \$45.00

Hidden Natural Histories: Herbs

Kim Hurst
PAPER \$25.00

Hidden Natural Histories: Trees

Noel Kingsbury
PAPER \$25.00

New from Reaktion Books

Weeds

Nina Edwards
CLOTH \$27.00

Cannabis

Chris Duvall
CLOTH \$27.00

How the Earth Turned Green

A Brief 3.8-Billion-Year History of Plants
Joseph E. Armstrong
PAPER \$45.00



New from the Royal Botanic Gardens, Kew

On the Forests of Tropical Asia

Lost the Memory Fade
Peter Ashton
CLOTH \$100.00

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Workshops

A wide range of scientific and educational workshops will be presented at the Conference, on Sunday, July 26th. Workshop admissions vary in price and are considered a ticketed event. Pre-registration is required for all workshops as seating is limited. All workshops are held in the Shaw Conference Centre. Complete descriptions and information about each workshop can be found on the conference website: www.botanyconference.org, and in the printed Abstract Book.

Saturday 9:00 am - 6:00 pm

WS 1 - Mycena identification workshop University of Alberta
Biological Science Building rm 521
Presented by: Roland Treu and Brian Perry

Sunday July 26, 2015

8:00 am - 5:00 pm

WS 2 - Introduction to Next Generation Sequencing Salon 3
Presented by Shannon Straub

WS 3 - Ecological Niche Modeling: A Crash Course Salon 5
Presented by Pamela S. Soltis

WS 4 - Introduction to Botanical Drawing with Alice Tangerini Salon 6
Presented by Marilyn Garber

8:00 am - 12:00 pm

WS 5 - Using online resources for creating checklists, floras, identification
keys, and specimen citations Salon 11
Presented by: Mary E Barkworth, Edward Gilbert, and David Baxter

10:00 am - 12:00 pm

WS 6 - We are All Plumbers Now: Toolboxes for Building
Unconventional STEM Career Pipelines Salon 12
Presented by: Lindsey K Tuominen

WS 20 Illumina Workshop Salon 8
Presented by: Laura Wachtmann

WS 13 - Novel Molecular Tools from IDT for Plant Genotyping and
Rare Allele Detection Salon 13
Presented by: Robert Setter

1:00 pm - 4:00 pm

WS 12 - Commercial Greenhouse Lighting: Techniques and Practicalities Salon 8
Presented by: Ron Howard

1:00 pm - 4:00 pm

WS 7 - Learning and evaluating alternative digitization workflows
(i.e., changing "I know it can be done" to "I can do it") Salon 11
Presented by Mary E Barkworth and Edward Gilbert

WS 8 - Planting Inquiry in Science Classrooms Salon 4
Presented by Catrina Adams, Marshall Sundberg, Gordon Uno

- WS 8A - Crowd sourcing and citizen science: engaging the public in natural history collections digitization. Salon 13
Presented by George Weiblen
- WS 14 - MycoCosm Workshop Salon 10
Presented by: Joint Genome Institute, University of California
- 1:00 pm - 3:00 pm
- WS 9 - Professional Development Workshop: Graduate School, How to Apply and What to Expect Salon 12
Presented by: Ann K Sakai, and Anna Monfils
- 3:15 pm - 5:15 pm
- WS 10 - New Frontiers in RNA Analysis Salon 1
Presented by: Jeffrey Seitz
- WS 10A - Non-academic Botanical Career Panel Salon 12
Presented by: Susan Pell, and Ryan Bixenmann
- 5:15 pm - 7:00 pm
- WS 11 - Annual Meeting of the US Virtual Herbarium Project Salon 11
Presented by: Mary Barkworth

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Botany 2015 Field Trips

Field Trips are open to all registered attendees of Botany 2015 including spouses/companions and family members. (They must pay full trip registration fee.) All trips require pre-registration and are on a first-come and first-served basis. Fees include transportation, admission fees, field guides (if provided), water and where indicated, lunch.

Friday - Sunday July 24-26

FT1 Rocky Mountain Transect 3 day trip - Sponsored by ABL
Leave 8:30 am - Return 5:00 pm on the 26th.....\$315.00

Saturday, July 25

FT 2 Ferns of Elk Island - Sponsored by AFS
8:00 am - 5:00 pm\$55.00

FT 3 Bryophytes and Lichens of Dry Island Buffalo Jump Provincial Park
8:00 am - 6:00 pm\$75.00

FT 4 North Saskatchewan River: Full day Saturday Canoe Trip
8:30 am - 5:30 pm\$120.00

FT 5 Food Tour of 104 St, Named Best Farmers' Market 2013 by National
Geographic Traveler - 8:30 am - 11:30 pm\$75.00

FT 6 Nisku Prairie
10:00 am - 1:00 pm\$60.00

FT 7 Market Fresh Cooking Class with Gail Hall
11:30 pm - 4:00 pm\$220.00

Sunday

FT 8 Botany in Action - 8:00 am - 1:00 pm..... FREE!

FT 9 CANCELLED Paleocene flora of Munce's Hill 8:00 am - 6:00 pm\$75.00

FT 10 Mycological Society of America Foray to Elk Island 8:00 am - 4:00 pm ...\$60.00

FT 11 North Saskatchewan River: Full-day Canoe Float 8:30 am - 5:30 pm.....\$120.00

FT 12 Restoration of Peat Extraction Industrial Sites: Focus on bryophyte
reintroduction and native wetland plants - 9:00 am - 4:00 pm\$61.00

FT 13 The Enjoy Center - 10:00 am - 2:30 pm\$30.00

FT14 Afternoon Canoe Paddle on the River - 12:30 am - 5:30 pm\$80.00

FT 15 Getting Down and Dirty with Plant Science: Agronomy in Action
and Better Breeding - 1:00 pm - 5:30 pm\$30.00

Post Conference Adventures - Thursday

FT16 Go North for a Lichen, Bryophyte and Vascular Plant Biodiversity Blitz 8:00 am - 7:00 pm	\$35.00
FT17 Mixedwood Boreal Forest near Coyote Lake with the Nature Conservancy 8:00 am - 5:30 pm	\$70.00
FT18 Boats, Bison and Borscht- Elk Island National Park and Ukrainian Cultural Heritage Village 8:00 am - 5:30 pm	\$200.00
FT19 East of Edmonton: Late Quaternary landscapes, paleoenvironments, and human history - 8:00 am - 5:00 pm	\$75.00
FT20 Morning Canoe Shuttle: Emily Murphy to Capilano Park 8:30 pm - 1:00 pm	\$125.00
FT 21 Devonian Botanic Gardens - Tour of the Cultivated Gardens and Native Forest Habitat - 9:00 am - 4:00 pm Guided	\$90.00
FT 22 Devonian Botanic Gardens Tour- Self Guided 9:00 am - 4:00 pm	\$80.00
FT 23 Segway through the River Valley to the Muttart Conservatory 1:30 pm - 3:30 pm	\$150.00



Botany 2015 Ticketed Events

Food, fun, awards - ticketed social events can be the highlight of the botany conference. Connect with old friends and make new ones. The following society and group events require tickets. Tickets may be purchased in advance or on-site at the Registration area. Pre-paid event tickets will be included in the Registration packet, which will be distributed on-site. Please read the Refund and Cancellation Policy. Event venues will be announced on the tickets and in the Program Book. A limited number of tickets may be available for purchase at the Registration Desk on-site at the meeting, but availability is not guaranteed.

MONDAY

TE-01 Cornell Botanists and Friends BreakfastSalon 12
7:00 am - 8:00 am \$20.00

TE- 02 Plant Canada Discussion Riverview Room
7:00 am - 8:00 am - Members Only

TE-03 Michigan Consortium of Botanists BreakfastSalon 19/20

Join members of the Michigan Consortium of Botanists for an informational session that will include introductions, announcements, and networking opportunities for Michigan botanists. Any Great Lakes botanist is invited to attend, as well as those that have special interest in Michigan's flora. Bring your breakfast to this free, open forum. Although there is no charge, please register for this ticketed event.

7:00 am - 8:00 am

TE-04 American Fern Society Luncheon Riverview Room

The AFS Luncheon will be followed by the annual business meeting. Come join us and hear about the many activities sponsored by the American Fern Society.

Noon to 1:30 pm \$30.00 Students \$15.00

TE-05 Careers in Botany: Interactive Career Panel and LunchSalon 12

Students only - Program to be announced

Noon to 1:30 pm Student Price: \$5.00

TE-06 California Botanists Brown Bag Luncheon HALL C

Bring your lunch and get together with botanists from California (past or present) or with interests in California plants. We will have time for personal conversations, a discussion and announcement period regarding projects and funding in California botany, and an open forum. No fee required but please register for this ticketed event.

Noon to 1:30pm - Lunches available for purchase.

TE-07 - CBA Teaching Section Luncheon Hall A

Noon to 1:30 pm - Members Only

Ticketed Events

TE-09 Planting Science ReceptionSalon 12
Join members of the Planting Science team –celebrate the achievements of the past year and look forward the future!
(Free - but please sign up) 7:00 pm – 8:30 PM

TE-10 Paleobotanical Section Banquet University of Alberta
Check at Information for details Mixer 6:30 – 7:30 pm - Dinner 7:30 pm to 10:00 pm - \$50.00

TE-11 Student Social and Networking Event Craft Beer Market
Join your peers at Craft Beer Market - a popular Edmonton Bar for a night of networking....
Food, music, drinks....will be a good time! Event sponsored in part by *International Journal of Plant Sciences*.

9:00 pm - Midnight \$5.00 - Students - All others - \$10.00



TUESDAY

TE-12 University of Connecticut Alumni and Friends Breakfast.....Salon 8
Join your colleagues and Alums for breakfast and conversation.
7:00 am to 8:00 am - \$20.00

TE-13 Enhancing Scientist Diversity in Plant Biology Luncheon Riverview Room
Lunch and lecture by Gretchen Adams - University of Illinois. Can I Really Make a Difference?
Enhancing Diversity in the Sciences Through Mentoring: The critical role we play and how to get involved.
Noon to 1:30 pm \$30.00 Students \$15.00

TE - 14 CPS Lunch and AGMSalon 8
Noon to 1:30 pm - Members Only

TE - 15 CBA Developmental Section Lunch and Meeting Hall A
Noon to 1:30 pm - Members Only

TE - 16 CBA Ecology Section Lunch and Meeting Hall C
Noon to 1:30 pm - Members Only

TE - 17 CBA Mycology Section Lunch and Meeting Hall A
Noon to 1:30 pm - Members Only

TE - 18 CBA Systematics Section Lunch and Meeting Hall C
Noon to 1:30 pm - Members Only

Ticketed Events

TE - 18A CSHS AGM Luncheon and AwardsHall B
Noon to 1:30 pm - Members Only

TE-19 Kaplan Memorial Lecture Fund Cocktail Reception Riverview Room
Lecture – 4:00 – 5:00 pm followed by a Reception - 5:00 - 6:00 pm

We invite all 2015 participants to attend both the Lecture and the Cocktail Reception/Fundraiser that immediately follows. The later is a ticketed event (\$25). The ticket covers a hors d'oeuvres and a drink as well as the opportunity to interact with speaker, Dr. Juerg Schoenenberger and colleagues. The evening will culminate in a raffle and short auction of items generously donated by BSA members, publishers, the BSA and other professional organizations. Proceeds and a portion of the ticket sales will be donated to the Kaplan Lecture Fund to promote continuation of the lecture series.

Reception: 5:00 pm to 6:30 pm - \$25.00

TE-20 American Society of Plant Taxonomists BanquetSalon 12
Join us for the Mixer and Dinner, awards and presentation by the incoming ASPT President,
Thomas Ranker

(Free) Mixer 6:30 – 7:30 pm -Dinner 7:30 pm to 10:00 pm - \$50.00, Students - \$35.00

TE - 21 CPS Banquet and Awards ReceptionFort Edmonton
Check at information for details - Members Only

TE-22 ABLs Dinner Sofra Turkish Restaurant
Catherine La Farge has kindly agreed to host our society dinner at the 2015 BSA Edmonton meeting in July. We will hold the dinner at a superb Turkish restaurant: Sofra Turkish Restaurant 10345 106 Str. NW in downtown Edmonton located 1.6 km from the Shaw Conference Centre on Tuesday (July 28th). The dinner event will begin at 5:30 pm with a happy hour (no-host). The meal will be a set menu that provides a broad selection of flavours from the Turkish palette – including samples of grape leaves, in-house humus, kebabs (chicken & lamb), meatballs (beef), rack of lamb, grilled vegetables, and couscous. The cost will be \$40.00 (Canadian)/person. Pay at the door. ABLs will cover the cost of the appetizers and the tip. You will pay at the door - but please let us know you are coming!

Wednesday

TE-23 University of Wisconsin Alumni and Friends Breakfast Riverview Room
Network and reconnect with current and former members of the UW family. Once a badger - always a badger! Cheese curds not guaranteed.

7:00 am to 8:00 am - \$20.00

TE-24 The Miami University of Ohio Breakfast Riverview Room
Breakfast is open to any who have had some connection to the department, including students, alumni, faculty and staff, former faculty and staff, as well as friends of the department. Join us, renew old friendships and catch up with what your colleagues have been doing!

7:00 am to 8:00 am \$20.00

Ticketed Events

TE-25 NSF Brown Bag Information SessionSalon 12
National Science Foundation Information Session will host a brown bag lunch with BIO program directors - bring your lunch and learn about the latest program changes and new directions across BIO, finding the right program for your research, strategies for proposal writing and submission, why you should be a reviewer/panelist. Ask questions about NSF in 2015 and beyond. No fee required but please register for this ticketed event.
Noon to 1:30pm - Lunches available for purchase.

TE - 26 CBA Luncheon and AGM..... Hall A

TE - 27 Plant Canada ReceptionSalon 12

TE - 28 MSA Banquet and AuctionSalon 12

TE-29 All Society Celebrate! Hall D and Foyer
Wrap up a wonderful week! This is one last chance to mingle with new and old friends while enjoying fabulous food and drink. Celebrate award winners! (Free) 7:30 - 11:00 pm

Don't Miss the Party!
Food, Music, awards to Celebrate!
a wonderful week!!



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Applications in Plant Sciences Call for Papers

www.bioone.org/loi/apps

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The editorial board of *Applications in Plant Sciences* (APPS), the Botanical Society of America's open access, online journal, invites submissions of the following article types:

- **Protocol Notes**, describing new methods and technological advancements for the visualization or quantification of biological information
- **Genomic Resources Notes**, characterizing the development and demonstrating the usefulness of newly developed genomic resources, including transcriptomes
- **Software Notes**, detailing new software applications with examples of how they are used and how results are interpreted
- **Application Articles**, illustrating the application of a new protocol, method, or software application within the context of a larger study
- **Review Articles**, evaluating available techniques, methods, or protocols within any area of the plant sciences
- **Primer Notes**, reporting novel genetic markers within a taxon or taxa with evidence of wide applicability

Launched in January 2013, APPS is indexed in PubMed and Web of Science, and received its first impact factor (0.667) in June 2015. See the latest issue at: <http://www.bioone.org/loi/apps>.

Details on submission requirements are available in the Instructions for Authors: http://www.botany.org/APPS/APPS_Author_Instructions.html.

Support your Society by contributing your research to APPS!

APPS Editorial Board

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Please contact the editorial office with questions:

Beth Parada, Managing Editor, apps@botany.org

Recent article highlights:

- Next-generation sampling: Pairing genomics with herbarium specimens provides species-level signal in *Solidago* (Asteraceae) *Beck and Semple*
- Modified CTAB and TRIZOL protocols improve RNA extraction from chemically complex Embryophyta *Jordon-Thaden, Chanderbali, Gitzendanner, and Soltis*
- Optical sectioning and 3D reconstructions as an alternative to scanning electron microscopy for analysis of cell shape *Landis et al.*
- MarkerMiner 1.0: A new application for phylogenetic marker development using angiosperm transcriptomes *Chamala et al.*
- Application of ITS2 metabarcoding to determine the provenance of pollen collected by honey bees in an agroecosystem *Richardson et al.*

Discover Northern Québec-Labrador Flora

Collaborative work edited by Serge Payette

Presses de l'Université Laval



This four-book series (in french) is dedicated to the vascular flora of northern Quebec and Labrador. It stems from a long-term collaborative effort between several Quebec and Canadian botanists. Flore Nordique gathers knowledge and new data on plants from boreal, subarctic and arctic habitats.

Each botanical description is accompanied by photos of diagnostic characters, a distribution map and a commentary on the ecology and habitat of the taxon. Additionally, each volume contains a botanical and ecological glossary including several plates.



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Ken Thompson
University of Sheffield

**Botany is cool; so why doesn't
the public know that?**

Sunday, July 26
7:30 pm - Hall A

Ken Thompson did his PhD with Phil Grime at Sheffield University in the 1970s and returned to Sheffield in 1990, where he has been ever since, eventually becoming senior lecturer in ecology, before recently retiring.

He has broad interests in plant ecology, has published over 150 papers, and is senior editor of the British Ecological Society journal *Functional Ecology*. He is the author (with Jan Bakker and Renée Bekker) of 'The Soil Seed Banks of North-West Europe: Methodology, Density and Longevity' (1997, Cambridge University Press) and (with Mike Fenner) of 'The Ecology of Seeds' (2005, Cambridge University Press).

Ken is increasingly interested in the science of gardening, and has published four popular gardening books. He writes a gardening column for the Daily Telegraph and frequently speaks to gardening clubs and societies. In 2010 he published a popular book about biodiversity: 'Do We Need Pandas? – the uncomfortable truth about biodiversity' (Green Books). A new book on alien species (*Where Do Camels Belong?*), published (in Canada) by Greystone Books, came out last year, and a book of collected gardening columns is due later this year.

To be followed by the All-Society Mixer - Hall D

**Does Beer Make
Good Fertilizer?**

**Regional Botany
Special Lecture**

Jim Hole

The Enjoy Center

**Monday, July 27
11:00am - 12:00pm**

Hall A



Jim Hole grew up in his family's horticultural business and has been co-owner of Hole's Greenhouses and Gardens Ltd. in St. Albert, Alberta, Canada since 1979. Jim has a Bachelor of Science degree in Agriculture (Plant Science major) from the University of Alberta, is a Certified Professional Horticulturist with the American Society for Horticultural Science, a Certified Arborist with the International Society of Arboriculture and a Certified Pesticide Applicator. Jim is a highly sought after professional speaker with the Speakers Bureau of Alberta and loves to share his passion on both the science of growing plants and the business of growing plants.

In addition to writing bestselling books, Jim is a gardening columnist with the Edmonton Journal, Saskatoon Star-Phoenix, and CBC radio.

Jim's current challenge is managing the 242,000 square foot Enjoy Centre. The Enjoy Centre is a multifaceted facility that includes greenhouses, a wellness spa, restaurant, bakery, kitchen tool store, food store and deli, wine store and convention space.



MSA Presidential Address

Musings on what types of non-molecular characters are concordant with molecular phylogenies in Agaricomycetes and why so few are synapomorphic

D. Jean Lodge
Center for Forest
Mycology Research

Monday, July 27

Salon 8
8:00 am



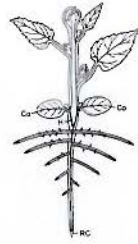
MSA Presidential Address

Perception in fungi: sensing light and other signals

Luis Corrochano
University of Seville

Monday, July 27

Salon 8
9:15 am



KAPLAN
MEMORIAL
LECTURE

Who dares to call oneself a
plant morphologist?

Kaplan Memorial Lecture

Juerg Schoenenberger
University of Vienna

Tuesday, July 28
Salon 12
4:00 pm - 5:00 pm

Type III Effectors and the
Plant Immune Response

CD Nelson Lecture

Darrell Desveaux
University of Toronto

Tuesday, July 28
Salon 11
4:00 pm - 5:00 pm





The invisible hand of
floral scent in plant-
pollinator interactions

Annals of Botany
Special Lecture

Robert Raguso
Cornell University

Wednesday, July 29
11:00am - 12:00pm
Salon 12

Robert Raguso grew to appreciate chemically mediated plant-insect interactions during his undergraduate studies of butterflies at Yale University. He explored the genetics, physiology and ecology of floral volatiles for his doctoral research at the University of Michigan, and insect olfaction and behavior, along with the phylogenetic mapping of chemical floral traits for his postdoctoral work at the University of Arizona. During the past 20 years, he has promoted the integrated study of floral scent by training numerous colleagues and their students, writing several reviews on the subject and founding the Gordon Research Conference on plant volatiles.

He currently serves as chair of the Dept. of Neurobiology and Behavior at Cornell University, a bully pulpit from which he promotes the study of “plant behavior”. His ongoing research includes multi-modal communication and signal evolution, including chemical mimicry in deceptive pollination and “private channels” in obligate mutualism, and the impact of geographic mosaics of coevolution on variation in plant-pollinator interactions.

Weresub Special Lecture

Curating and characterizing
fungi at the University of
Alberta Microfungus Collection
and Herbarium (UAMH) – a
Canadian biodiversity centre

Lynne Sigler
University of Alberta

Monday, July 27
Hall C
8:00 pm



Enhancing Scientist Diversity
in Plant Biology Luncheon

Can I Really **M**ake a Difference?
Enhancing Diversity in the
Sciences Through Mentoring:
The critical role we play
and how **t**o get involved

Gretchen Adams
University of Illinois

Tuesday, July 29
Riverview Room
12:00 pm - 1:30 pm

Sponsored in part by Richardson International

Featured Speakers

The Botanical Society of America announces the establishment of a new “Emerging Leader Award” to be given annually in recognition of creative and influential scholarship in any area of botany reflecting the breadth of BSA. Awardees will have produced outstanding scholarship and also demonstrated exceptional promise for future accomplishment.



Emerging Leader Lecture Sponsored by the *American Journal of Botany*

Mechanisms of flower color
convergence above and
below the species level

Stacey Smith
University of Colorado - Boulder

Wednesday, July 29

Hall C
2:30 pm - 3:30 pm

American Journal of
Botany

Dr. Stacey Smith is an accomplished researcher with a true commitment to education and outreach and a willingness to step into leadership roles. She is currently an assistant professor at the University of Colorado, Boulder.

Smith did her undergraduate work at Virginia Tech, earned a Master's on a Marshall Fellowship at the Universities of Reading and Birmingham, and then obtained a PhD in Botany from the University of Wisconsin in 2008. After doing a post-doc at Duke University, and spending 3 years on the faculty at the University of Nebraska, she took her current position in 2013. Over that time Dr. Smith has proven herself to be a prolific researcher, with more than 25 publications, including co-authorship of the book, *Tree Thinking: An Introduction to Phylogenetic Biology*.

Dr. Smith is best known for her work on *Tochrominae* (*Solanaceae*), a clade that she has turned into a spectacular model system for bridging ecological studies of pollination biology with genetic studies of the biochemical and genetic basis of floral diversity. In addition, she has collaborated on diverse evolutionary studies and has made important contributions in phylogenetic theory. However, as noted by her nominator, “Stacey is not just a great researcher, but also a committed educator.” She has been active in traditional university courses, diverse outreach activities especially in a K-12 setting, and as a resource instructor for the OTS Tropical Plant Systematics course. She has also played an important role in identifying the challenge of teaching tree thinking and in providing resources to help teachers overcome those challenges.

Finally, it has been noted that Dr. Smith is “a generous and supportive person who leads by example and draws along many other junior (and senior) colleagues in her wake.” Given all these contributions to botany, Dr. Smith is a very fitting recipient of the inaugural BSA Emerging Leader Award.

Jeanette Siron Pelton Award Lectures



Extracellular DNA-based trapping by border cells in defense of the root tip.

Martha Hawes
University of Arizona, Tucson

Monday, July 27

Hall A
4:00 pm

Generality and diversity of development in land plants

Mitsuyasu Hasebe
National Institute for Basic Biology, Okazaki, Japan

Monday, July 27

Hall A
4:45 pm



The Jeanette Siron Pelton Award is given for sustained and imaginative productivity in the field of experimental plant morphology.

Featured Speakers



Address of the ASPT President Elect

Teaching Plant Systematics
Today: Classic Techniques
& Novel Approaches

Thomas Ranker
University of Hawaii at Manoa

Tuesday, July 28
Salon 12

Address to be presented
at the ASPT Banquet

Address of the BSA President Elect

Richard Olmstead
University of Washington

The International Botanist

Wednesday, July 29
Hall A
6:00 pm



Symposia and Colloquia Schedule

Monday, July 27th - Morning

Phylogenomics and the 1000 plants (1KP) initiative

8:00 am - 12:15 pm Salon 4
Sponsored by BSA Systematics and Genetics Sections, ASPT
Organized by: Jim Leebens-Mack, Gane Ka-Shu Wong

A Broader view for Plant EvoDevo: novel approaches for diverse model systems

8:00 am - 12:00 pm Salon 11
Sponsored by BSA Genetics and Development and Structural Sections
Organized by Veronica S Di Stilio, Jill Preston, Rebecca Povilus

Plant Secondary Chemistry: from Biochemistry to Applications

8:00 am - 12:00 pm Hall C
Sponsored by: Plant Canada
Organized by John Markham

Ecological and evolutionary attributes of bryophytes of the boreal and arctic regions; New paradigms from interdisciplinary research

8:00 am - 12:00 pm Salon 10
Sponsored by ABL
Organized by Dale Vitt, Catherine Le Farge

Monday, July 27th - Afternoon

Recent advances in phylogeny and systematics of Brassicaceae

1:30 pm - 5:15 Salon 8
Sponsored by IAPT
Organized by Karol Marhold, Martin Lysak

Blended Learning and Educational Technology to enhance Biology

1:30 pm - 5:30 Salon 4
Sponsored by CBA, CSPB, Plant Canada, and BSA Teaching Section
Organized by Christine Petersen, Carina Anttila
Suarez, Madoka Gray-Mitsumune

Morphospaces, Morphometrics, and Phylogenetics

1:30 pm - 5:45 Salon 10
Sponsored by ASPT, BSA Systematics, Paleobotanical
and Development and Structural Sections
Organized by Juerg Schoenenberger, Marion Chartier, Ricardo Kriebel

Basic and applied approaches to improve disease resistance in plants

1:30 pm - 5:30 Salon 2
Sponsored by CPS, CSPB, and Plant Canada
Organized by Deena Errampalli

Tuesday, July 28th - Morning

Underutilized Crops for Secure and Green Futures

8:00 am - 12:00 pm Salon 17/18
Sponsored by BSA Genetics, Systematics, Tropical Biology, and
Economic Botany Sections, ASPT and Northwestern University
Organized by Nyree J.C. Zerega, Rachel Meyer, Allison Miller

Celebrating More Than Three Decades of Research in Nymphaeales: A Colloquium Honoring Ed Schneider

8:15 am - 11:00 am Salon 12
Sponsored by BSA Developmental and Structural Section
Ranessa L Cooper, Mackenzie Taylor

Symposia and Colloquia Schedule

Ecological impacts and restoration of industrial sites: roles of bryophytes and graminoid vascular plants

8:00 am -12:00 amHall C
Sponsored by CBA and BSA Ecological Section
Organized by Nicole Fenton, Line Rochefort, Eric Morgan

What can Next Generation Fungal Genome Sequencing do for you?

8:00 am -12:00 am Salon 3
Sponsored by CPS, Plant Canada, and MSA
Organized by Tom Hsiang, Ning Zhang

Tuesday, July 28th Afternoon

Integrated perspectives on the ecology, genetics and coevolution of intimate mutualisms

1:30 pm -5:15 pmHall C
Sponsored by BSA Genetics and Ecological Sections
Organized by Eric Von Wettberg, Jim Leebens-Mack, Jeremy Yoder

Advances in Modelling Plant Development

1:30 pm -5:00 pm Salon 13
Sponsored by CBA, and BSA Development and Structural Section
Organized by Moira Elspeth Galway

The rise and fall of photosynthate: Evolution of plant/fungus interactions from paleobotanical and phylogenomic perspectives

1:30 pm -5:00 pmHall A
Sponsored by CBA, MSA, BSA Paleobotanical Section, the Botanical Society of France, and *The New Phytologist Journal*
Organized by Mary Berbee, Christine Strullu-Derrien, David Hibbett

Desiccation tolerance in bryophytes: perspectives from early career scientists

1:30 pm -5:15 pm Salon 8
Sponsored by ABL
Organized by Lloyd R Stark and Nancy Slack

Wednesday, July 29th - Morning

Lab Bench to Boardroom: Developing Plant Science Ideas

8:00 am -12:00 pm Salon 10
Sponsored by CSPB
Richard Glen Uhrig, Amanda Gregoris

Forest Tree Responses to a Changing Climate

8:00 am -12:00 pmHall A
Sponsored by BSA Physiology Section
Organized by Rachel Spicer

The negotiated surveillance of parts and wholes: a symbioses-centered perspective on plant biology research

8:00 am -12:00 pm Salon 4
Sponsored by ABL
Organized by Larry St.Clair, Steven Leavitt, Thorsten Lumbsch

Ecological diversification and niche evolution in the temperate zone largest genus: *Carex*

8:00 am -12:00 pm Salon 10
Sponsored by ASPT and BSA Systematics Section
Organized by Andrew L Hipp, Pedro Jimenez-Mejias, Marcia Waterway, Marlene Hahn, Eric H Roalson

Mesozoic and Cenozoic plant evolution and biotic change:

A symposium in honor of Ruth Stockey

8:00 am -12:00 pm Salon 5

Sponsored by BSA Paleo and Developmental and Structural Sections

Organized by Ashley A Klymiuk, Selena Smith, Stefan A Little

Wednesday, July 29th Afternoon

The evolutionary importance of polyploidy

1:30 am -5:30 pm Salon 4

Sponsored by ASPT and BSA Systematics Section

Organized by Michael Shane Barker, Samuel Scarpino, Itay Mayrose

Mesozoic and Cenozoic plant evolution and biotic change:

A symposium in honor of Ruth Stockey

1:30 am -5:30 pm Salon 5

Sponsored by BSA Paleo and Developmental and Structural Sections

Organized by Ashley A Klymiuk, Selena Smith, Stefan A Little

Plant Resilience to Climate Challenges

1:30 am -5:30 pm Hall A

Sponsored by CSPB, and Plant Canada

Organized by Geoffrey Wasteneys

Phylogenetic approaches to understanding biodiversity and endemism

1:30 am -5:30 pm Salon 15/16

Sponsored by BSA Systematics Section and ASPT

Organized by Pamela Roxanne Kellar, Brent Mishler

Triarch Student Travel Awards

1ST PLACE: A FLOWER OF A DIFFERENT COLOR

JENNIFER DIXON - IOWA STATE UNIVERSITY

Grass flowers are rarely seen and often misunderstood. Most people who think of flowers imagine colorful petals and a multitude of arrangements, while in the grasses, flowers are tiny but can be just as diverse and beautiful as other flowering plants. This image is indeed a flower—actually, several tiny flowers called florets. Here we see the delicate “petals” called a palea and lemma, which enclose the reproductive structures within. Grass specialists (agrostologists) can often identify a species of grass just by looking at these tiny inflorescences. Note the purple shades at the tip of each floret, the serrated edges, and the cream-colored veins. This image was taken from dried specimens moistened with Pohl’s solution, a mix of water and detergent that is used to soften dried specimens so they are easier to dissect. The darkened shaped within the delicate “petals” are the ovary and stamen of these delicate grass flowers.



Family: *Poaceae*; Taxon: *Eragrostis cilianensis*; Common Name: *stinkgrass*; *candy grass*; *gray lovegrass*

To see the complete gallery of all photographic art submitted for the 2015 Triarch Awards see the website at:
<http://botany.org/PlantImages/ConantSTA2015.php>

2ND PLACE: BRIGHT COLORS AND STRONG SCENTS

REBECCA POVILUS - HARVARD UNIVERSITY

Flowers of *Illicium floridanum* are showstoppers, both for eyes and noses. The vivid crimson of *I. floridanum* flowers distinguishes it from the other North American *Illicium* species (*I. parviflorum*), which has more demure, pale-yellow flowers. But that's not the only tip-off: flowers of *I. floridanum* smell like fresh fish. Furthermore, flowers of *I. floridanum* are thermogenic, meaning that they produce heat through internal, metabolic reactions. Warm flowers may help to make their unique scent even stronger and have been hypothesized to provide a cozy retreat for midges, which are a common pollinator for this species. And perhaps the smelly flowers are not so surprising after all—*Illicium* species around the world are known for their fragrances, whether as part of the flowers, leaves, bark, or fruit (you may have seen and tasted the fruits of the south-Asian *I. verum* as the spice star anise).

Family: Schisandraceae; Taxon: *Illicium floridanum*; Common Name: Stink-bush



3RD PLACE: THE LARGEST POLLINATION EVENT ON EARTH

ALAINA PETLEWSKI - HUMBOLDT STATE UNIVERSITY



Family: Rosaceae; Taxon: *Prunus*;
Common Name: Almond

An almond tree (*Prunus dulcis*) in an orchard outside Visalia, CA being pollinated by a honeybee (*Apis mellifera*). Roughly half of all flowering plants are self-incompatible, meaning that fertilization by gametes originating from the same plant or a close relative cannot occur. The almond tree (*Prunus dulcis*) is a prime example of a self-incompatible plant. Pollen must somehow make it from the stamen of an almond flower to the stigma of another, unrelated almond flower. Strictly from a statistical point of view, the likelihood of this happening without outside interaction seems slim. So, how does this potentially delicate system involving a self-incompatible plant, not pollinated by wind, make up an \$11 billion industry in California? The answer is simple: honeybees, and lots of them. An estimated 1.6 million colonies are required every year to pollinate the 790,000 acres of almond trees in California. This could easily be the largest coordinated pollination event worldwide.

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American Journal of
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American Society of Plant Taxonomists (ASPT)

The American Society of Plant Taxonomists promotes the field of systematic botany through education, training, and public dissemination of original research on plants. Organized in 1935, the Society has a membership of approximately 1100. Information about dues, activities, and publications is available at the ASPT headquarters during the meeting and may be found at the ASPT website (www.aspt.net) or obtained from the ASPT Business Office (aspt@uwyo.edu).

The Society publishes *Systematic Botany*, a quarterly journal that is included with the membership dues. A basic subscription includes online access to the journal through Ingenta. The print copy is available for an additional fee. ASPT also publishes *Systematic Botany Monographs* at irregular intervals; individual or standing orders are available. Past issues of the journal and monographs are also available through JSTOR with a five-year moving wall. Abstracts of papers presented at the annual meeting are published with those of the Botanical Society of America and are available online and at the meeting.

The Society sponsors an extensive, annual competition for research grants for graduate student investigators. Support is available for students (both master's and doctoral levels) conducting fieldwork, herbarium travel, and/or laboratory research in any area of plant systematics. The Society also provides grants each year for student travel to the annual meeting and additional financial support to students participating in field trips.

The ASPT has initiated a new Undergraduate Research Prize where up to three prizes may be awarded each year for an outstanding, independent research project in plant systematics completed by an undergraduate student within the last two years. The 2014 URP winner was Gaurav Kandlikar, University of Minnesota.

The Innovations in Plant Systematics Education Prize is a new prize given by the Society and awarded to an educator who has developed novel and innovative resources for teaching plant systematics to undergraduate and/or graduate students. The 2014 IPSEP winner was Chris Martine, Bucknell University. The 2015 winners for the URP and IPSEP prizes will be announced at Botany 2015.

The George R. Cooley Award is given for the outstanding contributed paper presented by a young professional at the annual meeting. The 2014 winner was Ryan Folk, The Ohio State University.

The Peter H. Raven Scientific Outreach Award may be bestowed annually by the Society upon a plant systematist for exceptional outreach activities that advance the public's understanding of plant systematics. In 2014, the award was presented to Dr. Ken Cameron.

The annual Asa Gray Award honors individuals for outstanding accomplishments pertinent to the goals of the Society. Dr. Alan R. Smith was the 2014 Asa Gray Award recipient.

In 2006, Drs. Barbara D. Webster and Susan V. Webster established the Grady L. Webster Award to honor the work of their husband and father, respectively. This is a rotating award that is presented in alternate years by the ASPT and the BSA. At the Botany 2014 meeting, the Grady L. Webster Plant Systematics Publication Award was presented by ASPT to Kristen Hasenstab-Lehman and Dr. Michael Simpson for their paper in *Systematic Botany* 37(3). The next Webster Award given by ASPT will be at the 2016 meeting.

The Society maintains the following standing committees: Awards and Honors, Communications, Environment and Public Policy, Finance, Membership, Nominations, Promotional Materials (formerly Publicity), Public Relations, Publications, Systematic Collections, and Website. There are no ad hoc committees. The publications of the Society each have an Editorial Committee. Reports on activities of the committees can be found online at www.aspt.net.

Information about current and upcoming issues of *Systematic Botany Monographs* is available at the SBM website (<http://www.aspt.net/systematic-botany-monographs#.VXCh4KYqSHk>).

For information on membership in ASPT, contact Linda Brown, Manager, ASPT Business Office, University of Wyoming, Department of Botany 3165, 1000 E University Avenue, Laramie, WY 82071. Tele: (307) 766-2556. Fax: (307) 766-2851. Email: aspt@uwyo.edu

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The American Society of Plant Taxonomists

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Participating Societies

ASPT Award and Grant Funds

Asa Gray Award Fund

The Asa Gray medal was established to recognize outstanding scientists for their contributions to systematics research. Your donation will fund the medal and associated expenses.

George R. Cooley Award Fund

Established in 1956, the George R. Cooley Award may be bestowed annually by the Society upon a botanist in the early stages of his/her career who is judged to have presented the best paper in plant systematics at the Annual Meeting. Members of ASPT who are graduate students or in their first year post conferral of the Ph.D. are eligible. Contributions to the George R. Cooley Award Fund are used to help pay for the honorarium given to the awardee and other award expenses.

The Grady L. Webster Plant Systematics Publication Award Fund

This award fund was created in 2006 by Drs. Barbara D. Webster and Susan V. Webster to honor the work of their husband and father. The Grady L. Webster Award alternates between BSA (odd-numbered years) and ASPT (even-numbered years). In 2016, ASPT will present the next Grady L. Webster Plant Systematics Publication Award, recognizing the best published paper in *Systematic Botany* or *Systematic Botany Monographs* during 2014 and 2015. Your donation to this fund will be used to support this biennial award.

Graduate Student Research Grant Funds Contributions support students (both master's and doctoral levels) conducting field work, herbarium travel, and/or laboratory research in any area of plant systematics. Your contribution to any one of the research grant funds listed below will supplement the earnings from the fund and will directly benefit ASPT graduate students by maximizing the amount of money Council can spend on research grants. Every year the ASPT presents 10-15 research grants to promising young scientists.

- [General Graduate Student Research Grant Fund](#)
- [Shirley and Alan Graham Graduate Student Research Grant Fund](#)
This fund was generously endowed by the Grahams in 2002 and represents the first dedicated ASPT student research grant fund.
- [William R. Anderson Graduate Student Research Grant Fund](#)
As the second dedicated ASPT student research grant fund, this fund was established in 2002 in honor of William R. Anderson through contributions from colleagues and former students.
- [Rogers McVaugh Graduate Student Research Grant Fund](#)
Created in 2004 through contributions from his colleagues and former students, this student research grant fund honors Rogers McVaugh's dedicated, exceptional career.
- [W. Hardy Eshbaugh Graduate Student Research Grant Fund](#)
Announced in 2011 and created through contributions from his colleagues, former students, and the ASPT Council, this student research grant fund honors W. Hardy Eshbaugh's dedication to mentoring students.

ASPT Herbarium Emergency Fund

Created in September 2005, the fund will provide financial assistance to herbaria damaged by natural disasters. Through your generous donations, this fund has exceeded ASPT's fundraising goals, and we are not actively soliciting donations at this time.

Major Gifts: We also welcome and encourage your generous donations to the ASPT General Fund and the permanently restricted ASPT Endowment Fund.

ASPT General Fund

Gifts to the ASPT General Fund are exceptionally valuable to the Society. These unrestricted gifts are deposited in the ASPT investment account and can be drawn on by the Council to help pay for any of the wide range of initiatives that your Society engages in to promote plant systematics. A healthy General Fund helps to insulate ASPT from the volatile journal subscription revenue stream and other unanticipated financial challenges that professional societies face today.

ASPT Endowment Fund

The ASPT Endowment Fund is a permanently restricted fund that generates income that is used to support special Society initiatives, such as travel to meetings, workshops, and publications. Your generous contribution to the ASPT Endowment Fund benefits ASPT members and the plant systematics community by increasing the size of the endowment, which in turn increases the earnings that we can spend in support of Society initiatives. Because the payout percentage for endowment funds is 5%, we prefer that gifts are at least \$1,000.

If you are interested in giving to either of these funds please contact the ASPT President, Patrick Herendeen (pherendeen@chicagobotanic.org) to discuss your generous gift. All contributions are tax-deductible.



THE CANADIAN PHYTOPATHOLOGICAL SOCIETY
LA SOCIÉTÉ CANADIENNE DE PHYTOPATHOLOGIE

Canadian Phytopathological Society

The Canadian Phytopathological Society (CPS) was founded in 1929 and is a professional organization dedicated to creating and sharing knowledge of plant pathology in Canada and throughout the world. Our objective is to encourage and support research and education in plant pathology, promote public awareness of the importance of plant diseases and the socio-economic benefits of controlling them, and act as a forum for discussion of policies and strategies affecting all aspects of research and education in plant pathology in Canada. The current membership of the CPS is 340 and over 15% are international members. The Society publishes *The Canadian Journal of Plant Pathology* and the books, *Diseases of Field Crops in Canada* and *Diseases and Pests of Vegetable Crops in Canada*. We communicate by holding annual national and regional scientific meetings in Canada. More information can be found at <http://phytopath.ca>

Join CPS at <http://phytopath.ca>

2014-15 CPS Highlights

- CPS transitioned to new Canada NPF Act
- Completely redesigned CPS website
- International designation for the Canadian Journal of Plant Pathology
- Fostered collaboration among Canadian plant protection societies
- First Speaker Exchange Program between the CPS and BSPP
- Multi-year membership renewal option
- Joining over 2000 attendees for a great learning experience at Botany 2015 – Science and Plants for people – July 25-19, Edmonton, AB.



s,

Deena Errampalli, Ph.D.
President, Canadian Phytopathological Society



THE CANADIAN PHYTOPATHOLOGICAL SOCIETY
LA SOCIÉTÉ CANADIENNE DE PHYTOPATHOLOGIE

CPS at Botany 2015 Meeting Edmonton, Alberta

It is with great pleasure that we welcome you to the 2015 annual conference of the CPS that is being held as part of Botany 2015 from July 25-29, 2015 in Edmonton, Alberta. This diverse conference will include all six member societies of Plant Canada and an additional seven plant societies from the United States and Canada. The theme of the Botany 2015 is “Science and Plants for People.”

CPS co-sponsored Symposia

1. Basic and applied approaches to improve disease resistance in plants.
2. What can Next Generation Fungal Genome Sequencing do for you?

Poster Presentations

Authors at the poster 5:30 to 7:30 pm on Monday July 27

CPS and Plant Canada Business & Social Meetings

- Sunday July 26 7:00 pm - Botany 2015 Opening Ceremony, Plenary Lecture, and All Society Opening Reception
- **Tuesday July 28, Noon to 1:30 pm (lunch provided) - CPS Annual General Meeting**
- **Tuesday July 28, 6:00 to 10:00 pm, CPS Banquet and Awards Reception at Fort Edmonton**
- Wednesday July 29, 6:00-7:00 pm – Plant Canada Reception
- Wednesday July 29, 8:00-10:00 pm - Awards including one CPS award, will be presented at “All Society Celebrate”

phytopath.ca





THE CANADIAN PHYTOPATHOLOGICAL SOCIETY
LA SOCIÉTÉ CANADIENNE DE PHYTOPATHOLOGIE

Plant Canada Scientific Organizing Committee for Botany 2015

Dr. John Markham (Chair of the Committee; Canadian Botanical Association)

Dr. Samir Debnath (Canadian Society for Horticultural Science)

Dr. Diane Edwards (Plant Canada)

Dr. Deena Errampalli (Canadian Phytopathology Society)

Dr. Anja Geitmann (Canadian Society of Plant Biologists)

2015 CPS Local Organizing Committee for Botany 2015

Dr. Stephen Strelkov (Chair)

Dr. Sheau-Fang Hwang

Dr. Michael Harding

Mrs. Rosa-Ileana Strelkov

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THE CANADIAN PHYTOPATHOLOGICAL SOCIETY
LA SOCIÉTÉ CANADIENNE DE PHYTOPATHOLOGIE

2015 CPS Graduate Student Scholarship and Travel Award Winners

2015 CPS Graduate Student Scholarship Winners

2015 CPS Graduate Student Scholarship - **Abalfazi Hajihassani**, Univ. of Manitoba

2015 CPS Graduate Student Scholarship - **Sara Stricker**, Univ. of Guelph

2015 CPS Graduate Student Travel Award Winners

2015 CPS Graduate Student Travel Award - **Sherri Tedford**, Univ. of Guelph

2015 Taylor & Francis Graduate Student Travel Award for a CPS student - **Jill Dalton**, Univ. of Guelph

2015 Taylor & Francis Graduate Student Travel Award for a CPS student - **Alireza Akhavan**, Univ. of
Alberta

2015 Plant Canada Graduate Student Travel Award for a CPS student - **Craig Moore**, Univ. of Guelph

2015 Plant Canada Graduate Student Travel Award for a CPS student - **Justin Robson**, Univ. of Guelph

CPS Board of Directors and Officers (2014-15)

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<http://phytopath.ca>



International Association for Plant Taxonomy

Main Office: International Bureau for Plant Taxonomy and Nomenclature, c/o Institute of Botany, Slovak Academy of Sciences, Bratislava, Slovak Republic, office@iapt-taxon.org

Vision

"Botanical systematics, in the broadest sense, understood and valued by society."

Mission

"To promote all aspects of botanical systematics and its significance to the understanding and value of biodiversity."

Association

The IAPT was founded on July 18, 1950 at the Seventh International Botanical Congress in Stockholm, Sweden. The Association promotes an understanding of plant biodiversity, facilitates international communication of research between botanists, and oversees matters of uniformity and stability in plant names.

The IAPT is dedicated to organismal biodiversity the extent, recognition, organisation, evolution, and naming of plants and fungi, both living and fossil. To those wishing to be at the forefront of these issues, membership in IAPT will be rewarding. The IAPT maintains the International Bureau for Plant Taxonomy and Nomenclature, and engages in a wide range of activities consistent with its focus.

The IAPT was founded to carry out projects of interest and concern to systematic botanists which require or profit from international cooperation. By 2015, for example, no less than 157 volumes of the series *Regnum Vegetabile* had been published, including such well-known titles as the numerous editions of the International Code of Botanical Nomenclature (now International Code of Nomenclature for algae, fungi, and plants), the *Index Nominum Genericorum*, *Taxonomic Literature* (two editions), and *Index Herbariorum* (pt. 1 and 2). In addition, six issues of the journal *TAXON* are published each year, the annual volume presently consisting of approx. 1800 pages.

IAPT is responsible for the establishment and functioning of inter-Congress nomenclature committees and for the organization and execution of the nomenclature sessions at each International Botanical Congress.

Participating Societies



International Association for Plant Taxonomy

Main Office: International Bureau for Plant Taxonomy and Nomenclature, c/o Institute of Botany, Slovak Academy of Sciences, Bratislava, Slovak Republic, office@iapt-taxon.org

Officers

President: Vicki Funk, Smithsonian Institution, National Museum of Natural History, Washington, D.C., USA, funkv@si.edu

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Vice-President: Sandra Knapp, Natural History Museum, London, U.K., s.knapp@nhm.ac.uk

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Production Editor: Franz Stadler, Vienna, Austria, production@iapt-taxon.org

IAPT Research Grants Program in Plant Systematics

Maximum individual award: US \$1,000

The objective of these grants is to stimulate research in plant taxonomy world-wide, with emphasis on supporting students and investigators in developing countries. The competition is open, however, to applicants from all countries. Persons applying should be advanced students enrolled in graduate programs or young Ph.D. investigators. It is hoped that investment in young professionals or those in the process of becoming such will pay needed dividends for the future, especially in countries with limited resources but often with megadiversity floras.

Awarded grants 2015

DONKPEGAN, Segbedji Armel Loic, Benin, New insights on the evolutionary history of African tropical moist forests through patterns of the polyploid complex tree genus *Azela*

LE PÉCHON, Thimothée, South Africa, Systematics, biogeography, chemical ecology and evolutionary history of the African orchid genus *Holothrix*

ASMARAYANI, Rani, Indonesia, Revision of Piper section *Muldera*

MOHARREK, Farideh, Iran, Molecular phylogeny and evolutionary history of *Acantholimon* Boiss. (Plumbaginaceae) based on nuclear and plastid DNA sequences

REGALADO, Ledis, Cuba, Exploring the Cuban diversity of *Adiantum* (Pteridaceae) with emphasis on Cuban and West Indian endemics using chloroplast DNA markers

DEANNA, Rocío, Argentina, Taxonomic and phylogenetic studies in *Deprea* (Solanaceae)

VAN DO, Truong, Vietnam, A taxonomic revision of *Aristolochia* (Aristolochiaceae) from Vietnam

BENA, María Julia, Argentina, Phylogenetic and biogeographic studies in *Gomphrenoideae* (Amaranthaceae)

PAHLEVANI, Amirhossein, Iran, Revision of the genus *Euphorbia* (subgen. *Esula*) in SW Asia with special reference to phyto- and phylogeography of the endemism in the region

GODOY BŪRKI, Ana Carolina, Argentina, Climate niche evolution in species of the subfamily *Larreoideae* (Zygophyllaceae)

FERREIRA, Gabriel Emiliano, Brasil, Systematics and biogeographic history of *Besleria* L. (Gesneriaceae)

GROSSI, Maria Andrea, Argentina, Phylogeography of *Acanthostyles buniifolius* (Hook. & Arn.) R.M. King & H. Rob., one of the genera with the more southern distribution of the tribe Eupatorieae (Asteraceae)

GHANDFOROUSH, Titian, Malesia, A molecular phylogenetic reconstruction of *Vaccinieae* (Ericaceae), with special emphasis on elucidating biogeographic patterns in Malesia

ZHAO, Dongwei, China, A Taxonomic Revision of *Camellia* (Theaceae) in Indo-China Peninsula

LINDO, Juliet, Philippines, Understanding Phylogenetic Relationships of *Medinilla* (Melastomataceae)

MEZA, Esteban Ismael, Argentina, Phylogeography and dispersion patterns of the fern *Ophioglossum reticulatum*, and its implications with South American monsoon patterns

KABÁTOVÁ, Klára, Czech Republic, Systematics and evolution of the *Minuartia verna* group

JOE, Alfred, India, Taxonomic Revision of the family Musaceae in India

COULLERI, Juan Pablo, Argentina, Biological control of balloon vine *Cardiospermum grandiflorum* and a phylogeographic approach of invasive species of *Cardiospermum* (Sapindaceae) in South Africa

UGURLU-AYDIN, Zübeyde, Turkey, Taxonomic revision and molecular phylogeny of the genus *Pyrus* L. (Rosaceae)



Society of Herbarium Curators

AFFIRMING HERBARIA'S VITAL ROLE

ABOUT

The Society of Herbarium Curators (SHC) is an organization for discussion, action and support of herbaria. Created in 2005 in the southeastern United States, the SHC mission is to unite herbaria across the nation and around the world.

AWARDS

Deadline: 1 Feb 2016

Scope: Two \$500 (graduate) and one \$250 (undergraduate) will be awarded to students whose research contributes to or uses herbarium resources in ways that augment the collections.

REGIONAL CHAPTERS

Chapters are forming to foster long-term governance of initiatives set forth by regional herbaria.

NEWSLETTER

Bi-annual publication promotes community by informing members of upcoming elections, featured herbaria, floristic studies and other research projects, comings and goings in the herbarium community, herbaria in need of assistance, gifts, loans, and exchanges, and memorable collecting trips or other anecdotes of interest.

ANNUAL MEETING

General membership meeting @ Botany2015,
Monday July 27th, 8 pm. Open to all.

MEMBERSHIP

Annual dues: Student (\$5 USD), Regular (\$10),
Sustaining (\$25), Life (\$200).

www.herbariumcurators.org

Twitter: @socherbcurators

Find us on Facebook!



The MSA is a scientific society established in 1932 that is dedicated to advancing the science of mycology – the study of fungi of all kinds including mushrooms, molds, truffles, yeasts, lichens, plant pathogens, and medically important fungi.

The MSA has around 1,000 members from 49 countries

Publications

MYCOLOGIA



<http://msafungi.org/mycologia/>

May 2015 Issue: Newsletter is now available: msafungi.org/news/



We have an active Student Section



The MSA provides generous support for graduate students via research grants and travel awards.

<http://msafungi.org/msa-awards/>

Like our Facebook page

<https://www.facebook.com/MSAstudentsection>

Follow our Twitter Feed

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Recipients of Key MSA Awards for 2015 <http://msafungi.org/msa-awards/>



George Carroll
Distinguished
Mycologist



Fred Spiegel
Teaching Award



Paul Kirk
Honorary Member



Jessie Glaeser
MSA Fellow



Peter Kennedy
Alexopoulos Prize



Paul Stamets
Gordon & Tina Wasson Award

Come to the MSA Presidential Address to learn surprising factoids about the president, see photos of former MSA Presidents in the field including Roy Halling on a mule, Don Pfister collecting with a broken arm and Tim Baroni finding a knife. Discover the enigmatic lifestyles of the Hygrophoraceae & thoughts on adaptive & non-adaptive traits.

Participating Societies



Canadian Botanical Association



Canadian Society of Agronomy



Canadian Society for Horticultural Science



The Canadian Society of Plant Biologists



Canadian Phytopathological Society



Canadian Weed Science Society

PLANT CANADA (THE FEDERATION OF CANADIAN PLANT SCIENCE SOCIETIES) was established in 2000 and its 1st meeting was held in London, Ontario lead by The Canadian Botanical Association (CBA) and The Canadian Society of Plant Biologists (CSPB) previously known as The Canadian Society of Plant Physiologists.

The goals of Plant Canada are to organize and sponsor regular, effective, scientific meetings and workshops under a national umbrella for plant science and related disciplines in Canada; to operate and maintain a strong communication network among Member Societies and their individual members; and to be a strong and effective force for public education and advocacy in plant and related sciences, and for policy relating to plant research in Canada.

By joining forces, the group can offer one large meeting with numerous invited speakers and other events like teaching workshops, presentations from NSERC, etc. It further creates a loud voice and maintains a strong communication network amongst Member Societies and their individual members nationally.

PC is already considered to be a national federation and it is a member of the Global Plant Council, which supports plant science nationally and internationally. Plant Canada was a founding member of the Global Plant Council.

The Plant Canada Board of Directors is made up of two representatives of each member society (normally the president and past president or president elect). Currently there are six member societies and all participated in

the last four PC meetings organized and lead by one or more member societies (with input from all member societies).

Any society or organization can be a member of Plant Canada, which is free, as long as the organization's interests are related to plant science and related disciplines in Canada, and their application is accepted by the Board of Directors.

Previous meetings:

- 2003 meeting lead by CBA in Antigonish, Nova Scotia,
- 2005 meeting lead by CSPP in Edmonton, Alberta,
- 2007 meeting lead by CPS in Saskatoon, Saskatchewan,
- 2011 meeting lead by CSA and CSHS in Halifax, Nova Scotia.

The current officers and board of directors are:



President

Dr. Shahrokh Khanizadeh (CSHS past president)
RCORC, Agriculture and Agri-Food Canada, 960 Carling Ave.
Ottawa, Ontario, K1A 0C6
<http://khanizadeh.info>



Secretary

Dr. Diane Edwards
ABI Environmental Services Ltd.
3911 Varsity Drive, NW, Calgary, AB
T3A 0Z3



Treasurer (and Past President)

Dr. Carol Peterson
273 Parkmount Drive
Waterloo, ON, N2L 3R3



Canadian Society of Plant Biologists (CSPB)

Dr. Vincenzo De Luca (President)
Faculty of Mathematics and Science, Brock University, St. Catharines, Ont. L2S 3A1
<http://www.brocku.ca>



Canadian Society of Plant Biologists (CSPB)

Dr. Anja Geitmann (Vice-President CSPB), Institut de recherche en biologie végétale, Dept of Biological Sciences, University of Montreal, 4101 rue Sherbrooke est, Montreal, Québec H1X 2B2, Canada
<http://www.geitmannlab.org>



Canadian Botanical Association (CBA)

Dr. John Markham (President)
481 Duff Roblin Building,
Department of Biological Sciences,
University of Manitoba,
Winnipeg Manitoba, Canada, R3T 2N2
<http://umanitoba.ca>

Participating Societies



Canadian Botanical Association (CBA)

Dr. Frédérique Guinel (Past President), Wilfrid Laurier University
75 University Avenue West
Waterloo, ON, Canada N2L 3C5
<http://www.wlu.ca>



Canadian Weed Science Society (CWSS)

Dr. Linda Hall (Vice-President)
University of Alberta, 4-16C
Agriculture/Forestry Ctr,
Edmonton, AB, Canada T6G 2P5



Canadian Society of Agronomy (CSA)

Dr. Derek Lynch (Past President)
Dept. Plant and Animal Sciences,
Faculty of Agriculture, Dalhousie
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Nova Scotia, Canada, B2N 5E3



Canadian Phytopathology Society (CPS)

Dr. Deena Errampalli (President)
Agriculture and Agri-Food
Canada/Agriculture et
Agroalimentaire Canada, 4902
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<http://www4.agr.gc.ca>



Canadian Weed Science Society (CWSS)

Dr. David Clements (Vice-President)
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Trinity Western University, Langley,
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<http://www.twu.ca>



Canadian Society for Horticultural Science (CSHS)

Dr. Samir Debnath (President)
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Brookfield rd., St. John's NL, A1E
6J5. <http://res2.agr.ca>



Canadian Phytopathology Society (CPS)

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Canadian Society of Agronomy (CSA)

Dr. Brian L. Beres (President)
Prairie and Boreal Plain Ecozone,
Agriculture and Agri-Food Canada,
5403 - 1 Avenue South, Lethbridge,
Alberta, Canada, T1J 4B1



Canadian Society for Horticultural Science (CSHS)

Dr. Kris Pruski, PhD., P. Ag. (Vice
President)
Dept. of plant and Animal Sciences
Faculty of Agriculture
Dalhousie University, Truro, NS,
B2N 5E3

Plant Canada Scientific Organizing Committee

The current meeting would not have been possible without the hard work and dedication of Plant Canada board members, Drs. John Markham (chair) Diane Edwards, Deena Errampalli, Anja Geitmann and Frédérique Guinel, and participation of the local organizing committee.



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Last but not least, the Plant Canada board of directors would like to acknowledge the hardworking volunteer contributions and dedication of the Plant Canada 2011 meeting organizing committee. [Steering Committee - Yousef Papadopoulos: Conference Co-chair and Chair of the Steering Committee - David Percival: Conference Co-chair - Marilyn Roberts: Administrative Assistant, Plant and Animal Sciences, N -AC, Paul Hildebrand and Gordon Braun: Canadian Phytopathological Society (CPS), Hugues Massicotte and Marian Munro: Canadian Botanical Association (CBA), Bill Thomas and Prithiviraj Balakrishnan: Canadian Society of Agronomy (CSA), Jean-Pierre Privé and Samir Debnath: Canadian Society of Horticultural Science (CSHS), Kevin Vessey, Bill Plaxton and Zhongmin Dong: Canadian Society of Plant Biologists (CSPB): David Clements: Canadian Weed Science Society (CWSS), Shahrokh Khanizadeh and Carol Peterson: Plant Canada (PC), Vasantha Rupasinghe: Canadian Institute of Food Science & Technology (CIFST) Atlantic Section, Zhongmin Dong: Local Arrangements – Saint Mary's University] lead by Dr. Yousef Papadopoulos, who put together a great meeting. Its success would not have been possible without the above-named individuals accepting these extra tasks in their already very busy schedules. Plant Canada cannot thank them enough for their contributions.

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- Analyse low plant canopy such as crops as well as high forest canopy
- Measure ground cover such as grass

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**Welcome to #Botany2015 from
your MSA Student Section**



Our goals are to facilitate communication among all students, enhance interactions between students and our Society, and to provide an effective communication mechanism between them.

Follow us online!





American Bryological and Lichenological Society

The American Bryological and Lichenological Society was founded in 1898. It is an organization devoted to the scientific study of all aspects of the biology of bryophytes and lichen-forming fungi and is one of the nation's oldest botanical organizations. Membership is open to all persons (professionals and amateurs) with interest in these organisms. Approximately 625 individuals currently hold membership in the Society.

Constitution - The ABLs Constitution and By-Laws govern the operations of the Society and were revised in 2012. They include information on membership, meetings, finances, prohibitions, officers, publications, awards, and dues.

Society officers are elected every other year by open ballot. The current officers include a president, president-elect, and a secretary-treasurer. The society is governed by an Executive Committee that includes the officers, the Business Manager, the journal editors, past presidents, and members-at-large.

Membership Services - A directory of current members, information about membership dues, and applications for individuals wishing to join ABLs may be found on the membership services page (www.abls.org).

Meetings - The Society (ABLS) holds annual meetings in July or August, and field trips are normally offered in conjunction with the annual meeting. Annual meetings are often held jointly with the Botanical Society of America or with meetings of other biological societies. Support for student travel to annual meetings is available.

Awards - Each year, the Society gives three awards to recognize distinguished contributions to bryology and lichenology: The A. J. Sharp Award, given to a student for an outstanding presentation at the annual meeting; the William Starling Sullivant Award, awarded for a distinguished, original research article in bryology, published in *The Bryologist*; and the Edward Tuckerman Award, awarded for a distinguished, original research article in lichenology, published in *The Bryologist*.

Publications - The Society publishes both a quarterly journal and an informational bulletin. More information about these items can be found on the publications page of the ABLs website (www.abls.org).

Specimen Exchanges - The Society also sponsors specimen exchanges, to help members acquire identified specimens from diverse geographic regions.

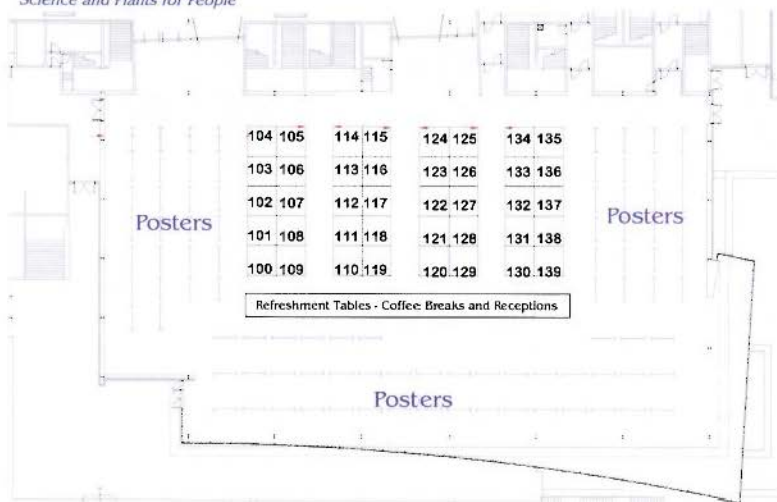


The American Fern Society evolved from the Linnaean Fern Chapter of the Agassiz Association, which was founded in 1892 by five people united by their mutual interest in the study of ferns. At that time the Agassiz Association published the quarterly *Linnaean Fern Bulletin*, which contained original research, reports of field trips and floristic discoveries, and business and news. Because the Chapter was so small, it allowed W. N. Clute, its first president, to assume ownership of the *Bulletin*. By mid-1905, when a vote to adopt the name American Fern Society passed, 150 members were counted, few of them professional botanists. A member's library was begun to circulate fern books by mail. In 1910, the Society voted to establish and own the *American Fern Journal*, and the *Bulletin* ceased publication in 1912.

The Society grew fitfully through several decades and then rapidly due to the invigoration of botanical science after World War II. A fern spore exchange was established to provide amateur horticulturalists and botanical researchers with a wide variety of fern spores. By the 1970s, the *Journal* published mostly scientific papers, and so a newsletter, now called *Fiddlehead Forum*, was established to carry Society news, reports of field trips, and articles of interest to horticulturally and floristically inclined members. In 1979, a very occasional monograph series, *Pteridologia*, was begun. At present the Society has about 800 members, many of them botanists.

The American Fern Society remains active in promoting all aspects of fern study, which was the intent of its five founders.

Visit us at <http://amerfernsoc.org> and join the American Fern Society group on Facebook.



Botany 2015 Booth Assignments

- | | |
|---|--|
| 100 BRIT Press | 121 University of Hawaii - Student Chapter |
| 101 Conviron | 122 University of Hawaii Press |
| 102 NYBG Press | 123 Taylor and Francis |
| 103 Axios Review | 124 University of Chicago Press |
| 104 G2V Optics | 125 Alberta Museum of Diversity |
| 105 Pro-Lab Diagnostics | 126 Society of Herbarium Curators |
| 106 Torrey Botanical Garden | 127 PP Systems |
| 107 Integrated DNA Technologies | 128 Illumina |
| 108 Hoskin Scientific | 129 PLANT CANADA |
| 109 Zeiss | 130 AoB Plants |
| 110 Li Cor | 131 Canadian Science Publishing |
| 111 American Society of Plant Taxonomy | 132 Mycological Society of America |
| 112 American Society of Botanical Artists | 133 AASP-The Palynological Society |
| 113 Macroscopic Solutions | 134 Delta Genomics |
| 114 National Science Foundation | 135 Missouri Botanical Garden Press |
| 115 Botanical Society of America | 136 Flora North America |
| 116 Oxford University Press | 137 International Association
of Plant Taxonomy |
| 117 CID Bio-Science | 138 SPNHC |
| 118 iDigBio | 139 BioChambers |
| 119 D-Mark Biosciences | |
| 120 JStor | |





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REVIEW



Be Sure to Visit and Support Our Exhibitors!

AASP-The Palynological Society

<http://www.palynology.org/> 133

Palynology is the study of pollen, spores, dinoflagellate cysts, and other microscopic acid-resistant microfossils- i.e., "palynomorphs". AASP - The Palynological Society was established in 1967 by a group of 32 founding members to promote the science of palynology. It is the largest palynological association, with a world-wide membership of about 500 members- primarily geologists/ earth scientists, but including botanists, paleoecologists, geographers, and archeologists. In addition to the journal *Palynology* and a quarterly Newsletter, the AASP Foundation publishes a Contributions Series (mostly monographs, issued irregularly), as well as several books and miscellaneous items. AASP is a member organization of the Geological Society of America (GSA), the American Geological Institute (AGI), and the International Federation of Palynological Societies (IFPS).

Alberta Museum of Diversity

<http://www.abmi.ca/home.html> 125

American Society of Botanical Artists

<https://www.asba-art.org/> 112

AOB Plants

<http://aobpla.oxfordjournals.org/> 130

AoB PLANTS, the premier open-access journal for the plant sciences, publishes peer-reviewed articles on all aspects of basic and applied plant biology, with a strong focus on environmental biology. Established in 2010 and published by Oxford University Press, AoB PLANTS provides a fast-track pathway for publishing high-quality research. Distinguished Editorial and Advisory Boards provide exceptional leadership and ensure fair assessment of submitted manuscripts using double-blind peer review, with first decisions typically rendered in 30-40 days. Articles published in AoB PLANTS are indexed widely, including Web of Science, and the journal's 2013 Impact Factor was 1.743. Come visit our booth!

ASPT

<http://www.aspt.net/> 111

Axios Review

<http://axiosreview.org> 103

BioChambers

<http://www.biochambers.com> 139

Our focus at BioChambers is on building positive client experiences. We achieve this by delivering top of class reach-in plant growth chambers and walk-in rooms, providing excellent after sales service, and introducing innovative designs to the marketplace. We invite you to drop by our booth to pick up our latest literature and to discuss your specific research needs.

Exhibitors

BRIT Press

<http://www.brit.org/> 100
BRIT Press strives to further the conservation mission of its parent institution, Botanical Research Institute of Texas (BRIT), through innovation and excellence in the preparation, manufacture, and worldwide distribution of botanical research and scientific discoveries for the twenty-first century. For over five decades, BRIT has served the scientific and lay communities through its scholarly periodical Journal of the Botanical Research Institute of Texas (formerly, *Sida, Contributions to Botany*) and through books devoted to comprehensive botanical studies ranging from floras to systematic monographs to botanical histories. BRIT Press... Bringing out the best in botanical science for plant conservation and education.

BSA

<http://www.botany.org/> 115

Canadian Science Publishing

<http://nrcresearchpress.com/journal/cjb> 131
Published since 1929, the NRC Research Press journal, *Botany*, is a monthly journal that features comprehensive research articles and notes in all segments of plant sciences, including cell and molecular biology, ecology, mycology and plant-microbe interactions, phycology, physiology and biochemistry, structure and development, genetics, systematics, and phytogeography. It also publishes methods, commentary, and review articles on topics of current interest, contributed by internationally recognized scientists.

CID Bio-Science

<http://www.cid-inc.com/> 117
Located in Washington State, CID, manufactures, and sells instruments to measure various aspects of plant physiology. Products are typically used by agricultural and environmental research scientists at Universities and government or privately funded research institutions. The instruments measure CO₂ and H₂O gas exchange, Ethylene, light behavior, leaf area, and root development in plants. See: www.cid-inc.com

Conviron

<http://www.conviron.com/> 101
Established in 1964 and with a global sales, distribution, and service network – Conviron is the world leader in the design, manufacture and installation of controlled environment systems for plant science and agricultural biotechnology research. Conviron's reach-in plant growth chambers, walk-in rooms and Argus Control Systems (a Conviron company) provide precise, uniform, and repeatable control of temperature, light, humidity, dehumidification, CO₂, and other environmental conditions. All environmental parameters can be remotely programmed, monitored and analyzed with unparalleled accuracy and convenience.

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D-Mark Biosciences

<http://www.d-markbio.com/> 119
D-MARK Biosciences is Canada's premier provider of innovative solutions for molecular and genomic research. We have carefully selected the most advanced technologies from around the world. Each of our partners offer a unique value to the research laboratory, allowing more accurate and reproducible results in less time, and ultimately lowering the cost of data acquisition. We have a unique focus on genetic technologies including key applications such as Next Generation Sequencing, qPCR, PCR, Microarrays, and Sanger Sequencing. D-MARK proudly supports the research in genome centres and molecular diagnostic labs all across Canada. Please visit our website (www.d-markbio.com) to learn more about D-MARK Biosciences.

Delta Genomics

<http://www.deltagenomics.com> 134

Flora North America

<http://floranorthamerica.org/> 136

G2B Optics

<http://www.g2voptics.com/> 104

G2V provides engineered sunlight for botanical research and greenhouses. Our full-spectrum light accurately matches the solar spectrum; We provide plants with the light they evolved to use. Our instrument reproduces daylight conditions for any time of day or year, for any location in the world. For more flexibility—a custom spectrum or lighting level, for example—our software (or programmable hardware) allows users to specify whatever conditions are needed.

Founded by Dr. Michael Taschuk, expert in radiometry and LED-based instrumentation, G2V is a spin-off from the University of Alberta and the NRC. Our goal is to deliver engineered sunlight.

Hoskin Scientific

<http://www.hoskin.ca/> 108

IAPT

http://www.iapt-taxon.org/index_layer.php 137

iDigBio

<https://www.idigbio.org/> 118

iDigBio, Integrated Digitized Biocollections, is the National Resource for Advancing Digitization of Biodiversity Collections (ADBC) funded by the National Science Foundation. Through ADBC, data and images for millions of biological specimens are being made available in electronic format for the research community, government agencies, students, educators, and the general public. The vision for ADBC is a permanent database of digitized information from all biological collections in the U.S., which will lead to new discoveries through research and better understanding and appreciation of biodiversity through improved education and outreach. The iDigBio exhibit will be staffed by faculty, students, and post-docs eager to share the project's progress to date, demonstrate the data portal, and register visitors for access to additional iDigBio resources. Stop by and see what's new in the field of herbarium digitization and data retrieval!

Illumina

<http://www.illumina.com/> 128

Integrated DNA Technologies

<https://www.idtdna.com/site> 107

Integrated DNA Technologies (IDT) is a leader in development and manufacturing of products for research and diagnostic life science markets. The world's largest supplier of custom nucleic acids, IDT serves academic research, biotechnology, and pharmaceutical development communities with products that support applications including: next generation sequencing (NGS), gene amplification, SNP detection, expression profiling, gene quantification, and synthetic biology. Platform-independent NGS products (xGen[®] Lockdown[®] Probes for improved target capture, custom adaptors, fusion primers, Molecular Identifier tags—MIDs) are available in addition to DNA and RNA oligonucleotides, qPCR assays, siRNA duplexes, gBlocks[®] Gene Fragments for gene construction, and custom gene synthesis.

Exhibitors

JStor

<http://about.jstor.org/>..... 120

Licor

<http://www.licor.com/>..... 110

Come visit LI-COR's booth #110 at this year's Botany conference to talk about our instruments for environmental research, including the LI-6400XT Portable Photosynthesis System and the LAI-2200C Plant Canopy Analyzer, with new capabilities for using under nearly any sky condition, and an optional integrated GPS receiver. We will also have information about the LI-COR Environmental Education Fund (LEEF), a matching grants program developed to put research-grade instrumentation into the hands of undergraduate students at Primarily Undergraduate Institutions. Available LEEF packages include complete systems for measuring photosynthesis or respiration, Eddy Covariance, light, and soil gas flux.

Macroscopic Solutions

<http://www.macroscopicolutions.com/aboutus.html> 113

Macroscopic Solutions provides high-resolution, scientific imaging technologies, services and support. Their signature device, the Macropod, produces fully focused, color images at a resolving power down to 1 micron in size, in an intuitive and automated fashion. These images are significant for research and education.

MOBOT Press

<http://www.mbgpress.info/> 135

The Missouri Botanical Garden Press plays a key role in the Garden's mission to discover and share knowledge about plants and their environment. The Press publishes the two quarterly journals the *Annals of the Missouri Botanical Garden* and *NOVON, A Journal for Botanical Nomenclature*, as well as floras and taxonomic revisions. Other scientific titles appear through the series *Monographs in Systematic Botany* from the Missouri Botanical Garden, MBG Press is an important outlet for the dissemination of botanical and conservation research and has published 190 books since 1998. These and other botanical titles are available through our e-commerce site (www.mbgpress.info) and on Amazon.com (print and electronic books). Electronic PDF and download of journal articles are available through JSTOR and BioOne. The MBG Press editorial offices may be reached at annals@mobot.org or novon@mobot.org. Book sales and inquiries may be directed to MBGPRESS@mobot.org or by phone to (314) 577-9534, toll-free to (877 or 888) 271-1930, or by FAX to (314) 577-9594. MBG Press is located in Saint Louis, Missouri, USA.

Mycological Society of America

<http://msafungi.org/> 132

National Science Foundation

<http://www.nsf.org/> 114

New York Botanical Garden Press

<http://www.nybgpress.org/> 102

The New York Botanical Garden Press is one of the largest publishing programs of any independent botanical garden in the world and provides a means for communication of research carried out by scientists at The New York Botanical Garden and elsewhere. Established in 1896, the program focuses on advancements in knowledge about the classification, utilization, and conservation of plants and fungi.

Authors interested in submitting a book to NYBG Press should send a proposal outlining project, scope, and audience; a table of contents or chapter outline; and professional information about the author, including previous publications. Submissions can be emailed to nybgpress@nybg.org. Visit our new e-commerce website at www.nybgpress.org to place your order or to create your account for future discounts and specials. You can always place reach us by phone by calling our Customer Service department at (718) 817-8721.

Oxford University Press

<https://global.oup.com> 116

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Plant Canada

<http://www.plantcanada.ca/> 129

PP Systems

<http://ppsystems.com/> 127

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Pro-Lab Diagnostics

<http://www.pro-lab.com/> 105

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Society of Herbarium Curators

<http://www.herbariumcurators.org/> 126

SPNHC - Iowa

<http://www.spnhc.org/> 138

The Society for the Preservation of Natural History Collections [SPNHC] is an international society whose mission is to improve the preservation, conservation and management of natural history collections to ensure their continuing value to society. SPNHC is a member-run society that promotes and professionalizes the career of collections management, and promotes and advocates for collections of all sizes. SPNHC activities include collection management best practices, conservation, legislation and regulations, and professional development. SPNHC is a major player in collection digitization. Membership benefits include a supportive collections community, specialist listserv, grants and awards, publications including books, a twice yearly newsletter and a peer-reviewed journal - Collections Forum, and an Emerging Professionals Group to support new and student collection managers. Our Annual Meeting is a great opportunity to network, represent your collection through professional presentation, and visit other collections. The SPNHC 2016 meeting will be held in Berlin, Germany. www.spnhc.org

Taylor and Francis

<http://www.tandfonline.com/> 123

Torrey Botanical Gardens

<http://www.torreybotanical.org/> 106

University of Chicago Press

<http://www.press.uchicago.edu/index.html> 124
Established in 1891, the University of Chicago Press is the largest American university press. The Press publishes approximately 280 books a year and has published over 11,000 books since its founding. The Press also publishes leading journals and annuals in fields including the humanities and physical, life, and medical sciences.

University of Hawaii - Student Chapter..... 121

University of Hawaii Press

<http://www.uhpress.hawaii.edu/> 122

Zeiss

<http://www.zeiss.ca/corporate/ca/home.html>..... 109

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MONARCHS
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Biology and Conservation of an Iconic Butterfly
EDITED BY
KAREN S. OBERHAUSER, KELLY R. NAIL, SONIA ALTIZER



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*A Complete Guide to Their
Biology and Behavior*
Dick Vane-Wright

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Scientific Program

FRIDAY, JULY 24TH

6:00 AM - 11:59 PM	Botany 2015 Conference Office	D-2 Office
6:00 AM - 11:00 PM	Exhibit Hall Set-up	Hall D
7:00 AM - 9:00 AM	ABLS Field Trip Continental Breakfast	Hall D Foyer
6:00 PM - 9:00 PM	Registration	Hall D Foyer

SATURDAY, JULY 25TH

6:00 AM - 11:59 PM	Botany 2015 Conference Office	D-2 Office
7:00 AM - 9:00 AM	Field Trip Continental Breakfast	Hall D Foyer
7:00 AM - 9:00 AM	Continental Breakfast	Hall D Foyer
7:00 AM - 12:00 PM	Field Trips Leave	Hall D Foyer
7:00 AM - 6:00 PM	Registration	Hall D Foyer
8:00 AM - 5:00 PM	WS01 Mycena identification workshop Chair: Mary Berbee Biological Science Building Room 521 University of Alberta	
9:00 AM - 2:00 PM	MSA Council meeting	SCC Board Room
10:00 AM - 10:30 AM	Coffee Break	Hall D
12:00 PM - 5:00 PM	Exhibits Set - up and Hang and Posters	Hall D
12:00 PM - 1:00 PM	Field Trips Leave and Return	Hall D Foyer
3:15 PM - 3:45 PM	Coffee Break	Hall D
7:00 PM - 10:00 PM	CPS - Financial Advisory Dinner	SCC Board Room
7:00 PM - 10:00 PM	Botanical Society of America Board Meeting and Dinner	Salon 2

SATURDAY

SUNDAY, JULY 26TH

6:00 AM - 11:59 PM	Botany 2015 Conference Office	D-2 Office
7:00 AM - 9:00 AM	Field Trip Continental Breakfast	Hall D Foyer
7:00 AM - 9:00 AM	Continental Breakfast	Hall D Foyer
7:00 AM - 9:00 AM	Field Trips Leave and Return	Hall D Foyer
7:00 AM - 7:00 PM	Registration	Hall D Foyer
8:00 AM - 4:00 PM	Mycological Society of America Foray to Elk Island Meet in Hall D Foyer	
8:00 AM - 9:00 AM	BSA Investment Committee	SCC Board Room
8:00 AM - 5:00 PM	WS02 Introduction to Next Generation Sequencing Chair: Shannon Straub	Salon 3
8:00 AM - 5:00 PM	WS03 Ecological Niche Modeling: - A Crash Course Chair: Pamela S. Soltis	Salon 5
8:00 AM - 5:00 PM	WS04 Introduction to Botanical Drawing with Alice Tangerini Chair: Marilyn Garber	Salon 6
8:00 AM - 12:00 PM	WS05 Using online resources for creating checklists, floras, identification keys, and specimen citations Chair: Mary E. Barkworth	Salon 11
8:30 AM - 2:00 PM	ASPT Council Meeting	Salon 2
9:00 AM - 10:00 AM	BSA Financial Advisory Committee	SCC Board Room
9:00 AM - 3:00 PM	CPS Outgoing Board Meeting	Salon 16
10:00 AM - 10:30 AM	Coffee Break	Hall D Foyer
10:00 AM - 11:00 AM	BSA Public Policy Committee Meeting	SCC Board Room
10:00 AM - 12:00 PM	BSA Education Committee Meeting	Salon 1
10:00 AM - 12:00 PM	WS06 We are All Plumbers Now: Toolboxes for Building Unconventional STEM Career Pipelines Chair: L.K. Tuominen	Salon 12
10:00 AM - 12:00 PM	WS13 Novel Molecular Tools from IDT for Plant Geno- typing and Rare Allele Detection Chair: Robert Setter	Salon 13

11:00 AM - 12:00 PM	BSA International Affairs Committee	Salon 4
11:00 AM - 12:00 PM	BSA Technology Committee Meeting	SCC Board Room
11:00 AM - 12:00 PM	Human Diversity in Botany Meeting	Salon 18
12:00 PM - 5:00 PM	Exhibits Set - up and Hang and Posters	Hall D
12:00 PM - 1:30 PM	Mycologia Executive Editors	Salon 1
1:00 PM - 5:00 PM	WS07 Learning and evaluating alternative digitization workflows (i.e., changing "know it can be done" to "I can do it") Chair: Mary E. Barkworth	Salon 11
1:00 PM - 4:00 PM	WS08 Planting Inquiry in Science Classrooms Chair: Gordon Uno	Salon 4
1:00 PM - 5:00 PM	WS08A Crowd sourcing and citizen science: engaging the public in natural history collections digitization Chair: George D. Weiblen	Salon 13
1:00 PM - 3:00 PM	WS09 Professional Development Workshop: Graduate School - How to Apply and What to Expect Chair: Ann K. Sakai	Salon 12
1:00 PM - 4:00 PM	WS12 Commercial Greenhouse Lighting: Techniques and Practicalities Chair: Ronald James Howard	Salon 8
1:00 PM - 5:00 PM	WS14 MycoCosm Workshop Chair: Igor Grigoriev	Salon 10
2:00 PM - 3:00 PM	BSA Publications Committee Meeting	Salon 18
3:15 PM - 3:45 PM	Coffee Break	Hall D
3:15 PM - 5:00 PM	BSA Council Meeting	Salon 9
3:15 PM - 5:15 PM	WS10 New Frontiers in RNA Analysis Chair: Jeffrey Seitz	Salon 1
3:15 PM - 5:15 PM	WS10A Discussion Session Non-academic Botanical Career Panel Chair: Susan Pell	Salon 12
4:00 PM - 5:00 PM	Student Conference Assistants Orientation	Hall A
4:00 PM - 5:00 PM	Plant Canada Outgoing Board Meeting	Salon 16
5:00 PM - 6:00 PM	BSA Development Committee Meeting	SCC Board Room

5:00 PM - 6:00 PM	MSA Student Section Board Meeting	Salon 20
5:15 PM - 7:00 PM	WS11 Annual Meeting of the US Virtual Herbarium Project Chair: Mary E. Barkworth	Salon 11
PM - 7:00 PM	PLANTS Student & Mentor Orientation Meeting	Salon 2
PM - 7:00 PM	CBA - Outgoing Executive meeting	Salon 6
PM - 7:00 PM	CSA - Outgoing Executive meeting	Salon 16
PM - 7:00 PM	CSPB - Outgoing Executive meeting	Salon 18

7:30 PM - 8:30 PM	Plenary Lecture Botany is cool; so why doesn't the public know that? Presented by Ken Thompson	Hall A
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8:00 PM - 10:00 PM	All Society Mixer	Hall D
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SUNDAY

MONDAY, JULY 27TH

6:00 AM - 11:00 PM	Botany 2015 Conference Office	D-2 Office
7:00 AM - 8:30 AM	Continental Breakfast	Hall D Foyer
7:00 AM - 8:00 AM	President's Breakfast Meeting & Discussion	SCC Board Room
7:00 AM - 5:00 PM	Registration	Hall D Foyer
7:00 AM - 8:00 AM	Cornell Botanists and Friends Breakfast	Salon 12
7:00 AM - 8:00 AM	Plant Canada Breakfast	Riverview Room
7:00 AM - 8:00 AM	Michigan Consortium of Botanists Brown Bag Breakfast	Salon 19/20

8:00 AM - 9:45 AM	1 Contributed Papers	Salon 5
Cookson Awards I		
Chair: Michael Dunn		

8:00	1001	Bippus, Alexander Cole* - Stockey, Ruth A. - Rothwell, Gar W. - Tomescu, Alexandru M.F. Phylogenetic relationships in the Polytrichaceae (Bryophyta): a morphology-based approach
8:15	1002	Chu, Jessica* - Tomescu, Alexandru M.F. Reappraising the flora of the Battery Point Formation (Québec) – additional diversity of Early Devonian permineralized plants
8:30	1003	Matsunaga, Kelly K.S.* - Tomescu, Alexandru M.F. Developmental determinants, morphology, and the fossil record – updating paradigms in the evolution of lycophyte rooting structures
8:45	1004	Parsley, Kathryn* - Dunn, Michael The Reproductive Biology of <i>Winslowia tuscumbiana</i> , a Cormose Ligulate Lycopsid in the Serphukovian of Alabama
9:00	1005	Cullen, Nevin* - Browder, Austin - Matsunaga, Kelly K.S. - Tomescu, Alexandru M.F. Rhizophore vascularization in <i>Selaginella</i> and potential implications for early lycophytes

- 9:15 1006 Harper, Carla J.* - Olcott Marshall, Alison - Marshall, Craig P. - Taylor, Thomas N. - Krings, Michael - Taylor, Edith L.
Biomarkers in paleomycology – A case study using fungus-infected Permian woods from Antarctica
- 9:30 1007 Lundgren, Kolby* - Cuneo, N. Ruben - Escapa, Ignacio - Tomescu, Alexandru M.F.
Additional diversity of marattialean ferns in the Early Permian Rio Genoa Formation, Patagonia, Argentina

8:00 AM - 11:00 AM 2 Contributed Papers

Salon 1

Reproductive Biology Oral papers

Chair: Juan M. Losada

- 8:00 2001 Losada, Juan M.* - Herrero, Maria - Hormaza, Jose I. - Friedman, William
Stigmatic receptivity marked by the secretion of arabinogalactan proteins in the protogynous *Magnolia virginiana*
- 8:15 2002 Joly, Valentin* - Matton, Daniel P.
Plants' secret words of love: rapid evolution of pollen-pistil recognition proteins drives reproductive isolation of wild potatoes
- 8:30 2003 Christopher, Dorothy* - Chang, Shu-Mei
Geographic variation in population sex ratio in the gynodioecious *Geranium maculatum*
- 8:45 2004 Steven, Janet C.* - Franke, Morgan
Environment-Dependent Sexual Dimorphism in *Thalictrum pubescens*
- 9:00 2005 Ivey, Christopher T.
Mating system phenology in *Mimulus guttatus*
- 9:15 2006 Schoonderwoerd, Kristel* - Friedman, William
Prolonged zygotic dormancy in *Franklinia alatamaha*, a most unusual phenological pattern of seed development among angiosperms
-
- 9:30 Break
-
- 10:15 2008 Leslie, Andrew B.* - Beaulieu, Jeremy M.
Dispersal Biology and the Evolution of Seed Size in Conifers

- 10:30 2009 Larson-Johnson, Kathryn
Wind variability limits the influence of fruit morphology and descent rate on dispersal in the winged fruits of *Carpinus* (Betulaceae)
- 10:45 2010 Russell, Francis Leland* - Houseman, Gregory R.
Effects of herbivory and soil fertility on tall thistle (*Cirsium altissimum*) population density and growth

8:00 AM - 11:45 AM 3 Contributed Papers Salon 3
Macroevolution
Chairs: Herve Sauquet and Matthew Harold Koski

- 8:00 3001 Liu, Zhong-Jian - Wang, Xin*
A Perfect Flower from the Jurassic of China
- 8:15 3002 Miao, Yuyan - Liu, Zhong-Jian - Wang, Meina - Wang, Xin*
Non-phyloid "megasporephylls" of cycads and their implications for seed plant evolution
- 8:30 3003 Sauquet, Herve* - von Balthazar, Maria - Magallon, Susana - Doyle, James A. - Endress, Peter K. - Bailes, Emily - Barroso de Morais, Erica - Bull-Herenu, Kester - Carrive, Laetitia - Chartier, Marion - Chomicki, Guillaume - Coiro, Mario - El Ottra, Juliana H. L. - Epicoco, Cyril - Haevermans, Thomas - Jabbar, Florian - Hernandez, Rebeca - Little, Stefan A. - Lofstrand, Stefan - Luna, Javier A. - Massoni, Julien - Nadot, Sophie - Prieu, Charlotte - Reyes, Elisabeth - dos Santos, Patricia - Schoonderwoerd, Kristel - Soulebeau, Anaëlle - Staedler, Yannick - Tschan, Georg - Wing-Sze Leung, Amy - Schoenenberger, Juerg
Fifteen clues to the early diversification of flowers: first results from the eFLOWER initiative
- 8:45 3004 Spiegel, Frederick W.
Believing in basal lineages is bad biology
- 9:00 3005 Magallon, Susana* - Sánchez Reyes, Luna L. - Gómez-Acevedo, Sandra L. - Hernández-Hernández, Tania
Major diversification shifts through angiosperm evolutionary history
- 9:15 3006 Benítez-Villaseñor, Adriana* - Magallon, Susana
Perianth Structure across Eudicotyledoneae, and its relationship with Diversification

9:30 Break

- 10:00 3008 Marx, Hannah* - Dentant, Cédric - Lavergne, Sébastien - Tank, David
Patterns of community assembly on "sky islands" in the French Alps using mega-phylogenetic approaches

- 10:15 3009 Koski, Matthew Harold* - Ashman, Tia-Lynn
Abiotic contributions to flower color pattern variation in the
Potentilla group (Rosaceae)
- 10:30 3010 Zuluaga, Alejandro* - Cameron, Kenneth M.
Exploring diversification rates in the monocot family Araceae
- 10:45 3011 Reyes, Elisabeth* - Nadot, Sophie - Sauquet, Herve
Floral symmetry shifted 198 times in angiosperms
- 11:00 3012 Chang, Hsuan - Xu, Wei-Bin - Liu, Yan - Peng, Ching-I - Chung,
Kuo-Fang*
Convergent plant evolution in the twilight zone of limestone caves
- 11:15 3013 Larson-Johnson, Kathryn
Phylogenetic investigation of the complex evolutionary history of
dispersal mode across living and fossil Fagales and its impact on
extant biogeography and diversity

8:00 AM - 12:00 PM **4 Contributed Papers** **Salon 2**
Economic Botany: Contributed Papers
Chair: Unknown

- 8:00 4001 Sher, Hassan - Barkworth, Mary E.*
Economic Development as a Tool for Production and Conservation
of Medicinal and Aromatic Plants in Pakistan
- 8:15 4002 Asrar, Mudassir* - Huda, Sohaib
Ethnobotanical studies: Medicinal Plants of Balochistan, Pakistan
used for the treatment of disorders of the Gastrointestinal Tract
- 8:30 4003 Elisens, Wayne
Floristic and ethnobotanical resource use among hunting/gathering
tribes in the southern plains of North America
- 8:45 4004 Akinnubi, Funmilola Mabel* - Oladipo, Olaniran Temitope - Akinloye,
Akinwumi Johnson
Ethnobotanical and Floret studies on Twelve Species of the family
Asteraceae in Ile-Ife, Osun state, Nigeria
- 9:00 4005 Simper, Heidi
The Experience of *Orpul* and its Effect on Tanzanian Students' Ability
to Acquire Medicinal Plant Knowledge
- 9:15 4006 Chakraborty, Sonhita* - Van Acker, Rene - Todd, Jim - Loucks, Cora
Canceled
Assessing the cropping and weediness potential in southern Ontario
of two potentially new oilseed species: *Euphorbia lagascae* and
Centrapalus pauciflorus

- 9:30 4007 Reilly, Paul* - O'Quinn, Robin
Assessing the mineral nutrition of *Claytonia lanceolata* corms from multiple populations across the Columbia Plateau region of North America
-
- 9:45 Break
-
- 10:15 4009 Von Wettberg, Eric* - Chang, Peter - Greenspan, Alex - Dacosta-Calheiros, Manny - Moenga, Susan - Mamo, Bullo - Alford, Betsy - Cacmak, Ahmet - Vance, Lisa - Moriuchi, Ken - Warschefsky, Emily - Rose, Janna - Migneault, Andrew - Friesen, Maren - Siler, Elinor - Carrasquilla-Garcia, Noelia - Yilmaz, Mustafa - Temel, Hamdi - Nuzhdin, Sergey - Bukun, Bekir - Aydogan, Abdulkadir - Kahraman, Abdullah - Penmetsa, Varma - Berger, Jens - Cook, Doug
Using new collections of a wild relative of crops to expand crop adaptations short title: lessons from chickpea for the construction of germplasm collections
- 10:30 4010 Meyer, Rachel* - Sanches, Michelle - Purugganan, Michael
Who spread African rice? Curiosities roused by combining landscape genomics with farmer practices in the Bight of Benin versus Senegal
- 10:45 4011 Murch, Susan* - Ragone, Diane
Breadfruit (*Artocarpus altilis*): Development of a traditional underutilized crop for food security and modern food markets
- 11:00 4012 Liu, Ying* - Murch, Susan
Breadfruit (*Artocarpus altilis*, Parkinson (Fos)) for Food Security and Novel Food Products
- 11:15 4013 Klein, Laura* - O'Hanlon, Regan - Caito, Madeleine - Chitwood, Dan - Miller, Allison
Digital morphometrics of two North American grapevines: assessing leaf variation within and among individuals, and among species (Vitaceae)
- 11:30 4014 Syfert, Mindy - Castañeda-Álvarez, Nora P. - Khoury, Colin - Särkinen, Tiina - Sosa, Chrystian C. - Achicanoy, Harold C. - Bernau, Vivian - Prohens, Jaime - Daunay, Marie-Christine - Knapp, Sandra*
Wild relatives of the brinjal eggplant (*Solanum melongena* L.: Solanaceae): evaluating gaps in global germplasm collections and identifying priority collecting areas
- 11:45 4015 Ghorbani, Abdolbaset* - Saeedi, Yousef - de Boer, Hugo J.
Application of DNA Barcoding in Ethnobotany and Ethnopharmacology: Identifying medicinal plants traded in local markets

Basal eudicots, Fabids I

Chairs: Isabel Larridon, and Jer-Ming Hu

- 8:00 5001 Yu, Chih-Chieh - Chung, Kuo-Fang*
Molecular Recircumscription of *Berebris s.l.* and Why *Mahonia*
- 8:15 5002 Wen, Jun* - Lu, Limin - Nie, Ze-Long - Manchester, Steven R. - Ickert-Bond, Stefanie - Chen, Zhi-Duan
Phylogenetics and a revised classification of Vitaceae
- 8:30 5003 Ickert-Bond, Stefanie* - Gerrath, Jean - Posluszny, Usher - Wen, Jun
Inflorescence development in the *Vitis-Ampelocissus* clade of Vitaceae: The lamellate inflorescence of *Pterisanthes* confirms the *Ampelocissus* bauplan
- 8:45 5004 Larridon, Isabel* - Walter, Helmut E. - Guerrero, Pablo C. - Samain, Marie-Stéphanie
An integrative approach to understanding the evolution and biodiversity of *Copiapoa* (Cactaceae), a threatened genus from Chile's coastal desert
- 9:00 5005 Hsieh, Yun-Chen - Chang, Shih-Pai - Su, Huei-Jiun - Hu, Jer-Ming*
Host specificity of *Balanophora laxiflora* and allied taxa (Balanophoraceae)
- 9:15 5006 Kates, Heather Rose* - Soltis, Pamela S. - Soltis, Douglas
Species tree estimation in *Cucurbita* provides new insight into the genetic origins of crop species
- 9:30 5007
Canceled Aygoren Uluer, Deniz* - Forest, Felix - Hawkins, Julie
Evolution of papilionate flowers in the Fabales
-
- 9:45 Break
-
- 10:15 5009 Wallace, Lisa* - Dorman, Hanna Elizabeth - Hosseinalizadehnoharinezhad, Mahboubeh
Intraspecific variation and its importance to taxonomy of *Chamaecrista* in the Southeast
- 10:30 5010 Fritsch, Peter W.* - Nowell, Camille - Leatherman, Lila S.T. - Cruz, Boni C.
Cryptic species and leaf adaptations in North American *Cercis*
- 10:45 5011 Mostafavi, Golaleh
Molecular phylogeny of the *Ononis* L. (Fabaceae) species in Iran
- 11:00 5012 Egan, Ashley N.
A comprehensive generic-level phylogeny of Millettoid/Phaseoloid legumes (Fabaceae) places many genera never before sampled into evolutionary context

- 11:15 5013 Torke, Benjamin M.* - Chung, Kuo-Fang - Cardoso, Domingos
Re-evaluating the evolutionary and taxonomic significance of morphological innovations in the trans-Pacific tropical tree genus *Ormosia* (Fabaceae)
- 11:30 5014 Charboneau, Joseph* - Sanderson, Michael
Terraces in phylogenetic tree space in a supermatrix phylogeny of the inverted repeat-lacking clade of legumes (Fabaceae)
- 11:45 5015 Cardinal-McTeague, Warren* - Gillespie, Lynn
Evolution of pollen morphology in tribe Plukenetieae (Euphorbiaceae)

8:00 AM - 12:15 PM 6 Contributed Papers Salon 15/16
Genetics I -
Chair: Eric Von Wettberg

- 8:00 6001 Harris, Neil S.* - Wiebe, Krystalee - Clarke, John M. - Pozniak, Curtis J. - Taylor, Gregory J.
Epistatic interaction between P_{1b} -ATPase genes, *HMA3-B1* and *HMA3-A1*, generates a cadmium-specific phenotype for *Cdu-B1*, the major locus controlling grain cadmium content
- 8:15 6002 Coate, Jeremy* - Song, Michael - Bombarely, Aureliano - Doyle, Jeff J.
Cross-species and cross-ploidy level transcriptomic data support important roles for selection on gene dosage in shaping gene networks
- 8:30 6003 Qi, Xinshuai* - Li, Zheng - Baniaga, Anthony Ernest-Fiorentino - Barker, Michael
Higher substitution rates and more deleterious loci in polyploid plants
- 8:45 6004 Oakley, Christopher G.
Patterns of heterosis in natural populations of *Arabidopsis*
- 9:00 6005 Rad, Sara Abolhassani* - Kohalmi, Susanne E
Analyzing the non-enzymatic role of Arogenate dehydratase 5 in *Arabidopsis thaliana*
- 9:15 6006 Ahmed Wahocho, Dr. Niaz
Characterization of natural variation of shoot and root growth in response to nitrogen availability in *Brassica rapa* L.
- 9:30 6007 Tack, David - Adams, Keith*
Reshaped patterns of alternative splicing after allopolyploidy in *Brassica napus*

9:45 Break

- 10:15 6009 Verna, Carla* - Sawchuk, Megan G. - Linh, Nguyen Manh - Scarpella, Enrico
Control of vein formation by auxin transport
- 10:30 6010 Sinn, Brandon T.* - Sedmak, Dylan - Kelly, Lawrence - Freudenstein, John
Structural and Syntenic Variability in Asaraceae Plastomes: A phylogenetic perspective
- 10:45 6011 Hansen, Kimberley* - Ayers, Tina
Reconstructing the Evolutionary History of the Cyphocarpoideae: Evidence for an Early and Rapid Diversification of the Campanulaceae

8:00 AM - 1:30 PM **7** **Contributed Papers** **Salon 13/14**
Biotic and Abiotic Stress: Morning Session
Chair: Unknown

- 8:00 7001 Sanches, Michelle* - Meyer, Rachel
Vulnerability of rice growing areas to saltwater intrusion
- 8:15 7002 Irani, Solmaz* - Todd, Christopher D.
Ureide Metabolism Following Drought Stress in Arabidopsis
- 8:30 7003 Slaski, Jan* - Anyia, Anthony - Capo-Chichi, Ludovic - Gingera, Gregory - Degenhardt, Rory
Carbon Isotope Discrimination (CID) as a rapid screening tool for water use efficiency (WUE) in canola
- 8:45 7004 Tuominen, L.K.* - Fort, Douglas J. - Mathis, Michael B. - Walker, Rachel - Hansel, Mike - Hall, Scott - Richards, Robin - Grattan, S.R. - Anderson, Kurt
Toxicity of Sulfate and Sulfide in Hydroponically-Grown Wild Rice (*Zizania palustris*) Seedlings
- 9:00 7005 Dahal, Keshav* - Martyn, Greg - Vanlerberghe, Greg
Improved photosynthetic performance during severe drought in *Nicotiana tabacum* overexpressing a non-energy conserving respiratory electron sink
- 9:15 7006 Castellarin, Simone Diego* - Wong, Darren C. J. - Savoï, Stefania - Miculan, Mara - Peterlunger, Enrico - Mattivi, Fulvio
Large scale metabolite and transcript analysis revealed a complex modulation of berry secondary metabolism under severe water deficit in white grapes (*Vitis vinifera* L.)

9:30	7007	Banik, Pankaj Kumar Effects of drought acclimation on drought stress resistance in potato (<i>Solanum tuberosum</i>) genotypes
9:45		Break
10:15	7009	Jiang, Yunfei* - Lahlali, Rachid - Karunakaran, Chithra - Davis, Arthur - Bueckert, Rosalind Seed set, pollen morphology, and pollen surface composition response to heat stress in field pea
10:30	7010	Brand, Logan A.* - Owttrim, George W. Some like it hot: Transcriptional regulation of a cyanobacterial RNA helicase
10:45	7011	Whitford, Denise S.* - Rosana, Albert Remus R. - Owttrim, George W. Association of an abiotic stress-induced RNA helicase with the thylakoid membrane
11:00	7012	Kaur, Harleen* - Ozga, Jocelyn A. - Reinecke, Dennis M. Heat stress affects reproductive growth and auxin response in pea (<i>Pisum sativum</i> L.)
11:15	7013	Arshad, Muhammad* - Gruber, Margaret - Hannoufa, Abdelali A step ahead: Improving alfalfa for biomass and environmental stresses
11:30	7014	Willick, Jan R.* - Fowler, Brian - Tanino, Karen Where did the water go? Mapping ice migration and regions of damage in winter cereal crowns during freezing stress
11:45	7015	Hiiback, Katrina* - Stokes, Michael - Mahtani, Trisha - Campbell, Malcolm M. Chemical priming can attenuate chilling-induced anthocyanin accumulation

8:00 AM - 12:15 PM C1 Colloquium Salon 4
Phylogenomics and the 1000 plants (1KP) initiative
Chair: James H. Leebens-Mack; Gane Ka-Shu Wong

- 8:00 C1SUM Leebens-Mack, James H.* - Ka-Shu Wong, Gane
Botany 2015 Colloquium: Phylogenomics and the 1000 plants (1KP)
initiative
- 8:00 C1001 Wong, Gane Ka-Shu
1000 Plants (1KP): Objectives and Achievements
- 8:15 C1002 Leebens-Mack, James H.* - Mirarab, Siavash - Nguyen, Nam-phuong -
Wafula, Eric - Ayyampalayam, Raj - Der, Joshua - dePamphilis, Claude
D. - Warnow, Tandy - Wong, Gane Ka-Shu
The power and perils of phylotranscriptomics deep in the green tree
of life
- 8:30 C1003 Soltis, Douglas E.* - Ruhfel, Brad - Feng, Guanqiao - Segovia-Salcedo,
Claudia - Soltis, Pamela - Wong, Gane Ka-Shu - Gitzendanner, Matthew
Phylogenomics of Viridiplantae using plastid genome sequence data
- 8:45 C1004 Burleigh, Gordon
Large-scale syntheses of plant relationships
- 9:00 C1005 Yang, Ya* - Moore, Michael J. - Brockington, Samuel F. - Smith, Stephen
A.
Phylotranscriptomics of the Caryophyllales: paleopolyploidy, gene
tree discordance and evolution of genes associated with adaptive
changes
- 9:15 C1006 Chanderali, Andre* - Soltis, Douglas - Soltis, Pamela S.
Gene family evolution across the green tree of life
- 9:30 C1007 Li, Zheng* - Barker, Michael Shane
Paleopolyploidy and the evolution of green plants
- 9:45 C1008 Soltis, Pamela S.* - Soltis, Douglas - Gitzendanner, Matthew
1KP and Angiosperm Phylogenomics
-
- 10:00 Break
-
- 10:15 C1010 Puzey, Joshua - Zhan, Shing Hei - Chen, Tao - Deyholos, Michael -
Leebens-Mack, James - Stevenson, Dennis - Thomas, Philip - Wong,
Gane Ka-Shu - Graham, Sean W. - Mathews, Sarah*
Nuclear phylogenomics of the seed plants
- 10:30 C1011 Rothfels, Carl* - Li, Fay-Wei - Sigel, Erin M. - Huiet, Layne - Larsson,
Anders - Graham, Sean W. - Wong, Gane Ka-Shu - Pryer, Kathleen M.
Curated phylogenomics and the first single-copy nuclear phylogeny
of the ferns
- 10:45 C1012 Zhan, Shing Hei - Rothfels, Carl - Wong, Gane Ka-Shu - Stevenson,

- Dennis - Graham, Sean W.*
Phylogenomics of the seedless land plants
- 11:00 C1013 Stevenson, Dennis* - Graham, Sean W. - Wickett, Norm - Wong, Gane Ka-Shu
Linking 1KP back to plant biology, some evo/devo possibilities
- 11:15 C1014 Sessa, Emily Butler* - Szovenyi, Peter - Graham, Sean W. - Stevenson, Dennis - Wolf, Paul - Rothfels, Carl - Li, Fay-Wei - Wong, Gane Ka-Shu - Der, Joshua
Gametophyte vs. sporophyte dominance and accompanying changes in gene content across land plants
- 11:30 C1015 dePamphilis, Claude D.* - Wafula, Eric - Zhang, Yeting - Der, Joshua - Mirarab, Siavash - Ayyampalayam, Raj - Villegente, Matthieu - Wulff, Adrien - Fogliani, Bruno - Gateble, Gildas - Munzinger, Jerome - Westwood, Jim - Warnow, Tandy - Wong, Gane Ka-Shu - Leebens-Mack, James H.
Parasitic and mycotrophic plants as foci for horizontal gene transfer: evidence from 1kp transcriptome data
- 11:45 C1016 Hollister, Jesse D.
The evolutionary consequences of losing sex in the evening primroses
- 12:00 C1017 Sage, Rowan F.* - Stata, Matthew - Kelly, Steve - Covshoff, Sarah J. - Wong, Gane Ka-Shu - Hibberd, Julian M.
The 1KP Project and the Evolution of C₄ Photosynthesis

8:00 AM - 9:00 AM **S02** **MSA Presidential Address** **Salon 8**
Musings on what types of non-molecular characters are concordant with molecular phylogenies in Agaricomycetes and why so few are synapomorphic
Chair: D. Jean Lodge

8:00 AM - 12:00 PM **SY01** **Symposium** **Hall C**
Plant Secondary Chemistry: from Biochemistry to Applications -
Chair: John Markham

8:00 Introduction

- 8:15 SY01002 Stout, Jake* - Page, Jonathan
Cannabinoid diversity in *Cannabis sativa* and the identification of *cannabichromenic acid synthase* using the cannabis genome
- 8:45 SY01003 Facchini, Peter
Milk of the Poppy: Alkaloid Biosynthesis in Plants and Beyond
- 9:15 SY01004 Debnath, Samir C.
Biodiversity and antioxidant properties in berry crops

9:45 Break

- 10:15 SY01006 Ames, Nancy
Plant Biosynthesis: A Source of Bioactives for Human Health
- 10:45 SY01007 Daayf, Fouad
Biochemical warfare at the plant-pathogen interface: examples and implications
- 11:15 SY01008 Arnason, John Thor
The ethnobotany and phytochemistry of Cree and Maya medicinal plants
- 11:45 Discussion

8:00 AM - 12:00 PM SY02 Symposium Salon 11
A Broader view for Plant EvoDevo: novel approaches for diverse model systems -
Chair: Veronica Di Stilio

- 8:00 Introduction
- 8:15 SY02002 Niklas, Karl J.
Developmental Modules and the Evolution of Multicellularity
- 8:45 SY02003 Sakakibara, Keiko
Evolution of the alternation of generation in Land Plants
- 9:15 SY02004 Ambrose, Barbara* - Smalls, Tynisha - Vasco, Alejandra
Evolution and development in lycophytes and ferns
-
- 9:45 Break
-
- 10:15 SY02006 Mathews, Sarah
Evo-devo in gymnosperm clades - the tremendous potential of old and new tools

- 10:45 SY02007 Melzer, Rainer* - Ruempler, Florian - Haerter, Andrea - Theissen, Guenter
Turning a loss into a gain: Reduction of protein interactions among MADS-domain transcription factors may have facilitated diversification of flowering plants
- 11:15 SY02008 Cronk, Quentin* - Rudall, Paula J.
Genomics and reproductive morphology of Salicaceae
- 11:45 Discussion

8:00 AM - 12:00 PM SY03 Symposium Salon 10
Ecological and evolutionary attributes of bryophytes of the boreal and arctic regions: New paradigms from interdisciplinary research
Chair: Dale H. Vitt

- 8:00 Introduction
- 8:15 SY03002 Crandall-Stotler, Barbara
From Morphology to Molecules: Changing Views of Liverwort Phylogeny and Classification
- 8:45 SY03003 Frego, Katherine A.* - Fenton, Nicole - Ross-Davis, Amy
A new paradigm for bryophyte ecology: The critical roles of dispersal and the juvenile phase
- 9:15 SY03004 LaFarge, Catherine* - Miller, Gifford H - Bao, Tan - Williams, Krista H - Miller, Brittney H - Pendleton, Simon - England, John
Regeneration of Entombed Bryophytes in Arctic and Boreal ecosystems: Expanding the Shelf Life of Totipotency
-
- 9:45 Break
-
- 10:15 SY03006 Shaw, Blanka* - Devos, Nicolas - Johnson, Matthew - Shaw, Jonathan
Diversification of peat mosses: ecosystem engineers in northern wetlands
- 10:45 SY03007 Graham, Jeremy* - Vitt, Dale H.
The importance of *Sphagnum* nitrogen utilization to ecosystem balance: Changes along a nutrient gradient in a boreal peatland
- 11:15 SY03008 Loisel, Julie
Modern *Sphagnum* growth driven by photosynthetically active radiation and growing season length: implications for Holocene carbon sequestration in peatlands
- 11:45 Discussion

Pollination Biology I

Chair: Diana Bizecki Robson; Jana C. Vamosi

- | | | |
|-------|------|--|
| 8:15 | 8001 | Robson, Diana Bizecki
Restoration of Prairie Pollinator Communities: Which Plants Have "the Right Stuff"? |
| 8:30 | 8002 | Harris, Zackary Ryan* - Husband, Brian
Components of Pollen Limitation in Relation to Reproductive Success in Small Populations of Big Bluestem (<i>Andropogon gerardii</i>) |
| 8:45 | 8003 | Higuera-Díaz, Mónica* - Manson, Jessamyn S. - Hall, Jocelyn C.
Pollination biology of <i>Cleomella serrulata</i> and <i>Polanisia dodecandra</i> , two native prairie plants in Southern Alberta |
| 9:00 | 8004 | Koptur, Suzanne
Effects of inbreeding via self-pollination in fragmented populations – comparing populations from habitat fragments of different sizes and degrees of isolation |
| 9:15 | 8005 | Vizelka, Jason* - Karron, Jeffrey - Mitchell, Randall - Trapnell, Dorset
Differential contributions of multiple bumble bee species on reproductive success and mating patterns in <i>Mimulus ringens</i> |
| 9:30 | 8006 | Sorin, Yuliya* - Karron, Jeffrey - Mitchell, Randall - Trapnell, Dorset
Effects of timing of pollen arrival on selfing rate in <i>Mimulus ringens</i> |
| 9:45 | | Break |
| 10:15 | 8008 | Vamosi, Jana C.
Ecophylogenetic approaches to study pollinator specialization |
| 10:30 | 8009 | Karron, Jeffrey* - Yulia, Sorin - Mitchell, Randall - Trapnell, Dorset
Influence of pollinator visitation patterns and post-pollination processes on selfing rate |
| 10:45 | 8010 | Layman, Nathan - Herlihy, Christopher R. - Busch, Jeremiah W.*
Modes of natural selection driving the shift from outcrossing to selfing |
| 11:00 | 8011 | Hallett, Allysa* - Karron, Jeffrey - Chamberlain, Evan - Mitchell, Randall
How would a decline in bumble bee visitation influence pollination success in whorled milkweed (<i>Asclepias verticillata</i>) ? |
| 11:15 | 8012 | Harder, Lawrence David* - Richards, Shane A. - Ågren, Jon - Johnson, Steven D. |

Multiple mechanisms of male-male interference during pollen dispersal for an orchid, *Anacamptis morio*

- 11:30 8013 Eisen, Katherine* - Case, Andrea - Caruso, Christina
Sources of variation in pollen dispensing schedules of *Lobelia siphilitica*
- 11:45 8014 Garrett, Patrick Charles* - Moore, Richard C. - Hickey, R. James
The Impacts of Synchronous Dichogamy on Pollen Dispersal and Genetic Differentiation in *Canella winterana* (Canellaceae)

8:30 AM - 11:30 AM 9 Contributed Papers Salon 17/18

Ecological Section: Invasion Biology

Chair: Cynthia Huebner

- 8:30 9001 Huebner, Cynthia
Above- and Belowground Competition between *Ailanthus altissima* and Two Native Tree Species
- 8:45 9002 Crandall, Raelene* - Knight, Tiffany
Biotic interactions increase the effectiveness of using fire to control *Ailanthus altissima* (Simaroubaceae)
- 9:00 9003 Sebesta, Nicole* - Richards, Jennifer - Taylor, Jonathan
The Effects of Fire on Spore Viability of *Lygodium microphyllum*
- 9:15 9004 Borowicz, Victoria - Armstrong, Joseph E.*
The progressive invasion of an invasive legume, *Lespedeza cuneata*, in a restored tallgrass prairie
- 9:30 9005 Marchini, Gina* - Cruzan, Mitchell B.
Adaptive genetic differentiation during the lag phase of a newly invasive bunchgrass (*Brachypodium sylvaticum*)
-
- 9:45 Break
-
- 10:15 9007 Gorchov, David L.* - Peebles-Spencer, Jessica
Do white-tailed deer mediate apparent competition between an invasive shrub and native plants?
- 10:30 9008 Cunard, Chelsea* - Lankau, Richard
Is coexistence between invasive *Microstegium vimineum* and native plants dependent on invasion history of the soil?
- 10:45 9009 Wilson, Matthew - Freundlich, Anna - Martine, Chris*
Impacts of Japanese knotweed (*Polygonum cuspidatum*) on native plant diversity in riparian communities along the Susquehanna River
- 11:00 9010 Teter, Christopher Daniel

MONDAY

Another naturalizing exotic tree; populations of *Syringa reticulata* (Japanese Tree Lilac) in New York

11:15 9011 Blair, Charles E.
Invasive Aquatic and Riparian Weeds and Mosquitoes; Challenges, Successes, and Importance of On-going Studies

9:00 AM - 10:00 AM Spouse/Companion Breakfast Riverview Room

9:00 AM - 7:00 PM Exhibit Hall Open Hall D

9:15 AM - 10:15 AM S03 Karling Lecture Salon 8
Perception in fungi: sensing light and other signals
Corrochano, Luis M.

9:45 AM - 10:15 AM Coffee Break Hall D

10:15 AM - 11:30 AM 10 Contributed Papers Salon 20
Pteridological Section/AFS Talks
Chair: Unknown

10:15 10001 Sessa, Emily Butler* - Vicent, Maria - Gabriel y Galán, José María
Exploring potential asymmetric hybridization in a Mediterranean fern complex: the *Asplenium obovatum* group

10:30 10002 Sundue, Michael - Testo, Weston - Parris, Barbara - Morden, Clifford - Ranker, Tom*
Biogeographic Patterns and Processes of Speciation in the Polypodiaceae

10:45 10003 Farrar, Donald R.* - Stensvold, Mary C. - Dauphin, Benjamin
Differentiation through genome partitioning and intragametophytic selfing

11:00 10004 Williams, Evelyn Webb* - Farrar, Donald
Hybridization histories in the *Botrychium matricariifolium* (Ophioglossaceae) complex

11:15 10005 Cook, Kelsey* - Hickey, R. James
Morphological variation in the New World *Pseudolycopodiella caroliniana* species complex

10:15 AM - 12:00 PM 11 **Contributed Papers** **Salon 5**
Cookson Award II
Chair: Michael Dunn

- 10:15 11001 Hieger, Timothy J.* - Serbet, Rudolph - Harper, Carla J. - Taylor, Thomas N. - Taylor, Edith L.
Canceled Anatomy of a coniferous pollen cone from Carapace Nunatak (Lower Jurassic), southern Victoria Land, Antarctica
- 10:30 11002 Contreras, Dori* - Escapa, Ignacio - Iribarren, Rocio - Cuneo, N. Ruben
Morphological diversity among basal Cupressaceae: a new *Austrohamia* species from the Early Jurassic of Patagonia, Argentina
- 10:45 11003 Gonzalez-Ramírez, Ixchel* - Cevallos-Ferriz, Sergio R. S. - Ochoterena, Helga - Gernandt, David S.
Phylogenetic analysis approach in the study of Cretaceous conifers from Chiapas, Mexico
- 11:00 11004 Petlewski, Alaina* - Tomescu, Alexandru M.F.
Permineralized pinaceous leaves in the Lower Cretaceous Budden Canyon Formation of northern California
- 11:15 11005 Fryer, Emma Rose* - Tomescu, Alexandru M.F.
Early Cretaceous permineralized wood with araucarioid characters in the Budden Canyon Formation of California
- 11:30 11006 Parrott, Joan* - Upchurch, Garland - Mack, Greg
McRae Formation *Icacinoxylon* and Platanoids: Components of a Late Cretaceous Wood Flora From South-Central New Mexico
- 11:45 11007 Donovan, Michael* - Iglesias, Ari - Wilf, Peter - Cuneo, N. Ruben - Labandeira, Conrad
Rapid recovery of plant-insect associations in Patagonia after the Cretaceous-Paleogene mass extinction

10:30 AM - 11:30 AM **MSA Business Meeting** **Salon 8**

11:00 AM - 12:00 PM **S04 Regional Botany Special Lecture** **Hall A**

Does beer make a good fertilizer?
Jim Hole

12:00 PM - 1:30 PM **APPS Editorial Board Meeting - Luncheon** **SCC Board Room**

MONDAY

12:00 PM - 1:30 PM	American Fern Society Luncheon	Riverview Room
12:00 PM - 1:30 PM	Student Involvement in Botany Luncheon	Salon 12
12:00 PM - 1:30 PM	California Botanists Brown Bag Luncheon	Hall C
12:00 PM - 1:30 PM	CBA/Teaching Section Luncheon	Hall A

1:30 PM - 3:00 PM	12	Contributed Papers	Salon 1
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Mycology I
Chair: Gavin Kernaghan

1:30	12001	Skaltsas, Demetra* - Castlebury, Lisa - Chaverri, Priscila Metagenomic assessment of endophytes in seedlings and adults of two tropical euphorbiaceous host genera: <i>Hevea</i> and <i>Micrandra</i>
1:45	12002	Mayerhofer, Michael - Fraser, Erica - Kernaghan, Gavin* Proteolytic activity in fungal root endophytes of woody plants
2:00	12003	Gray, Logan* - Kernaghan, Gavin Utilising metagenomics to characterise changes in root associated fungal communities during fine root decomposition in <i>Abies balsamea</i> and <i>Picea rubens</i>
2:15	12004	Lee, Aslan Hwanhwi* - Kim, Jae-Jin Removal of anthracene by a new MnP gene from <i>Peniophora incarnata</i> KUC8836 in <i>Saccharomyces cerevisiae</i>
2:30	12005	Dee, Jaelyn* - Chang, Ying - Auxier, Benjamin - Berbee, Mary Do you even lift? Linking body sculpting gene evolution to gene function across the tree of Fungi
2:45	12006	Rehner, Stephen Austin* - Kepler, Ryan M. Variation in ploidy in the ascomycete entomopathogens <i>Metarhizium majus</i> and <i>M. guizhouense</i>

1:30 PM - 3:15 PM	13	Contributed Papers	Salon 6
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Pollination Biology II
Chair: Brenda Molano-Flores

1:30	13001	Molano-Flores, Brenda* - Primer, Samantha B. - Annis, Jenna - Feist, Mary Ann - Coons, Janice Reproductive ecology of three <i>Pinguicula</i> species in the southeastern USA
1:45	13002	Policha, Tobias* - Dentinger, Bryn T. M. - Grimaldi, David - Ludden, Ashley - Troya, Adrian - Raguso, Robert Andrew - Roy, Bitty A. Substrate use by mycophilous Drosophilidae: Implications for the evolution of fungal mimicry by <i>Dracula</i> orchids

- 2:00 13003 Cameron-Inglis, Hazel* - Harder, Lawrence David
Floral display dynamics in *Delphinium glaucum*: architectural effect or response to changing resources?
- 2:15 13004 Abdusalam, Aysajan
Effect of flower size-dependent anther-stigma separation on mating pattern of *Tulipa iliensis*
- 2:30 13005 Lau, Jenny Yuen Yung* - Pang, Chun Chiu - Saunders, Richard M.K.
Evolution of pollinator traps in *Goniothalamus* and *Dasymaschalon* (Annonaceae), associated with short anthesis periods
- 2:45 13006 Montgomery, Benjamin R.* - Huang, Shuang-Quan - Radich, Andrew J.
Variation in Pollination Syndromes, Mating Systems and Moth Oviposition Preferences for Co-flowering *Silene* in Yunnan, China
- 3:00 13007 Paudel, Babu
Interspecific variation in reproductive strategy of co-existing Himalayan gingers (*Roscoea tumjensis* Cowley and *R. purpurea* Sm.) in Nepal Himalayas- generalized versus specialized pollination system

1:30 PM - 3:15 PM

14

Contributed Papers

Salon 19/20

Horticulture I

Chair: Anissa Poleatewich

- 1:30 14001 Blade, Stan
Crop diversification in Canada: How can new crops be successfully introduced?
- 1:45 Unsubmitted Abstract
- 2:00 14003 Bhatt, Dhruvit* - Roncal, Julissa - Debnath, Samir C.
Study of Genetic Diversity among various blueberries (*Vaccinium* spp.) using molecular markers
- 2:15 14004 Arigundam, Usha* - Marshall, H.Dawn - Debnath, Samir.C
Scaling up lingonberry micropropagation in liquid media using a bioreactor system
- 2:30 14005 Boulanger Pelletier, Jade* - Lapointe, Line - Rochefort, Line - Quenum, Mathieu
Mineral fertilization stimulates root and leaf growth of cloudberry planted in harvested peatlands

MONDAY

- 2:45 14006 Nair, M.P.M.* - Tanino, Karen
35 years of breeding---New low-light tolerant Canadian citrus and edible plants for the home indoor windowsill environment and greenhouse industry

1:30 PM - 3:15 PM 15 Contributed Papers Salon 5
Cookson Awards III
Chair: Rudolph Serbet

- 1:30 15001 Allen, Sarah
Leaf fossils from the Blue Rim flora of the Eocene Bridger Formation, southwestern Wyoming
- 1:45 15002 Rubalcava Knoth, Marco Antonio* - Cevallos Ferriz, Sergio Rafael Silvestre
Palaeoecology of the Oligocene-Miocene Tehuacan Formation as determined from wood anatomical characters
- 2:00 15003 Quintanar Castillo, Angélica* - Cevallos Ferriz, Sergio Rafael Silvestre
Fossil Wood of Meliaceae from the Miocene of Chiapas, Mexico
- 2:15 15004 Salvi, Amanda M.* - Smith, Selena Y. - Benedict, John C. - Leong-Škorničková, Jana - Specht, Chelsea
Re-Examining Zingiberales Fossils Using Leaf Venation
- 2:30 15005 Hernández Damián, Ana Lilia* - Calvillo Canadell, Laura - Cevallos Ferriz, Sergio Rafael Silvestre
New flower of *Staphylea* preserved in amber from Miocene of Simojovel de Allende, Chiapas, Mexico
- 2:45 15006 Dunn, Michael* - Rothwell, Gar W.
Manoxylic seed ferns from Exposure A at Oxroad Bay (Tournasian) East Lothian, Scotland
- 3:00 15007 Cuneo, N. Ruben* - Escapa, Ignacio - Tomescu, Alexandru M.F.
Early Permian sphenophyllales from Patagonia, a reappraisal

- 1:30 16001 Bergmann, Hans
"I Have Become Sadly Scientific": Henry David Thoreau's
Lichenology
- 1:45 16002 Magain, Nicolas* - Miadlikowska, Jolanta - Goffinet, Bernard -
Sérusiaux, Emmanuël - Lutzoni, François
Evolution of specificity in the lichen-forming genus *Peltigera* and
its cyanobacterial partner: consequences on speciation rate and
geographical range
- 2:00 16003 Larsen, Ellen* - Anstett, Daniel - O'Brien, Heath - McMullin, R. Troy -
Fortin, Marie-Josée
Landscape genetics on a small scale reveals surprisingly long
Peltigera gene trees
- 2:15 16004 Zemp, Nicholas* - Holt, Emily - Nelson, Peter
Secondary Metabolite Trait Matrices for Lichen Community
Modeling
- 2:30 16005 Moore, Jonathan David* - Franke, Morgan - Kollar, Leslie - McLetchie, D.
Nicholas
A test for sex differences in heat and desiccation stress responses in
Bryum argenteum
- 2:45 16006 Jimenez Luna, Israel
Meiotic sex ratios in the Mojave Desert moss *Syntrichia caninervis*
- 3:00 16007 Klips, Robert A.
DNA microsatellite analysis of sporophytes of the short-lived arable
moss *Physcomitrium pyriforme* reveals a predominantly self-fertil-
izing mating pattern
-
- 3:15 Break
-
- 3:45 16009 Carter, Ben - Larraín, Juan - Shaw, Blanka* - Shaw, Jonathan - von
Konrat, Matt
Diversification across continents and within islands in a southern
hemisphere liverwort clade
- 4:00 16010 Shu, Lei* - Zhu, Rui-Liang
Taxonomy and Phylogeny of *Leptolejeunea* (Spruce) Schiffn

1:30 PM - 5:00 PM 17 Contributed Papers Salon 15/16

Genetics II

Chair: Eric Von Wettberg

- 1:30 17001 Gregoris, Amanda S.* - Hall, Jocelyn C. - El Kayal, Walid - Cooke, Janice E. K.
Defining Roles for SVP-like Genes in the Activity-Dormancy Transition of White Spruce Terminal Buds
- 1:45 17002 Moody, Michael Lee* - Mohl, Jonathon E. - Palomino, Nayell - Thum, Ryan A. - Weyl, Philip
Unraveling the history of the North American Eurasian watermilfoil invasion using traditional sequence and RADseq data
- 2:00 17003 Eule-Nashoba, Amber
Climate Change in a Minnesota Prairie: Fitness and Adaptation in a Population of Partridge Pea
- 2:15 17004 Johnson, Matthew - Lang, Kylene - Schierenbeck, Kristina* - Manos, Paul
Evidence for genetic pollution of a California native tree, *Platanus racemosa*, via recent, ongoing introgressive hybridization with an introduced ornamental species
- 2:30 17005 Brar, Gurcharn
Is *Puccinia striiformis* f. sp. *tritici* population in western Canada is really clonal?

1:30 PM - 5:00 PM 18 Contributed Papers

Salon 3

Systematics/Hybrids & Hybridization I

Chair: Barbara Thiers and Peter Jobson

- 1:30 18001 Burleigh, Gordon* - Endara, Lorena - Nagalingum, Nathalie - Cui, Hong
Semi-automated approaches for extracting phylogenetically informative phenomic datasets from the taxonomic descriptions
- 1:45 18002 Cameron, Kenneth M.
Documenting the Occurrence through Space & Time of Aquatic Non-indigenous Fish, Mollusks, Algae, & Plants Threatening North America's Great Lakes
- 2:00 18003 Orozco, Jessica
A Floristic Study of the South Fork Tule River Watershed, southern Sierra Nevada, Tulare County, California
- 2:15 18004 Miller, Chuck
The World Flora Online - Achieving Target 1 of the Global Strategy for Plant Conservation

MONDAY

- 2:30 18005 Naczi, Robert F. C.* - Abbott, J. Richard - Downey, Alisen
New Floristic Manual for Northeastern United States and Adjacent
Canada: Status report and emerging patterns
- 2:45 18006 Zimmerman, Charles J.* - Tulig, Melissa - Thomas, William Wayt -
Thiers, Barbara
NYBG Contributions to World Flora Online – Digitization of the
Flora Neotropica Monographs
-
- 3:00 Break
-
- 3:30 18008 Wiersema, John H.* - McNeill, John - Turland, Nicholas J. - Orli, Sylvia
S. - Wagner, Warren
The *Melbourne Code* Appendices: announcing a new approach for
tracking nomenclatural decisions and a analysis of the history of
nomenclatural proposals
- 3:45 18009 Thiers, Barbara* - Monfils, Anna
The Biodiversity Collections Network (BEeCoN): Promoting the Use
of Digitized Biocollections Data for Research and Education
- 4:00 18010 Jobson, Peter
Botany in the Outback – The Alice Springs Herbarium
- 4:15 18011 Mast, Austin R.* - Kimberly, Paul - Flemons, Paul - Ellwood, Elizabeth -
Love, Kevin - Paul, Deborah - Guralnick, Robert
The Worldwide Engagement for Digitization of Biocollections
(WeDigBio) Event
- 4:30 18012 Bors, Bob* - Dawson, James - Sawchuk, Ellen
Fruit qualities of *Lonicera caerulea* advanced selections

1:30 PM - 5:15 PM 19 Contributed Papers Salon 9
Fabids II, Malvids, Asterids I
Chairs: Morgan Gostel and Jessica Prebble

- 1:30 19001 Ranarivelo, Heritiana
Investigating species hypotheses for the Malagasy clade of the genus
Psorospermum (Hypericaceae)
- 1:45 19002 Ballard, Harvey* - Zumwalde, Bethany - Gahagen, Benjamin - Roth,
Todd
Are we missing species diversity in the acaulescent blue violets?
- 2:00 19003 Gostel, Morgan* - Weeks, Andrea
Species-level phylogenetic resolution of Madagascan *Commiphora*
(Burseraceae) revealed by multilocus target enrichment

- 2:15 19004 Onuminya, Temitope - Ogundipe, Oluwatoyin*
Systematic Identification of African Sapindaceae using DNA
Barcoding
- 2:30 19005 Godfrey, Samantha - Gillespie, Lynn*
Systematics and Phylogeography of *Parrya* (Brassicaceae) in the
North American Arctic
- 2:45 19006 Michelangeli, Fabian* - Reginato, Marcelo - Caddah, Mayara K. -
Goldenberg, Renato
Biogeographical patterns of the Melastomataceae of the Atlantic
Forest
- 3:00 19007 Reginato, Marcelo* - Kriebel, Ricardo
On the anther morphospace and evolutionary trends in the tribe
Miconieae (Melastomataceae)
-
- 3:15 Break
-
- 3:45 19009 Penneys, Darin S.* - Almeda, Frank - Michelangeli, Fabian - Fritsch,
Peter W.
Progress towards a revised classification of the Melastomataceae
- 4:00 19010 Sur, Gary* - Adolf, Jason - Stacy, Elizabeth
Variations in Leaf Micromorphology of Hawaiian *Metrosideros* Taxa
- 4:15 19011 Loeffstrand, Stefan D.* - Schoenenberger, Juerg
Finding the elusive floral synapomorphies for the disparate,
yet closely related, families Actinidiaceae, Roridulaceae, and
Sarraceniaceae (Ericales)
- 4:30 19012 McDonnell, Angela Jean* - Fishbein, Mark
What's going on in Gonolobinae? Systematics and Evolution in New
World Milkweed Vines (Apocynaceae, Gonolobinae)
- 4:45 19013 Worcester, Lindsey* - Fishbein, Mark
Phylogeny and Biogeography of Arid-Adapted Milkweeds
(Podostemma Clade, *Asclepias* L., Apocynaceae)
- 5:00 19014 Prebble, Jessica* - Tate, Jennifer - Meudt, Heidi - Symonds, Vaughan
The complexity of delimiting species in a mostly selfing species
group. How many species in the *Myosotis pygmaea* group?

Recent advances in phylogeny and systematics of Brassicaceae**Chair: Karol Marhold; Martin Lysak**

-
- 1:30 Introduction
- 1:45 C2002 Al-Shehbaz, Ihsan
Brassicaceae of the World: Current Status of its Taxonomy
- 2:15 C2003 Ma, Hong* - Huang, Chien-Hsun - Sun, Renran - Hu, Yi - Zeng, Liping
- Zhang, Ning - Cai, Liming - Edger, Patrick - Al-Shehbaz, Ihsan - Pires,
J. Chris - Koch, Marcus - Tan, Dun-Yan
Resolving Brassicaceae phylogeny using nuclear genes facilitates
molecular clock estimates of major branches, character reconstruc-
tion and analysis of gene family evolution
- 2:45 C2004 Koch, Marcus* - Hohmann, Nora
A time-calibrated road map of Brassicaceae evolutionary history
-
- 3:15 Break
-
- 3:45 C2006 Schranz, M. Eric* - Mohammadin, Setareh
Positionally-Conserved but Sequence-Diverged: Identification of
Long non-coding RNAs in the Brassicaceae and Cleomaceae
- 4:15 C2007 Cacho, Natalia Ivalu* - Strauss, Sharon
Untangling the evolutionary ecology of soil specialization in
Streptanthus and allies through a combined phylogenetic and
ecological approach
- 4:45 C2008 Mandáková, Terezie - Zozomová-Lihová, Judita - Lysak, Martin -
Marhold, Karol*
The origin and genome structure of the European *Cardamine*
flexuosa and related Eastern Asian allopolyploids

5:15

Discussion 1:30 PM - PM

SY04

Symposium

Salon 4

Blended Learning and Educational Technology to enhance Biology**Chair: Christine Petersen; Carina Anttila-Suarez**

-
- 1:30 Introduction
- 1:45 SY04002 Irvine, Valerie
Beyond Blended: Multi-Access and Connected Learning to Support
Learner Engagement and Access

2:15 SY04003 Marcey, David J.
The Lecture Hall as an Arena of Inquiry: Using Cinematic Lectures and Inverted Classes (CLIC) to Flip an Introductory Biology Lecture Course

2:45 SY04004 Arthur, Peter
Strategies to Enhance Student Learning

3:15 Break

3:45 SY04006 Jakubec, Melissa* - Harrison, Michelle
Blended Strategies for Science Instruction

4:15 SY04007 Poli, DorothyBelle
Counting the Forest and the Trees: Quantitative Undergraduate Biology Education and Synthesis (QUBES) is a tool for Vision and Change

4:45 Discussion

1:30 PM - PM SY05 Symposium **Salon 2**
Basic and applied approaches to improve disease resistance in plants
Chair: Robin Cameron; Deena Errampalli

1:30 Introduction

1:45 SY05002 Cameron, Robin K.* - Carella, Phil - Isaacs, Marisa - Champigny, Marc - Merl-Pham, Juliane - Dey, Sanjukta - Vlot-Schuster, Corina
Using DIR1 to investigate long distance signal movement during Systemic Acquired Resistance

2:15 SY05003 Despres, Charles
The NPR1 Salicylic acid receptor: Trailblazing from basic science to commercialization

2:45 SY05004 Sharon, Amir* - Liang, Ma - Wenjun, Zhu - Eisner, Elad - Shlezinger, Neta
Putting it all together: Modulation of the interplay between plant immunity and fungal virulence by environmental factors

3:15 Break

3:45 SY05006 Day, Brad
Next-generations solutions for the detection of plant pathogens: From genes to genomes to nanobiosensors

- 4:15 SY05007 Romanazzi, Gianfranco
Use of chitosan and benzothiadiazole to control pre and postharvest diseases of grapes and fruit plants
- 4:45 SY05008 Errampalli, Deena
Induced resistance as a tool in plant disease management
- 5:15 Discussion

1:30 PM - 5:45 PM SY06 Symposium Salon 10
Morphospaces, Morphometrics, and Phylogenetics
Chair: Juerg Schoenenberger

- 1:30 Introduction
- 1:45 SY06002 Gerber, Sylvain
Morphospaces in evolutionary biology: state of the art and challenges
- 2:15 SY06003 Savriama, Yoland
Statistical shape analysis of complex symmetry in botany
- 2:45 SY06004 Perrard, Adrien
Phylomorphospace: combining morphospace and phylogeny
-
- 3:15 Break
-
- 3:45 SY06006 Jolles, Diana* - Johnson, Melissa - Stoughton, Thomas - Roberts, Julian
Hypothesis testing in circumscription-resistant lineages: morphometric methods for estimating patterns of floral evolution in species complexes
- 4:15 SY06007 Kriebel, Ricardo* - Berger, Brent - Spalink, Daniel - Reginato, Marcelo - Sytsma, Kenneth J.
The evolution of shape and size in the pollen of Myrtales
- 4:45 SY06008 Chartier, Marion* - Gerber, Sylvain - Lofstrand, Stefan - von Balthazar, Maria - Jabbour, Florian - Sauquet, Herve - Crane, Peter - Schoenenberger, Juerg
How (much) do flowers vary? - The floral morphospace of Ericales
- 5:15 Discussion

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- | | | |
|------|-------|--|
| 1:45 | 20001 | Naik, Eshan* - Campbell, Malcolm M.
Chemical stimuli shape early seedling growth and development in Arabidopsis under nitrogen limitation |
| 2:00 | 20002 | Nourimand, Maryam* - Todd, Christopher D.
Ureide Metabolism in Response to Cadmium Stress in <i>Arabidopsis</i> |
| 2:15 | 20003 | Souter, Jodi R.* - Todd, Christopher D.
The Role of Ureides during Abiotic Stress |
| 2:30 | 20004 | Beatty, Perrin* - Good, Allen
Mapping Complex Traits in Plants: Nitrogen Use Efficiency in Barley as a Case Study |
| 2:45 | 20005 | Martyn, Greg* - Hayes, Fallon - Vanlerberghe, Greg
Evaluating the role of mitochondrial alternative oxidase during nitrogen assimilation |
-
- | | | |
|------|--|-------|
| 3:00 | | Break |
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- | | | |
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| 3:45 | 20007 | Alber, Nicole* - Sivanesan, Hampavi - Vanlerberghe, Greg
Investigating the role of plant mitochondria in NO synthesis and signalling |
| 4:00 | 20008 | Owtrim, George* - Lewis, Allison - Chamot, Danuta - Li Ling, Lo - Horn, Collin J.
Convergent signaling through the redox status of the electron transport chain regulates abiotic stress gene expression in a hierarchical fashion |
| 4:15 | 20009 | Carella, Philip* - Yeo, May T.S. - Fletcher, Jean - Champigny, Marc - Weretilnyk, Elizabeth A. - Cameron, Robin K.
Development of a <i>Eutrema salsugineum</i> - <i>Pseudomonas syringae</i> pathosystem to investigate disease resistance in an extremophile model plant |
| 4:30 | 20010 | Robertson, Daniel* - Julias, Margaret - Lee, Shien Yang - Cook, Douglas
The underutilized potential of mechanical engineering analyses in botany research |

Ecological Section: Functional Trait Responses

Chair: Tracy S. Hawkins

- 1:45 21001 Hartsock, Jeremy A.* - Vitt, Dale H. - Ebbs, Stephen - House, Melissa
Net Nitrogen Mineralization in Boreal Wetlands: A Test of Early Success for Canadian Oil Sands Reclamation
- 2:00 21002 Bijman, Alison* - Landhausser, Simon - Macdonald, S. Ellen
Vegetation development on poor reclamation sites: Impact of tree seedling presence, biochar and fertilizer amendments
- 2:15 21003 House, Melissa* - Vitt, Dale H. - Glaeser, Lilyan - Hartsock, Jeremy - Ebbs, Stephen
The challenge of constructing peatland reclamations: The effect of soil moisture and sodium concentration on plant community establishment
- 2:30 21004 Haughian, Sean Ryan* - Frego, Katherine A.
Epixylic bryophyte growth response to substrate moisture capacity on synthetic and natural logs under thinned and intact forest canopies
- 2:45 21005 Byers, Diane L.* - Rippel, Tyler M. - Philips, Robert W.
Soil traits impact on female frequency of a gynodioecious prairie plant, *Lobelia spicata*
-
- 3:00 Break
-
- 3:30 21007 Papadopoulos, Yousef A.* - Duynisveld, John L. - Tremblay, Gaëtan F. - Bélanger, Gilles - Lajeunesse, Julie - Lafrenière, Carole - Thomas, Bill - Halliday, Les - Fillmore, Sherry A. E.
Agronomic performance of forage species and their cultivars in grazed grass-legume binary mixtures
- 3:45 21008 Garrison, Laura* - edwards, erika
Phylogenetic patterns in phenological response to climate in a suite of closely related species
- 4:00 21009 Annis, Jenna Marie* - Primer, Samantha B. - Coons, Janice - Molano-Flores, Brenda - Feist, Mary Ann
Seeing red in a sea of green: anthocyanin production in the carnivorous plant, *Pinguicula planifolia*
- 4:15 21010 Super, Laura* - Moses, Elgan - Naderi-Azad, Sheida - Sun, Sherry - Khan, Almas - Mehroke, Jarnail - Singh, Santokh
Exploring the impact of anthropogenic drivers on *Arabidopsis thaliana*

4:30 21011 Shonubi, Olusola* - Okusanya, Olubukanla - Babalola, Sadat
Seedling dynamics in cultivated population of *Cassia fistula* Linn. in
Nigeria

2:00 PM - 3:00 PM South Eastern Section Business Meeting SCC Board
Room

3:15 PM - 3:45 PM Coffee Break Hall D

3:45 PM - PM 22 Contributed Papers Salon 1
Mycology II
Chair: Thomas D. Bruns

3:45 22001 Morgan, Sydney* - Benson, Natasha - Scholl, Chrystal - Durall, Daniel
M.

The effects of initial sulfur dioxide addition on wine yeast popula-
tions during spontaneous fermentations of Pinot gris

4:00 22002 Redhead, Scott A.
A century of mushrooming in Canada

4:15 22003 Berch, Shannon M.* - Bonito, Gregory
Truffle diversity (*Tuber*) in British Columbia

4:30 22004 Bruns, Thomas D.* - Glassman, Sydney I. - Carver, Akiko - Vellinga,
Else C.
Post-fire Fungal Succession

4:45 22005 David, Aaron* - Seabloom, Eric - May, Georgiana
Roles of root-associated fungal symbionts on invasion success of a
coastal beachgrass in primary successional dunes

5:00 22006 Cheeke, Tanya E.* - Phillips, Richard P. - Kuhn, Alexander L. - Rosling,
Anna - Bever, James D. - Fransson, Petra
Mycelial production and standing fungal biomass are higher in
temperate hardwood forests dominated by ectomycorrhizal trees
than in forests dominated by arbuscular mycorrhizal trees

5:15 22007 Maltz, Mia* - Treseder, Kathleen
Sources of inocula influence mycorrhizal colonization of plants in
restoration projects: A meta-analysis

MONDAY

3:45 PM - PM	23	Contributed Papers	Salon 19/20
Horticulture II			
Chair: Anissa Poleatewich			

- | | | |
|------|-------|--|
| 3:45 | 23001 | Mirza, Mohyuddin
Development and current status of hydroponics systems for greenhouse vegetable production in Alberta |
| 4:00 | | Unsubmitted Abstract |
| 4:15 | 23003 | Yang, Jian* - Li, Xiujie Susie - Savchenko, Oleksandra - Yang, Xiaoyan - Chen, Jie
Evaluation of antimicrobial effects of silver nanoparticle in vitro and on coated activated carbons |
| 4:30 | 23004 | Fall, M. L. - Van Der Heyden, Hervé - Carisse, Odile*
A quantitative dynamic simulation of <i>Bremia lactucae</i> airborne conidia concentration above the lettuce canopy |
| 4:45 | 23005 | Ghosh, Amrita* - Goyali, Juran C. - Igamberdiev, Abir U. - Debnath, Samir C.
Detection of DNA methylation pattern in in vitro-derived blueberry (<i>Vaccinium</i> spp.) callus using methylation-sensitive amplification polymorphism (MSAP) |
| 5:00 | 23006 | Goyali, Juran C. - Ghosh, Amrita* - Igamberdiev, Abir U. - Debnath, Samir.C
The DNA methylation status in lowbush blueberry propagated by conventional softwood cutting and micropropagation |
| 5:15 | 23007 | Paton, Dr. William
Challenges to the Commercial Development of Valuable Bioproducts from Indigenous Plant Species |

3:45 PM - PM	24	Contributed Papers	Salon 5
Mesozoic			
Chair: Rudolph Serbet			

- | | | |
|------|-------|--|
| 3:45 | 24001 | Rass Masood, Farhat* - Khan, Rass Masood - J. Axsmith, Brian
Palynomorph Assemblage from Triassic of Pakistan |
| 4:00 | 24002 | Leslie, Andrew B.* - Escapa, Ignacio
Cheirolepidiaceae from the Early Jurassic of Patagonia: Reconciling the Impression and Permineralization Record of Conifer Cones |
| 4:15 | 24003 | Ryberg, Patricia* - Gordon, Ashleigh
Glossopterid reproductive diversity from the Allan Hills, Antarctica |

- 4:30 24004 Kvacek, Jiri
Tritaenia linkii - conifer or ginkgophyte?
- 4:45 24005 Rios Santos, Cesar* - Cevallos Ferriz, Sergio Rafael Silvestre
Anatomical description of three coniferous woods from Jurassic and Cretaceous of Mexico
- 5:00 24006 Sender, Luis Miguel - Doyle, James* - Villanueva-Amadoz, Uxue - Pons, Denise - Diez, José Bienve - Ferrer, Javier
Sapindopsis (Platanaceae) in the Lower Cretaceous (Albian) of Spain

4:00 PM - PM Economic Botany Business Meeting SCC Board Room

4:00 PM - 4:45 PM S05 Pelton Lecture I Hall A
Extracellular DNA-based trapping by border cells in defense of the root tip
Martha Hawes

4:45 PM - PM S06 Pelton Lecture II Hall A
Generality and diversity of development in land plants
Mitsuyasu Hasbe

MONDAY

All Society Poster Session

Posters will be presented in the Exhibit Hall. Poster numbers will be assigned when you check in to hang your poster.

5:00 pm - 6:15 pm - Odd Numbered Posters will be presented

6:15 pm - 7:00 pm - Even Numbered Posters will be presented
when presenting a poster please be prepared to stand
by your poster for the entire assigned time.

AGRONOMY

- PAG001 Ganegama Lekamge, Dhanuja Neranjalee Abeysingha* - Ozga, Jocelyn A. - Strydhorst, Sheri - Doyle, Patrick - Reinecke, Dennis M.
The effect of auxins on grain yield in wheat under controlled environment and Western Canadian field conditions
- PAG002 Lajeunesse, Julie* - Papadopoulos, Yousef A. - Duynisveld, John L. - Bélanger, Gilles - Tremblay, Gaëtan F. - Lafrenière, Carole - Thomas, Bill - Fillmore, Sherry A. E.
Productivity of eighteen legume-grass binary mixtures
- PAG003 Ganegama Lekamge, Dhanuja Neranjalee Abeysingha* - Ozga, Jocelyn A. - Strydhorst, Sheri - Doyle, Patrick - Reinecke, Dennis M.
The use of auxins to enhance canola seed yield under controlled environment and Western Canadian field conditions
- PAG004 Nelson, Alison
Demonstration of precision irrigation management in Manitoba potato production
- PAG005 Carkner, Michelle* - Entz, Martin
On-farm soybean variety evaluation for suitability to organic and transition to organic soybean production in southern Manitoba
- PAG006 Kora, Cezarina
Advances in disease management strategies under the Pesticide Risk Reduction Program
- PAG007 Silim, Salim N.* - Morrison, Malcolm J. - Cober, Elroy R.
Changes in photosynthetic components in short-season Canadian soybean cultivars from seven decades of genetic improvement
- PAG008 Pageau, Denis
Effect of Sulfur and Nitrogen application on springcanola production grown under a cool climate
- PAG009 Barreto, Robert Weingart* - Colman, Adans - Evans, Harry
Fungal natural enemies of *Hemileia vastatrix* and their potential for use in classical biological control of coffee rust

BIOCHEMISTRY, METABOLISM, CARBON FLUX

- PBC001 Karunakaran, Chithra - Lahlali, Rachid - Souter, Jodi R. - Dynes, James - Zuin, Lucia - Liu, Xia - Rosendahl, Scott - Regier, Tom - Todd, Christopher*
Mid infrared and soft X-ray spectroscopy techniques to understand nitrogen fixation in legumes
- PBC002 Hazen, Renee Elizabeth* - Vitt, Dale H. - Ebbs, Stephen - Hartsock, Jeremy - House, Melissa
CO₂ assimilation rates associated with four sedge species during reclamation in the Alberta Oil Sands Region
- PBC003 Mehrpooyan, Fatemeh* - Patterson, Jenelle - Tetlow, Ian J. - Emes, Michael J.
Regulation of Starch Synthase II, a Key Enzyme of Starch Biosynthesis
- PBC004 Sieben, Nicolas* - Uhrig, Glen - Tang, Lay Yin - Moorhead, Greg
A.thaliana Shewnella-Like-Phosphatase 2 Activity Mediated by Internal Disulfide Bridge Formation via Oxido-Reductase MIA40
- PBC005 Wang, li - Xue, donghua - Gao, xiang - Wei, Sun* - Meng, xiangyu - Liang, lingjie
Molecular and Biochemical Analysis of Chalcone Synthase from *Freesia hybrida* in Flavonoid Biosynthetic Pathway
- PBC006 Schuetz, Mathias* - Smith, Rebecca - Ellis, Brian - Samuels, Lacey
Upregulation of *Arabidopsis thaliana* MYB58/63 transcription factors affects both intracellular and extracellular phenylpropanoid metabolites
- PBC007 Fortier, Colleen* - Cooke, Janice
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- PBC008 Arif, Muhammad* - Riaz, Muhammad - Pauls, K. Peter
Measurement of neutral detergent fibre, acid detergent fibre and acid detergent lignin in corn stalks and cobs fibres by Fourier-transform infrared spectroscopy

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- PBG001 Tkach, Natalia - Röser, Martin - Hoffmann, Matthias H.*
Parallel colonisation of the Arctic by plants
- PBG002 De Lima Marinho, Pedro Emmílio* - de Oliveira Machado Filho, Hermes
- Ferreira Alexandre, Glauris - Alves, Cecília Ventura
Water macrophytes from Camalaú reservoir (Cariri Ocidental,
Paraíba - Northeast, Brazil)
- PBG003 Pender, Jocelyn* - Starr, Julian - Hahn, Marlene - Hipp, Andrew L.
How sensitive are climatic niche inferences to distribution data
sampling?
- PBG004 Kricsfalussy, Vladimir* - Li, Meng - Gupta, Charu
Combining regional data on plant species distribution to support
biodiversity assessment
- PBG005 De Oliveira, Luiz Orlando* - Mangaravite, Erica - Vinson, Christina C. -
Garcia, Magali G. - Carniello, Maria Angeles - Silva, Roberta S.
Contemporary patterns of genetic diversity of *Cedrela fissilis*
(Meliaceae) offer insight into the shaping of seasonal forests in
Eastern South America
- PBG006 Ruffley, Megan* - Jimenez, Ivan
Effects of Sampling Effort on Estimates of the Mean of Range Size
Distributions
- PBG007 Ramos, Michael - Skillman, John B.*
Biodiversity in the shadows. Do forest understory herbs exhibit a
latitudinal diversity gradient?
- PBG008 Otero, Ana - Jimenez-Mejias, Pedro* - Valcarcel, Virginia - Vargas, Pablo
Large-scale intercontinental disjunctions in the *Ornithoglossum* clade
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- PBG009 Scherson, Rosa Amelia* - Moreira-Muñoz, Andrés - Monge, Marcelo -
Silva, Herman
Molecular phylogeny of *Mutisia* (Asteraceae, Mutisieae) with
biogeographic implications in the Neotropical disjunction
- PBG010 Drummond, Chloe* - Sytsma, Kenneth J.
Great Lakes-Western North America Disjuncts: a study on the
phylogeography, timing, and climate niche space of three representa-
tive lineages

BIOLOGICAL CONTROL OF DISEASES AND WEEDS (CFBC)

- PDW001 Takishita, Yoko* - Smith, Donald
Potential for using a rhizospheric bacterium to control bacterial canker of tomato (*Solanum lycopersicum* L.)
- PDW002 Vega, Jackeline - Parra, Pedro Pablo* - Buitrago, Maria Eugenia - Mejia, Alonso
Virulence assessment of *Metarhizium anisopliae* (Ascomycota: Hypocreales) strains obtained from commercial formulations and natural infected American Palm Weevils
- PDW003 Kuai, Xiahezi* - Despres, Charles
Target-based approach for the development of new mode-of-action crop protection chemicals

BIOTIC AND ABIOTIC STRESS

- PBA001 Caputú, Suleyman - Ucarli, Cuneýt - Yoruk, Emre - Karaer, Semian - Gurel, Filiz*
Allelic diversity in *Hordeum spontaneum* at the *Dhn3* locus: a major dehydration stress-inducible gene in barley
- PBA002 Hart, Ashley* - Hamilton, Jill - El Kayal, Walid - Cooke, Janice E. K.
Cellular Level Changes that Occur During White Spruce Growth Cessation and Dormancy Acquisition
- PBA003 Singh, Sukhdev* - Kumar, Narendra
Positive influence of silicon solubilizers on growth dynamics and insect control in different rice genotypes (*Oryza sativa* L.)
- PBA004 Abdulmajeed, Awatif* - Qaderi, Mirwais
Aerobic methane emissions from pea plants: Inter-organ and inter-position variations
- PBA005 Han, Mei
Analysis of alanine aminotransferase over-expression in *Oryza sativa* driven by a novel rice promoter PBpr1
- PBA006 Shao, Jianfei* - Renault, Sylvie - Markham, John
Effects of salinity on the nitrogen fixing boreal shrub (*Elaeagnus commutata*)
- PBA007 McNeilly, Daryl* - Stone, Sophia
Characterizing Potential Targets of KEG
- PBA008 Whitman, Brendan* - Diep, Raymond - Whitford, Denise S. - Fahlman, Richard P. - Owttrim, George W.
Stress induced regulation of gene expression by RNA helicase-dependent conditional proteolysis

- PBA009 Irani, Solmaz* - Todd, Christopher D.
Accumulation of Ureides in Response to Salt and Mannitol in Arabidopsis Seedlings
- PBA010 Capo-chichi, Ludovic* - Nyachiro, Joseph - Juskiw, Patricia - Beattie, Aaron - Slaski, Jan
Low temperature tolerance of spring barley for improvement of early crop establishment
- PBA011 Abouelsaad, Ibrahim* - Renault, Sylvie
Response of jasmonic acid deficient tomato mutant (*def-1*) to salt stress
- PBA012 Langille, Patrick* - Lining, Tian
Expression Analysis of the Water Stress Inducible Promoter *Wsi18*, in the Model Monocot *Brachypodium distachyon*
- PBA013 Mercer, Kristin* - Perales, Hugo
Flowering and fitness: plasticity and local adaptation in maize landraces in Chiapas, Mexico
- PBA014 Menna, Alexandra L.* - Nguyen, Dang - Guttman, David S. - Desveaux, Darrell
Environmental Stresses Underlying Effector-Triggered Immunity (ETI) in *Arabidopsis thaliana*

BRYOLOGICAL AND LICHENOLOGICAL SECTION/ABLS

- PBR001 Ariyo, Olusesan Ayodele
Syntrichia cavallii (Negri) Ochyra a new Moss species in Southwest Nigeria
- PBR002 Kraysky, David M.* - Chmielewski, Jerry G.
An investigation of the diversity of *Pluerocladula* R. Grolle in North America
- PBR003 Castonguay, Joëlle* - Fenton, Nicole - Bergeron, Yves
Dynamic bryophyte communities in the spruce moss Boreal forest:
Role of residual patches logging
- PBR004 Zraik, Mohanad* - Piercey-Normore, Michele D.
Distinguishing between *Cladonia magyarica* and *C. humilis* in Manitoba
- PBR005 Haughian, Sean Ryan* - Bagnell, S. Bruce - Frego, Katherine A.
A Checklist of the Liverworts and Hornworts of New Brunswick
- PBR006 Doering, Jennifer* - Piercey-Normore, Michele D.
Population structure and spatial variation in *Diplosphaera chodatii* in semi-aquatic lichen communities of Payuk Lake, Manitoba
- PBR007 Nadel, Miko* - Desjardin, Dennis
A review of the lichen genus *Usnea* from São Tomé and Príncipe using morphology, molecular data and chemotaxonomy
- PBR008 Joneson, Suzanne* - O'Brien, Heath
Ecological Niche Plasticity in *Nostoc* sp
- PBR009 Fernando, Fernandez-Mendoza* - Ivan, Frolov - Jan, Vondrák - Helmut, Mayrhofer - Martin, Grube - Ester, Gaya
Species delimitation in the genus *Pyrenodesmia*
- PBR010 Dal-Forno, Manuela* - Lucking, Robert - Bungartz, Frank - Lawrey, James D.
High levels of endemism in Galapagos Islands basidiolichens of the *Dictyonema* clade: An updated assessment including molecular data and taxonomic novelties
- PBR011 Allen, Jessica - Lendemer, James*
High-Elevation Endemics Lichens and Climate Change: A case study in the Southern Appalachians
- PBR012 Haughland, Diane L. - Thauvette, Darcie* - Martel, Mireille - Bjork, Curtis R. - Goward, Trevor
Additions to the Alberta's lichen flora made possible by the Alberta Biodiversity Monitoring Institute

- PBR013 Medeiros, Ian* - Lucking, Robert - Lumbsch, Thorsten
New Species of Thelotrema Graphidaceae in Hawaii: Insights into
Lichen Endemism on a Remote Archipelago

CELL BIOLOGY

- PCL001 Halbauer, Johanna* - Muench, Douglas
Establishing a method for subcellular mRNA localization detection
in *Arabidopsis*
- PCL002 Ruan, Yuan* - Wasteneys, Geoffrey O.
The CLASP microtubule-associated protein modulates and is also a
direct transcriptional target of the brassinosteroid signalling pathway
during root apical meristem development
- PCL003 Kim, Hae Ryoung* - Choi, Da Yoon - Bisgrove, Sherryl
The microtubule associated protein End Binding 1b and root hair
elongation
- PCL004 Donnelly, Caitlin* - Zhang, Yi - Celler, Katherine - Wasteneys, Geoffrey O.
Characterization of MOR1-microtubule interactions by observing
microtubule dynamics and organization in *mor1*-tubulin double
mutants
- PCL005 Wasteneys, Geoff - Fujita, Miki - Mulvihill, Adam*
Cellulose Microfibril Crystallinity Implicates Cellulose Synthesis
and Xyloglucan Interactions for Partial Regulation of Anisotropic
Growth
- PCL006 Lama, Pravesh* - Anguraj Vadivel, Arun Kumaran - Dhaubhadel,
Sangeeta
Functional characterization of GmMYB176 interacting protein
kinases in soybean
- PCL007 Peng, Ye* - Qi, Liwang
Changes of Ultrastructure of Differentiating Tracheid in
Cunninghamia lanceolata (Lamb.) Hook
- PCL008 Le, Phi-Yen
Relationship between chloroplast movement and microtubule
orientation in *Arabidopsis thaliana* mesophyll cells
- PCL009 Sullivan, Victoria* - Lyzenga, Wendy - Liu, Hongxia - Stone, Sophia
The kinase activity of CIPK26 influences its own stability and the
stability of KEG, an E3 ligase
- PCL010 Chi, Zhihai* - Ambrose, Chris
Microtubule collision-induced catastrophe in *Arabidopsis* cortical
microtubule arrays

- PCL011 Sigurdson, Dustin* - Schoor, Sarah - Chuong, Simon D.X.
Characterization of *CHUP1* and *CLMP1*, two genes potentially involved in chloroplast partitioning in the single-cell C_4 species (*Bienertia sinuspersici*)
- PCL012 Halat, Laryssa - Galway, Moira* - Garbary, David
Synchronized separation and shedding of outer cell wall layers in response to epiphyte accumulation in the brown alga *Ascophyllum nodosum*
- PCL013 Cox, Monica* - Kraus, Lorelle - Gallaher, Timothy - Moss, Kimberly - Clark, Lynn
Modeling cells in 3D with Cinema 4D

CONSERVATION BIOLOGY

- PCB001 Robson, Diana Bizecki* - Wiersema, John H. - Hellquist, C. Barre - Borsch, Thomas
The Distribution, Ecology and Status of a New Canadian Endemic, Lori's Water-Lily (*Nymphaea lorianae*)
- PCB002 Brabazon, Holly* - Johnson, Leigh
Taxonomic delimitation of a rare, paleoendemic plant: Historical phylogeography of *Cycladenia humilis* (Apocynaceae)
- PCB003 De Andrade Silva, Raiany Dias* - De Carvalho Vecchi, Igor - Cid Amorim, Marcelo
New occurrences of *Coleocephalocereus fluminensis* (Miq.) Backeb in the state of Rio de Janeiro (Brazil)
- PCB004 Sporck-Koehler, Margaret J.* - Yorkston, Mitsuko - Morden, Clifford
Genetic variation in *Capparis sandwichiana* (Capparaceae) populations from the Hawaiian Islands via SRAP markers and the use of molecular tools to help inform management decisions
- PCB005 Feist, Mary Ann* - Zaya, David N. - Molano-Flores, Brenda - Koontz, Jason
Assessing genetic diversity for the USA endemic carnivorous plant *Pinguicula ionantha* R.K. Godfrey (Lentibulariaceae)
- PCB006 Cattani, Douglas John* - Grieger, Ardelle
Flowering in disturbed, semi-native plant communities: Understanding community flowering for polyculture development
- PCB007 Garrambone, Matthew* - Burger, Jutta
Bee Flat Canyon A case study in producing functionally diverse seed mixes using local source plant material

- PCB008 Nowell, Victoria - Wang, Song - Smith, Tyler William*
Population genetic structure and habitat characteristics of
Trichophorum planifolium (Cyperaceae), an endangered sedge in
Canada
- PCB009 Smoluch, Dominic* - Costea, Mihai - Tony, Zammit - Stevens, Kevin
Virginia Mallow (*Sida hermaphrodita*, Malvaceae) at the Taquanayah
Conservation Area, Ontario, Canada: biology and interspecies
interactions
- PCB010 Ickes-LeMasters, Karen Marie* - Witt, Jill
Evaluating the Effects of Climate on the Phenology of Host and
Nectar Sources for the Endangered Karner Blue Butterfly (*Lycaeides
melissa samuelis*)
- PCB011 Lutz, Connor* - Emry, Jason - Thompson, Ties
An Analysis of Campus and Community Canopy Cover of Seven
Schools in Kansas and Missouri

DEVELOPMENTAL AND STRUCTURAL SECTION

- PDS001 Sengupta, Aniket* - Hileman, Lena
Testing the role of bilateral flower symmetry genes in eudicot
lineages with radial flowers
- PDS002 Carmo-Oliveira, Renata* - Araujo, Nayara
Embryology, Polyembryony and Apomixis in *Inga laurina* (Sw.)
Willd. (Fabaceae: Mimosoideae)
- PDS003 Smith-Huerta, Nancy L.* - Huerta, Alfredo J.
Shoot apex fasciation in the wildflower *Clarkia tembloriensis* under
growth chamber conditions
- PDS004 Schulte, Paul J.
Computational models of two-phase flow in studies of cavitation and
air-seeding in xylem vascular conduits
- PDS005 Stanfield, Ryan* - Hacke, Uwe G. - Brocius, Cayla - Hillbrand, Rachel
Gaining insights into phloem anatomy: combining electron and light
microscopy to reveal fine details in sieve elements
- PDS006 Moore, Zane J.* - Stapleton, Thomas S.
Morphological Analysis of Chimeric Coast Redwood (*Sequoia
sempervirens*)
- PDS007 Odat, Osama* - Scarpella, Enrico
Control of leaf tissue patterning by relative timing of cell proliferation
and differentiation

- PDS008 Tremblay, Benoit* - Rolland-Lagan, Anne-Gaelle
Mechanisms of growth and shape control in *Arabidopsis thaliana* leaves
- PDS009 Todorov, Toma* - Tingey, Chris - Kopp, Olga
Inducing Somatic Embryogenesis On Thai (*Capsicum annuum*) Callus
- PDS010 Livingston, Sam* - Eng, Ryan - Wasteneys, Geoffrey O.
Functional Analysis of ARMADILLO-REPEAT KINESIN2 in *Arabidopsis*

ECOLOGICAL SECTION

- PEC001 Dorman, Hanna Elizabeth* - Wallace, Lisa
Genetic Structure of Rhizobia Associated with *Chamaecrista fasciculata*
- PEC002 Stevens, Hank* - Cass, Wendy B. - Hyduke, Abigail R. - Hochstedler, Wendy - Zhang, Jing - Williams, Alan B.
An R package to simplify analysis of long term vegetation monitoring data at the Shenandoah National Park
- PEC003 Martinez Avalos, Jose Gadalupe* - Mora Olivo, Arturo - Martinez Gallegos, Rodolfo
Population analysis of *Opuntia engelmannii* var. *lindheimeri* (Cactaceae) in the northeast region of Mexico
- PEC004 Lefebvre-Ruel, Stéphanie* - Jutras, Sylvain - Rochefort, Line
Edges of ecological restoration projects: the case of peatlands
- PEC005 Rodriguez, Rosa* - Veloz, Alberto
Floristic composition in the savannas of the National Park Jose del Carmen Ramirez, Dominican Republic
- PEC006 Giddens, Jonathan* - Elisens, Wayne
Ecogeographic Pattern of Bract and Cypselae Variation in *Iva annua* (Asteraceae: Heliantheae) and its Taxonomic Significance
- PEC007 Gass, Barbara Joy
Climate Change and Species Range: The response of *Mimulus cardinalis* and *M. lewisii* populations to over a decade of weather
- PEC008 Rollinson, Emily* - Gurevitch, Jessica
Abiotic factors underlying variation in composition of riparian plant communities

- PEC009 Lin, Huan-Yu - Tseng, Yu-Hsin - Hu, Jer-Ming*
Examining dioecy and the associated ecological correlates in the flora of Taiwan based on an integrated plant distribution database
- PEC010 Chapman, Julia* - McEwan, Ryan
Changes in Relative Abundance and Spatial Distribution of Dominant Overstory Taxa in an Old-growth Forest Over 30 Years
- PEC011 Hawkins, Tracy S.* - Frey, Brent - Boerger, Ellen
Red oak regeneration in relation to masting dynamics within an oak-dominated minor stream bottom forest subject to partial-cutting
- PEC012 Li, Lin* - Berkov, Amy
Host plant and forest successional status impact beetle community structure
- PEC013 Malcolm, Katalin* - Dighton, John - Barkay, Tamar
Influence of mercury deposition on fungal phylloplane communities and litter decomposition
- PEC014 Guene Nanchen, Melina* - Rochefort, Line - Pouliot, Remy
Effect of mowing graminoid plants on the development of *Sphagnum* moss carpets
- PEC015 Abel, Josh* - Graham, Jeremy - Vitt, Dale H.
Sphagnum and ericaceous shrub responses to nitrogen and phosphorus additions in a boreal ombrotrophic bog
- PEC016 Gehring, Janet L.* - Mullery, Amanda
Response to water stress by four prairie *Helianthus* species
- PEC017 Fernando, Thilina* - Herlihy, Christopher R. - Walck, Jeffrey
Roles of local adaptation and stress tolerance at early life history stages in the maintenance of flower color polymorphism in *Leavenworthia stylosa*
- PEC018 Barrios, Beyte - Valdes, Imena* - Koptur, Suzanne
The Effects of Herbivory Damage on Growth and Reproduction of *Angadenia berteroi*
- PEC019 Araujo, Nayara - Santos, Jean Carlos - Silva, Henrique Venancio - Andrade, Janete - Silva, Estevão - Almeida, Wanessa Rejane - Carmo-Oliveira, Renata*
How detrimental are seed-galls to their hosts? tolerance to herbivory in a polyembryonic legume tree
- PEC020 Gao, Song* - Chen, Luxi - Yan, Qiaodi - Du, Zhaokui - Ding, Weihang - Song, Yaobin - Chen, Jinsong - Li, Junmin - Dong, Ming - Liston, Aaron - Ashman, Tia-Lynn
Diversity in functional traits of Chinese strawberries: effects of ploidy, geography and haplotype

- PEC021 Ma, li* - Swanton, Clarence - Upadhyaya, Mahesh
Effect of red/far-red ratio on the response of corn seedlings to UV-B radiation
- PEC022 Tyrrell, Christopher D.* - Chambers, Patricia A. - Culp, Joseph M.
Phenotype, not phylogeny, drives tissue nutrient concentrations in aquatic plants
- PEC023 Goud, Ellie* - Sparks, Jed
Evolutionary constraints on adaptation under global change
- PEC024 Mears, Marietta* - Asahl, Derick - Downing, Lyndsey - Skornia, Erin - Stephan, Kirsten
Germination rates of *Callirhoe bushii* and *Lespedeza cuneata* under future climate conditions in Missouri
- PEC025 Schellenberg, Michael P.* - Kehler, Melissa
Grass cultivar germination response to increasing temperatures
- PEC026 Bandara, Ridma* - Finch, Jessamine - Walck, Jeffrey - Hidayati, Siti - Havens, Kayri
Tolerance range for dormancy loss and germination differs among dispersal strategies
- PEC027 Gavala, Lacey* - Jordon-Thaden, Ingrid - Martine, Rachel E - Martine, Chris
Effect of fire on seed germination in *Solanum beagleholei*, an endemic spiny solanum of the Kimberley region, Australia
- PEC028 Salazar, Jackeline* - Mateo, Amelia - Ortega, Yolaine - Almonte, Jesus - Garrido, Esteban
Seed dispersal in Eastern Dominican Republic, Hispaniola Island: an example of plant dispersal by bats in the Greater Antilles
- PEC029 Lacey, Mae* - Capaldi, Elizabeth - Jordon-Thaden, Ingrid - Martine, Chris
Exploring the potential for *Solanum* fruit ingestion and seed dispersal by rock-dwelling mammals in the Australian monsoon tropics
- PEC030 Hembrough, Ashley* - Borowicz, Victoria
Factors Constraining the Reproductive Output of *Baptisia alba macrophylla*
- PEC031 Rork, Adam* - Miller-Struttman, Nicole - Hoeft, Adam - Hulsey, Ryan - Best, Hannah L. - Krakos, Kyra N.
A comparison of current and historical reproductive biology in *Tradescantia ohiensis* between prairie and forest populations
- PEC032 Li, Junmin* - Du, Leshan - Guan, Wenbin - Yu, Feihai
Geographic patterns of phenotypic plasticity in response to temperature and water in the invasive herb *Soildago canadensis* in China

- PEC033 Blair, Charles E.
Invasive Aquatic Weeds; Implications for Mosquito and Vector Management
- PEC034 Carrigy, Alec* - Stotz, Gisela - Dettlaff, Margarete - Pec, Greg - Singh, Inderjit - Erbilgin, Nadir - Cahill Jr., James F.
Bromus inermis growth and survival in a savannah system
- PEC035 O'Leary-Ponzo, David* - Filó, Luiz E. C. - Metsger, Deborah A. - Dickinson, Tim
Ontario spring-flowering species and climate change
- PEC036 Forrester, Nicole* - Ashman, Tia-Lynn
Assessing the direct effects of whole genome duplication on plant morphology: Implications for plant invasion success
- PEC037 Teter, Christopher Daniel
Another naturalizing exotic tree; populations of *Syringa reticulata* (Japanese tree lilac) in New York
- PEC038 Bowler, Rebecca* - Fredeen, Arthur L. - Massicotte, Hugues B.
Assessing photosynthesis, natural abundance of stable C and N isotopes, and populations following disturbance in putative partial myco-heterotrophic Pyroleae species in central British Columbia

ECONOMIC BOTANY SECTION

- PEN001 Tyler, Hansk - Charles, Thomas - Fatimata, Pale*
Temperature Tolerance at the Germination stage of Four Rice Cultivars
- PEN002 Schwallier, Rachel* - de Boer, Hugo J. - Visser, Natasja - van Vugt, Rogier R. - Gravendeel, Barbara
Traps as treats: a traditional sticky rice snack persisting in rapidly changing Asian kitchens
- PEN003 Khanal, Nityananda* - Schellenberg, Michael - Coulman, Bruce
Comparative yield and forage quality of *Astragalus* species in semi-arid condition in western Canada
- PEN004 Adongbede, Erute* - Egbofuku, Wisdom
The inhibitory effects of extracts of medicinal plants used in treating infectious diseases in Delta State Southern Nigeria
- PEN005 Ghosh, Nabarun* - Veloz, Mitsy - Bouyi, Danius - Bennert, Jeff - Saadeh, Constantine - Bell, Clint
Aeroallergen of Texas Panhandle, AHPCO and Plasma
Nanotechnology to improve the indoor air and sanitize ice machines

- PEN006 Schaper, Bridget* - Faye-Malik, Jaime - Koroch, Adolfinia - Gossiau, Alexander - Raman, Saima
Revisiting traditional remedies: antioxidant effects of *Azadirachta indica* A. Juss. and *Salvia triloba* C. Linnaeus

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- PEP001 Dong, Yanwen* - Lapointe, Line - Gérard, Dominique
Role of the alternative respiration in maintaining the source-sink balance in a spring ephemeral, *Erythronium americanum*
- PEP002 Wong, Christopher* - Ensminger, Ingo
Spring recovery of eastern white pine monitored with spectral reflectance
- PEP003 Backer, Rachel* - Smith, Doanld
Maize root morphological response to biochar and vermiculite
- PEP004 Macfie, Sheila* - Bahrami, Shirin - McGarvey, Brian
Accumulation of cadmium in durum wheat: a role for phytochelatins?
- PEP005 Alsahame, Mona* - Ryser, Peter
Nitrogen remobilization from wetland monocot roots in species with contrasting root turnover strategies
- PEP006 Tittmann, Susanne* - Wohlfahrt, Yvette - Stoll, Manfred
Initial physiological response of grapevine (*Vitis vinifera* L.) in a Free Air Carbon dioxide Enrichment (FACE) experiment
- PEP007 Nitta, Joel* - Watkins, James - Holbrook, N. Michele - Davis, Charles
Comparative Ecophysiology of the Filmy Ferns (Hymenophyllaceae) of Moorea, French Polynesia
- PEP008 Braun, Peter T. - Skillman, John B.*
To share or to save? Physiological integration and inducible CAM as possible drought tolerance mechanisms in the clonal invasive plant, *Carpobrotus edulis* (Ice Plant)
- PEP009 Huber, John A.* - Stewart, J. Ryan
Exploring the possibility of photosynthetic plasticity in *Agave sensu lato*
- PEP010 Franklin, Michelle* - Grillo, Michael
Ecophysiology traits related to drought resistance in annual and perennial C3 grasses
- PEP011 Equiza, Maria Alejandra* - Cirelli, Damian - Zwiazek, Janusz J.
Salt spray differentially affects phenology and growth in four tree species

PEP012 Da Ros, Letitia* - Soolanayakanahally, Raju - Guy, Robert - Mansfield, Shawn

Phosphorus Storage and Reabsorption in Riparian Tree Species:
Environmental Applications of Canadian Poplar and Willow

EVOLUTIONARY DEVELOPMENTAL BIOLOGY (EVO-DEVO)

- PEV001 Ventura, Kayla* - Landis, Jacob - Soltis, Douglas - Soltis, Pamela S.
Cell number or cell shape: which has a larger effect on flower size in
Gilia (Polemoniaceae)?
- PEV002 Berger, Brent - Riciglicano, Vincent - Thompson, Veronica - Lim, Aedric
- Howarth, Dianella*
Incorporating Morphometrics of Floral Symmetry into VIGS
knockdown analyses in *Fedia graciliflora*
- PEV003 Knudson, Alicia* - Kovaka, Sam - Hibbett, David
Fruiting body plasticity in *Lentinus tigrinus* and light signaling
pathways in Agaricomycetes
- PEV004 Hernandez, Margarita* - Landis, Jacob - Soltis, Douglas - Soltis, Pamela S.
Leptosiphon and flower color: investigating color acquisition in
Polemoniaceae using phylogenetics
- PEV005 Thompson, Veronica* - Lim, Aedric - Berger, Brent - Riciglicano,
Vincent - Howarth, Dianella
Differential *CYCLOIDEA* Expression Across Developing Compound
Floral Heads
- PEV006 Lim, Aedric* - Thompson, Veronica - Berger, Brent - Riciglicano,
Vincent - Howarth, Dianella
CYCLOIDEA Gene Expression across *Dipsacales* in Relation to Floral
Symmetry
- PEV007 Zhang, Jingbo* - Zhang, Wenheng
Molecular evolution of *CYC2*-like genes in the Solanaceae family

MONDAY

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- PGN001 Moidu, Hana - Brownlee, Jane - Xuelian, Wang - Deschiffart, Ian - Langille, Linda - Voldeng, Harvey - Khanizadeh, Shahrokh*
Effect of plant height on Fusarium head blight in spring wheat
- PGN002 Samakoush, Fatemeh Abedi* - Mattsson, Jim
Mutants in the rice *Auxin Response Factor 11* gene have reduced growth, fecundity and leaf vein density
- PGN003 Zhang, Bo - Chi, Dawn - Hiebert, Colin - Fetch, Tom - Xue, Allen* - Cao, Wenguang - Fedak, George
Pyramiding genes for resistance to stem rust, leaf rust and Fusarium head blight
- PGN004 Jin, Xiaojie - Chi, Dawn - Zhang, Bo - Xue, Allen* - Cao, Wenguang - Fedak, George
Wheat germplasm development by gene pyramiding for resistance to Ug99
- PGN005 Fedak, George - Wolfe, Danielle - Chi, Dawn - Cao, Wenguang - Xue, Allen*
Process of transferring FHB resistance from *Thinopyrum elongatum* to spring wheat
- PGN006 Fernando, Dilukshi* - Belmonte, Mark F. - Schroeder, Dana
Role of *DE-ETIOLATED 1 (DET1)* in regulation of seed germination in ABA mediated salinity and osmotic stress conditions in Arabidopsis
- PGN007 Verna, Carla* - Sawchuk, Megan G. - Linh, Nguyen Manh - Scarpella, Enrico
Control of vein network formation by auxin transport
- PGN008 Mahon, Elizabeth Louise* - Arango-Velez, Adriana - Cooke, Janice E. K.
Expression profiling of lodgepole and jack pine chitinase gene family in response to inoculation by mountain pine beetle fungal associate *Grosmania clavigera*.
- PGN009 Goldsmith, Nicholas* - Shaw, Ruth
Potential for ongoing adaptation of a native prairie plant
- PGN010 Huaber, Donald P.* - White, David A.
Evidence of invasive introduced cattail in marshes of the Mississippi River delta and central U.S. Gulf Coast
- PGN011 Karimi, Nisa* - Stenz, Noah - Scott, Alison - Baum, David A.
Phylogenetic Placement of the Whole Genome Duplication in Malvaceae

- PGN012 Kumar, Santosh* - Kaur, Jasdeep - Fetch, Tom - Burt, Andrew - Fetch, Jennifer M.
Study of *Sr2* prevalence using KASPar marker in Canadian wheat varieties
- PGN013 Caton, Tara* - Jordon-Thaden, Ingrid - Martine, Chris
Morphological and Molecular Analysis of *Solanum asym-metripHYllum* × *S. seJunctum* Interspecific Hybrids
- PGN014 Xue, Shiming* - Zantinge, Jennifer - Juskiw, Patricia - Xi, Kequan - Holtz, Michael
Identifying SNP markers for multiple leaf scald resistance in barley through restriction-site associated sequencing with the Ion Torrent PGM
- PGN015 Merritt, Ben - Culley, Theresa* - Avanesyan, Alina - Stokes, Richard - Brzyski, Jessica
An empirical review: Characteristics of plant microsatellite markers that confer greater levels of genetic variation
- PGN016 Zantinge, Jennifer - Juskiw, Patricia - Xue, Shiming* - Xi, Kequan - Holtz, Michael - Helm, Jim
Pyramiding by marker assisted selection resistance to Scald into malting barley
- PGN017 Mohamed, Abeer* - Timothy, Short
New tools to study phytochromes in fern *Ceratopteris*
- PGN018 Kassa, Muluaem T.* - Hiebert, Colin - You, Frank M. - Fobert, Pierre - Jordan, Mark C. - Andrew, Sharpe - Pozniak, Curtis J. - Fetch, Tom - Zegeye, Taye - Menzies, Jim - McCartney, Curt
Genetic mapping and marker development for high-throughput marker-assisted breeding for Ug99 stem rust resistance gene *SrCad/Sr42*
- PGN019 Babel, Cheryl* - McCallum, Brent - Fetch, Tom - Hiebert, Colin - McCartney, Curt
Gene mapping stem and leaf rust resistance genes in wheat
- PGN020 Huang, Shaoming
Characterizing the cross of CDC Sage and CDC Centennial field pea for heat resistance through flowering duration

GENOMICS / PROTEOMICS

- PGP001 Moore, Geromy G.* - Mack, Brian M. - Beltz, Shannon B.
Genomic Investigation of the *Aspergillus nomius* Type Strain
- PGP002 Fofana, Bourlaye* - Ghose, Kaushik - McCallum, Jason - You, Frank M.
- Cloutier, Sylvie J.
UGT74S1 Is a Single-Copy Gene and Is Unique In Controlling Secoisolaricresinol Diglucoside (SDG) Formation In Flax (*Linum usitatissimum*)
- PGP003 Hammett, Craig* - Shamoun, Simon Francis - Hamelin, Richard C.
Genomic perspective of variation in *Phytophthora ramorum* virulence
- PGP004 El-mezawy, Aliaa* - Vidmar, John - Lange, Ralph
Transcriptome analysis of *Leptosphaeria maculans*
- PGP005 Somalraju, Ashok* - Alkhnajari, Aisha - Ghose, Kaushik - Main, David
- Fofana, Bourlaye
Use of NGS and Phenotyping for Developing EMS-Mutagenized Pre-breeding Potato lines Potentially Low in Anti-nutritional Factors
- PGP006 Tiley, George* - Ane, Cecile - Burleigh, Gordon
Heterogeneity in loss rates following whole genome duplication across land plants
- PGP007 Hu, Junjie (Grace)* - Radovanovic, Natasa - Fan, Tao - Bykova, Natalia
Redox regulation of seed dormancy release in spring wheat revealed through tissue-specific proteomics, metabolomics and antioxidant activity profiling
- PGP008 Nepal, Madhav P. - Shaw, Samantha R.* - Andersen, Ethan
Tracking Disease Resistance in Wheat through Identification of R-gene Orthologs in *Aegilops tauschii* Coss. (Poaceae)
- PGP009 Wong, Darren C. J. - Gambetta, Greg - Castellarin, Simone Diego*
Genome-wide analysis of known and potential cis-regulatory elements in promoter regions of the grapevine (*Vitis vinifera* L.) genome
- PGP010 Cahoon, Aubrey Bruce* - Carroll, Hyrum - Wang, Matthew Yu-Wei
- Newby, Robert J. - Al-Tobasei, Rafet Faeq - Ewool, Richard C. - Evangelista, Delio - Stanley, Conner D. - Leblond, Jeffrey
Production of a complete library of the plastid derived transcripts of *Karenia brevis* and phylogenetic analysis of 6 proteins adds to the complex story of dinoflagellate endosymbiosis
- PGP011 Wang, Zhishuo* - Wang, Ying - Kohalmi, Susanne - Amyot, Lisa - Hannoufa, Abdelali
The miR156/SPL network determine floral organ development and plant fertility by regulating *AS2* gene

- 5:45 PGP012 Nepal, Madhav P.* - Andersen, Ethan - Shaw, Samantha R. - Gonzalez, Jose L. - Yen, Yang - Reese, R. Neil
Comparative Genomics of CNL Disease Resistance Genes in Six Grass Species
- 5:45 PGP013 Unda, Faride* - Skyba, Alex - Klapste, Jaroslav - Araujo, Francis - Hart, Foster - Guy, Robert - Douglas, Carl J. - Mansfield, Shawn
Phenotypic and genotypic correlations of wood ultrastructure traits and lignin composition on *Populus trichocarpa*
- 5:45 PGP014 Veltri, Daniel - Malapi-Wight, Martha - Crouch, Jo Anne*
Simple Synteny: An accessible tool for comparisons of genomic regions
- 5:45 PGP015 Urban, Joanna* - Ross Friedman, Cynthia - Kaldenhoff, Ralf - Bouditchevskaia, Anastassia
Investigation of gene expression in *Arceuthobium* spp. during the explosive seed dispersal with special attention to aquaporins
- 5:45 PGP016 Joshi, Raj Kumar - Megha, Swati* - Rahman, Muhammad Hafiz - Basu, Urmila - Kav, Nat N. V.
Dual RNA-Seq transcriptome profiling of canola (*Brassica napus* L.) and *Sclerotinia sclerotiorum* during a compatible interaction
- 5:45 PGP017 Panes, Vivian
Unraveling the Transcriptome of the Moringa oleifera Lam. Mature Embryo Using Direct RNA-Sequencing

HISTORICAL SECTION

- PHS001 Vossen, Tessa Eveline* - Towns, Alexandra Maria - Ruyschaert, Sofie - Quiroz, Diana Karina - Van Andel, Tinde
Evil eye and sour poo: The African roots of Surinamese cultural bound child diseases
- PHS002 Cheng, Yi-Ru - Hu, Jer-Ming*
Plant collections in the pacific islands during Taihoku Imperial University period (1928-1945) based on TAI herbarium data
- PHS003 Emry, Jason* - Bartz, Cheyenne - Nelson, Jonathan
Bringing a Small Regional Herbarium into the Modern Age

HORTICULTURE

- PHO001 McKenzie, David B.* - Bishop, Gary A. - Debnath, Samir C. - Dixon, Peggy L.
Flower occurrence in a recent planting of half-high blueberry cultivars in eastern Newfoundland as affected by surface mulch type
- PHO002 Lajeunesse, Julie
Agronomic potential of wild Saskatoon berry in Northern Quebec
- PHO003 Alam, Zobayer - Morales, Hugo - Debnath, Samir C. - Pena-Castillo, Lourdes - Roncal, Julissa*
Influence of environmental conditions on the biochemistry of wild partridgeberry populations in Newfoundland and Labrador
- PHO004 Arigundam, Usha* - Marshall, H.Dawn - Debnath, Samir.C
Types of bioreactors used for in vitro plant propagation
- PHO005 Ghosh, Amrita* - Igamberdiev, Abir U. - Debnath, Samir C.
Influence of growth hormones and culture manipulations on globular embryogenic structure formation in blueberries (*Vaccinium* spp.)
- PHO006 Tesfaendrias, Michael* - Allen, R. - Maund, C. - Tremblay, R.J.A.
Strawberry Decline Disease in New Brunswick, Canada
- PHO007 Abeywickrama, Gihan* - Debnath, Samir C. - Fereidoon, Shahidi
Phenolic compounds of cranberry genotypes and their antioxidant capacity and bioactivities

MONDAY

HOST/PLANT PATHOGEN INTERACTIONS AND PLANT HEALTH MANAGEMENT

- PPA001 Ahmed, Hafiz U.* - Hwang, Sheau-Fang - Zhou, Qixing - Turnbull, George D. - Strelkov, Stephen. E. - Peng, Gary
Effect of crop stage on blackleg (*Leptosphaeria maculans*) disease severity and yield of canola in Alberta, Canada
- PPA002 Al-Daoud, Fadi* - Deora, Abhinandan - Robson, Justin - Gossen, Bruce D. - McDonald, Mary Ruth
Propidium monoazide-assisted PCR may quantify viable *Plasmiodiophora brassicae* resting spores to the exclusion of non-viable resting spores
- PPA003 Cao, Tiesen* - Hwang, Sheau-Fang - Strelkov, Stephen. E.
Differentiation of *Plasmiodiophora brassicae* populations and single-spore isolates using CAPS markers
- PPA004 Dalton, Jill* - Gossen, Bruce - McDonald, Mary Ruth
Effect of spore load on growth of clubroot-resistant canola

- PPA005 Hossain, Md. Musharaf* - Sheoran, Inder S. - Stewart, Chad - Wei, Yangdou - Bonham-Smith, Peter
Identification of *Plasmodiophora brassicae* genes expressed during infection of *Arabidopsis thaliana* Col-0
- PPA006 Missihoun, D. Tagnon* - Kotchoni, O. Simeon - Wei, Yangdou - Bonham-Smith, Peter
Use of *Brachypodium distachyon* as a non-host species to find resistance against clubroot disease in Brassicaceae
- PPA007 Singh, Khushwant* - Wenzlova, Jana - Mazakova, Jana - Winter, Mark-Koopmann, Birger - von Tiedemann, Andreas - Zouhar, Miloslav - Rysanek, Pavel
Cyclophilin A: A Key determinant in distinguishing Oilseed rape fungal pathogen *Leptosphaeria maculans* and *L. biglobosa* Causing 'Blackleg'
- PPA008 Sharma, Roopam - Brar, Gurcharn*
Identification of the avirulence gene(s) in *Puccinia striiformis* f. sp. tritici isolates with differential response to the Yr10 resistance gene using subtractive hybridization approach
- PPA009 Burlakoti, Pragyant* - Tamburic-Ilincic, Lily
2014 Survey for *Fusarium graminearum* 15-ADON, 3-ADON and NIV chemotypes and mycotoxins level in winter wheat in Ontario
- PPA010 Deora, Abhinandan* - Persson, Eric - Van Andel, Marijke - Wright, Harold - Labun, Ted
Evaluation of Syngenta and competitor seed treatments for control of seed-borne cereal pathogens
- PPA011 Holtz, Michael D.* - Zantinge, Jennifer - Xi, Kequan - Turkington, T. Kelly
Genetic diversity and necrotrophic effectors in the barley pathogen *Rhynchosporium commune* in Alberta, Canada
- PPA012 Li, Hongjie - Hwang, Sheau-Fang* - Chang, Kanfa - Conner, Robert L. - Strelkov, Stephen. E.
Identification of effective sources of resistance to cereal cyst nematode in wheat germplasm from Canada and the USA
- PPA013 Kumar, Krishan* - Zantinge, Jennifer - Xi, Kequan - Steenbergen, Kristen - Juskiw, Patricia - Waterman, Sasha - Holtz, Michael
Enhanced Enzyme expression linked to increased fusarium head blight resistance in barley
- PPA014 MacLean, Dustin* - May, William - Peng, Gary - Coles, Ken - Turkington, T. Kelly - Harding, Michael - Kutcher, H. Randy
Fungicide application at anthesis provides effective leaf spot control in spring wheat

- PPA015 Xi, Kequan* - Turkington, T. Kelly - Capettini, Flavio - Juskiw, Patricia - Nyachiro, Joseph
Genotype and Environment Interactions for Barley Scald Resistance
- PPA016 Anctil, Félicia* - Joly, David L.
Functional approaches for the characterization of effectors in *Phytophthora infestans*
- PPA017 Copeland, Charles* - Woloshen, Virginia - Li, Xin
The role of CDC48A in the negative regulation of R protein-mediated immunity
- PPA018 Khalil, Hala* - Wang, Xiben - Linning, Rob - Joly, David - Cram, Dustin Thiessen, Nina - Taylor, Greg - McCallum, Brent - Saville, Barry - Bakkeren, Guus
Comparative analysis of transcriptome profiles during infection of near-isogenic susceptible or resistant wheat lines by various *Puccinia triticina* races; time courses reveal race-specific pathogenicity factors and corresponding host
- PPA019 Montenegro Alonso, Ana Priscilla* - Ali, Shawkat - Linning, Rob - Grewal, Tajinder - Bakkeren, Guus
Functional characterization of barley smut fungus, *Ustilago hordei*, avirulence effector *UhAvr1*
- PPA020 Wang, Xiben* - McCallum, Brent - Fetch, Tom - Bakkeren, Guus - Saville, Barry
The involvement of reactive oxygen species during the germination and infection of wheat leaf rust fungus, *Puccinia triticina*.
- PPA021 Abdul, Suleiman Dangana* - Sawa, Fatima Binta J. - Obadia, Caleb Dikko
Insecticidal Activity of some Plants Powder on Maize Weevil (*Sitophilus zeamais* Motschulsky) of Stored Maize Grains (*Zea mays* L)
- PPA022 Adams, Catharine* - Pringle, Anne - Zimmerman, Kolea - Fenstermacher, Kristi - Geiser, David
Mechanisms of capsaicin tolerance in fungal seed pathogens of wild chili peppers
- PPA023 Bisht, Vikram* - Gudmestad, Neil - Desjardins, Mardi
Occurrence of Boscalid and Azoxystrobin Resistance in Manitoba Isolates of *Alternaria solani*.
- PPA024 Carisse, Odile* - McRoberts, Neil
Long term dynamics of Botrytis leaf blight of onion under management in Quebec

- PPA025 Chang, Kan-Fa* - Hwang, Sheau-Fang - Ahmed, Hafiz U. - Fu, Heting - Strelkov, Stephen. E. - Conner, Robert L. - McLaren, Debra L. - Harding, Michael - Turnbull, George D.
First report of *Phytophthora* causing root rot in soybean in Alberta, Canada
- PPA026 Errampalli, Deena
Development of detection assays for toxic metabolites produced by fungi
- PPA027 Fenstermacher, Kristi
Fusarium oxysporum f.sp. *lycopersici* and tomato: small chromosomes usually define friend vs. foe
- PPA028 Errampalli, Deena - Haldar, Aparna* - Zwiep, Aaron - Chelsea, Jackson - Karin, Schneider
The effect of organic fungicide application on apple scab (*Venturia inaequalis*) on McIntosh apple cultivar in the orchard
- PPA029 Kalischuk, Melanie* - Peters, R.D. - Al-Mughrabi, Khalil - Daayf, Fouad - Harding, Michael - Sabaratham, Siva - Howard, R - Kawchuk, Lawrence
Chronic late blight caused by *Phytophthora infestans* US-23 limits conventional disease management strategies
- PPA030 Kerrigan, Julia* - Meadows, Inga - Walker, Joan
Fire timing influences smut distribution in wiregrasses of longleaf pine savannas
- PPA031 Marr, Deborah L.* - Jackson, Erin - Julian, Brandon - Kopey, Matthew - Wagar, Rob
Endophytic fungal interactions in *Alliaria petiolata* (non-native garlic mustard) and species of *Hydrophyllum* (native waterleaf)
- PPA032 Sawa, Fatima Binta J.* - Abdul, Suleiman Dangana - Obadia, Caleb Dikko
Bioinsecticidal Activity of Some Plants Powder on Maize Weevil (*Sitophilus zeamais* Motschulsky) of Stored Pearl Millet (*Pennisetum glaucum*, L) Grains
- PPA033 Melzer, Melody - Cao, Honghe - Tudhope, Jessica - Shan, Xuechan*
Diseases diagnosed and insects identified at the Pest Diagnostic Clinic, University of Guelph in 2014
- PPA034 Shi, Amy Fang* - Filotas, Melanie - Bakker, Cathy - McDonald, Mary Ruth
Pest and diseases of hops in Ontario, Canada, in 2014
- PPA035 Sormany, François* - Joly, David L.
Preliminary analysis of organ-specificity in *Phytophthora infestans*, causal agent of potato late blight

- PPA036 Tamburic-Ilincic, Lily
Effect Of Fungicides And Nitrogen On Yield, Quality And Diseases
Of Hard Red Winter Wheat 'Princeton' In Ontario
- PPA037 Wilson, Daniel C.* - Carella, Phil - Cameron, Robin K.
Investigating the age-related resistance response of *Arabidopsis
thaliana* to *Pseudomonas syringae* pv *tomato*
- PPA038 Xiang, Yu* - Bernardy, Mike - Bhagwat, Basdeo - Su, li - Li, Zhengnan -
Wiersma, Paul - You, Frank M.
Detection and characterization of viruses associated with sweet
cherry mottling leaf diseases
- PPA039 Li, Zhengnan - Bhagwat, Basdeo - Bernardy, Mike - Wu, Yunfeng -
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Molecular characterization of a prune dwarf virus isolate and
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- PPA040 Marchand, Geneviève - Yan, Miaoyi - Giorgetti, Corrine - Cober, Elroy
R. - Xue, Allen*
Pathogenicity of *Pythium* species to soybean and resistance in a
Canadian short-season cultivar set
- PPA041 Xue, Allen* - Marchand, Geneviève - Chen, Yuanhong - Cober, Elroy -
Zhang, shuzhen - Tenuta, Albert
Races of *Phytophthora sojae* in Ontario, Canada, 2010 – 2012
- PPA042 Zhou, Qixing* - Chang, Kanfa - Hwang, Sheaufang - Strelkov, Stephen.
E. - Conner, Robert L. - McLaren, Debra L. - Yang, Yalong - Harding,
Michael - Turnbull, George D.
Genetic diversity and aggressiveness of *Fusarium* spp. isolated from
soybean in Alberta, Canada

HYBRIDS AND HYBRIDIZATION

- PHB001 Kerbs, Benjamin* - Crawford, Daniel J. - Mort, Mark
Phenotypic novelty and the potential for speciation via stabilization
of hybrid recombinants in *Tolpis* (Asteraceae)
- PHB002 Benmiloud-Mahieddine Radia, B.R* - Kaid-Harche, Meriem -
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Homoploid hybrid speciation in genus *Retama* (Fabaceae), karyo-
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- PME001 Mandakova, Terezie - Lysak, Martin*
Tribal-specific reciprocal translocation in the tribe Cardamineae
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- PME002 Amma, Sarasa
Analysis of the composition and diversity of soil fungi in seasonal
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- PME003 Du, Zhaokui* - Li, Junmin - Jin, Zexin - Shi, Yongbin
Transcriptomic and proteomic comparisons reveal mechanisms
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- PME004 Mohamed, Abeer* - Little, Damon
Bar-coding of Siwa Oasis flora in Egypt
- PME005 O'Connell, Kristen Anna* - Hutchinson, Miriam - Natvig, Donald O.
Coprophilous fungi and their associations with animals and plants
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- PME006 Steele, Kelly* - Wojciechowski, Martin
ndh gene loss from the plastid genome of the saguaro, *Carnegiea
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- PMY001 Toapanta, Cristina E. - Barnes, Charles W. - Ordonez, Maria E.*
Diversity of Polyporaceae fungi found in the Yasun' National Park in Ecuador
- PMY002 Blanchette, Robert A.* - Kielsmeier-Cook, Joshua - Held, Benjamin W. - Ordonez, Maria E. - Toapanta, Cristina E. - Padilla, Carlos A. - Barnes, Charles W.
Dead Man's Toes: A Stipitate *Ganoderma* from the Amazon Rainforest
- PMY003 Spirin, Viacheslav* - Vlasák, Josef - Miettinen, Otto
Speciation in the genus *Antrodia* (Polyporales, Basidiomycota): geographic isolation and host adaptation
- PMY004 Krizsan, Krisztina* - Almasi, Eva - Kohler, Annegret - Martin, Francis - Hibbett, David - Nagy, Laszlo
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- PMY005 Bässler, Claus* - Heilmann-Clausen, Jacob - Brandl, Roland - Halbwachs, Hans
Differences in sexual life history traits between ectomycorrhizal and saprotrophic fungi and ecological consequences
- PMY006 Methven, Andrew Scott* - Miller, Andrew N.
Evolutionary relationships of the clavarioid mushroom genus *Lentaria*
- PMY007 DeMers, Mara* - Methven, Andrew Scott - Gerenday, Anna - Kennedy, Peter
Exploring *Lactarius chrysorrheus* diversity in North America
- PMY008 Baroni, Timothy J.* - Montoya, Leticia - Bandala, Victor M. - Horton, Thomas R.
A new species of *Laccaria* in montane cloud forest from southeastern Mexico
- PMY009 Shay, Jackie* - Desjardin, Dennis
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- PMY010 Grace, Chris* - Desjardin, Dennis - Perry, Brian
A Preliminary Monograph of *Marasmius* from São Tomé and Príncipe
- PMY011 Husbands, Dillon .R.* - Henkel, Terry .W. - Obase, Keisuke - Smith, Matthew .E. - Uehling, Jessie .K. - Bonito, Gregory - Aime, M. Catherine
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- PMY012 Mata, Juan Luis
New records of collybioid Fungi for Costa Rica
- PMY013 Corrales, Adriana - Ovrebo, Clark L.*
Some Fleshy Fungi from the Pre-Montane Forests of Western Panama with Notes on Phenology
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Pervasive effects of wildfire on foliar endophyte communities in montane forest trees
- PMY015 Ndinga Muniania, Cedric* - Sandona, Katrina - Belnap, Jayne - Porras-Alfaro, Andrea - Kuske, Cheryl R.
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- PMY019 Davey, Marie
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- PMY020 Wang, Yan* - White, Merlin - Moncalvo, Jean-Marc
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- PMY021 Haelewaters, Danny* - Pfister, Donald H.
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- PMY023 Nagano, Yuriko* - Miura, Toshiko - Nishi, Shinro - Fujikura, Katsunori
Fungal diversity in asphalt seep at the Sao Paulo Plateau

- PMY024 Held, Benjamin W.* - Salomon, Christine E. - Blanchette, Robert A.
Subterranean Fungal Diversity in a Minnesota Iron Mine
- PMY025 Yadav, Neelesh
Digital Inventory Of Forest Diseases And Fungi : An Online
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- PMY026 Robinson, Aaron J.* - Hutchinson, Miriam - Natvig, Donald O.
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- PMY027 Sivagnanam, Kumaran - Barasubiye, Tharcisse - Seifert, Keith A. -
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an emergent plant pathogen in Maine and Eastern Canada
- PMY030 Kijpornyongpan, Teeratas* - Aime, M. Catherine
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- PMY031 Hutchinson, Miriam* - Powell, Amy J. - Tsang, Adrian - Berka, Randy -
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- PMY032 Allen, W. Cavan - Castlebury, Lisa - Luke, Eileen M. - Hill, Michael A.
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Schadel, Betsy - Gregory, Nancy F. - Shew, Barbara - Cubeta, Marc A.*
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- PMY033 Savchenko, K.G. - Carris, L.M.*
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Analysis of the population structure and virulence of clinically
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- PMY036 Lueschow, Shiloh* - Porras-Alfaro, Andrea - Northup, Diana
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- PMY037 Glaeser, Jessie
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- PMY038 Smyth, Christopher* - Sarmiento-Ramírez, Jullie - Short, Dylan - Diéguez-Uribeondo, Javier - Geiser, David
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- PMY039 Raudabaugh, Daniel - Miller, Andrew N.* - Taylor, Steven J. - Heske, Edward J. - Merritt, Joseph F. - Yannarell, Anthony C. - Mateus-Pinilla, Nohra E.
Trans, trans-farnesol from *Candida albicans* can kill or inhibit *Pseudogymnoascus destructans*
- PMY040 McCormick, Michael* - Wang, Yan - Pickell, Tyler - White, Merlin
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- PMY041 Kumlien, Aaron Carr* - Volk, Thomas
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- PMY042 Hamm, Paris* - Mueller, Rebecca - Belnap, Jayne - Kuske, Cheryl R. - Porras-Alfaro, Andrea
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- PMY047 Lodge, D. Jean - Cantrell, Sharon A.* - Stankavich, Sarag - Shaffer, Angela - Stock, Michael - Colón Hernández, Vanessa
Simulated hurricane treatment reduces basidiomycete litter mat cover in subtropical wet forest
- PMY048 Cantrell, Sharon A.* - Godoy-Vitorino, Filipa - Perez-Jimenez, Jose R.
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- PMY049 Kaszynski, kyle* - Volk, Thomas
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- PMY050 Gdanetz MacCready, Kristi* - Trail, Frances
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- PMY051 Dunkirk, Nora* - Peay, Kabir
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- PMY052 Samuel, Ella* - Porter, David - Rajakaruna, Nishanta
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- PMY053 Gonzalez, Maria C.* - Hanlin, Richard T.
Sandy beach fungi from Acapulco Bay, Mexico
- PMY054 Almatruk, Maa* - Hesse, Cedar H. - Kuske, Cheryl R. - Porras-Alfaro, Andrea
Yeast diversity in North Carolina Duke Forest
- PMY055 Bruce, Andrea* - Osmundson, Todd - Maltz, Mia
Plant functional group diversity and restoration methods influence filamentous fungal community composition in restored coastal sage scrub ecosystems
- PMY056 Peterson, Stephen* - Zeljko, Jurjevic - Frisvad, Jens
Expanding the species and chemical diversity of *Penicillium* section *Cinnamopurpurea*
- PMY057 Torres Cruz, Terry Jarianna* - Porras-Alfaro, Andrea - Kuske, Cheryl R. - Hesse, Cedar Nelson
Heavy Metal Tolerant Fungi in Surface Soils of a Temperate Pine Forest
- PMY058 Walker, Allison - Hirooka, Yuuri - Landry, Brandon L.* - Walker, Donald M.
New species of *Plagiostoma* from the United States
- PMY059 David, Samuel Thomas* - Volk, Thomas
Major Fungal Effects on Human History

- PMY060 Tobias, Terri* - Dean, Sarah - Phippen, Winthrop - Gruver, Joel -
Porras-Alfaro, Andrea
A study of *Glycine max* (soybean) fungal communities under different agricultural practices
- PMY061 Pol, Natalie Vande* - Benning, Nils - Poliner, Eric - Desiro, Alessandro -
Bonito, Gregory
Multi-locus sequence typing (MLST) and fatty acid profiles inform the *Mortierellaceae* phylogeny
- PMY062 Hill, Terry W.* - Jackson-Hayes, Loretta - Haugen, Benard J. - Hohlt, Anne E.
A temperature-sensitive mutation in the *ActA* gene affects cell morphology in *Aspergillus nidulans*
- PMY063 Auxier, Benjamin* - Dee, Jaclyn - Berbee, Mary
Challenges and progress towards developing a selection system for genetic transformation in Phylum Chytridiomycota
- PMY064 Moore, Craig* - Hsiang, Tom
Species-specific primers based on comparative genomic analyses of several *Botrytis* species

PALEOBOTANICAL SECTION

- PPB001 Coiro, Mario* - Mickle, James E. - Barone Lumaga, Maria Rosaria
Epidermal morphology and the diversification of the cycads
- PPB002 Baghai-Riding, Nina Lucille* - Hotton, Carol - Davis, Kendal -
Davidson, Taylor
Palynological Evidence from New Mexico for a Latitudinal Moisture Gradient in the Late Jurassic Morrison Formation
- PPB003 Thummel, Ryan* - Stromberg, Caroline
Survey of Phytolith Production in Bryophytes
- PPB004 Jin, Jianhua
Eocene *Podocarpium* (Leguminosae) from South China and its phytogeographic implications
- PPB005 Jin, Jianhua
Eocene *Podocarpium* (Leguminosae) from South China and its phytogeographic implications
- PPB006 Greller, Andrew M.* - Goudket, Michael - Castillo, Cesar A.
Fossil root cross-sections from the Upper Cretaceous (Santonian Age, ca.86 my) Magothy Formation of Lloyd Neck, Suffolk County, New York

- PPB007 Bronson, Allison* - Maisey, John - Tomescu, Alexandru M.F.
Reconstructing ancient Mississippian coastal habitats and depositional environments based on flora and fauna: an integrative approach
- PPB008 Clark, Lia* - Pigg, Kathleen B. - Basham, M. Anne - Makings, Elizabeth Landrum, Leslie - Fertig, Walter
Vascular Plant and Lichen Herbaria and Fossil Plant Collections at Arizona State University have a new off-campus home

PHYLOGENOMICS

- PPY001 Roncal, Julissa* - Guyot, Romain - Hamon, Perla - Nowak, Michael D. - Davis, Aaron - DeKochko, Alexandre
Active transposable elements recover species boundaries and geographic structure in Madagascan coffee species
- PPY002 Villaverde, Tamara - Maguilla, Enrique - Escudero, Marcial* - Martin-Bravo, Santiago - Hipp, Andrew L. - Luceño, Modesto
RAD-seq strengthens phylogenetic resolution in Schoenoxiphium (Cyperaceae)
- PPY003 Sanderson, Michael* - Copetti, Dario - Burquez, Alberto - Bustamante, Enriquena - Charboneau, Joseph - Eguiarte, Luis E. - Kumar, Sudhir - McMahon, Michelle - Steele, Kelly - Wing, Rod - Yang, Tae-Jin - Lee, Hyun Oh - Lee, Junki - Zwickl, Derrick - Wojciechowski, Martin
Exceptional reduction of the plastid genome of saguaro cactus (*Carnegiea gigantea*, Cactaceae)
- PPY004 Hartsock, Ryan H. - McKain, Michael* - Wohl, Molly - Kellogg, Elizabeth
Verdant: Automated Annotation, Alignment, and Phylogenetic Analysis for Whole Chloroplast Sequences
- PPY005 Lee, Jung-ho* - Kwon, Mi - Park, Jihye - Lee, Minjee - Lee, Haeyoun - Hwang, Yoon-Jung - Park, Sang Kun - Shin, Il Sheob - Kim, Se Hee - Ahn, Yul Kyun - Won, So Youn - Kim, Jungsun - Jin, Mina - Sohn, Seong-Han
Research on cytoplasmic genome characterization of chrysanthemum, Pyrus, Allium, and their relatives
- PPY006 Won, Hyosig* - Lee, Jung-ho - Kim, Kyunghee - Yang, Tae-Jin - Kim, Soonok
Comparative analysis of plastid genomes of Orobanchaceae – adding up species from Korea

- PPY007 Jordan-Thaden, Ingrid - Gilman, Ian* - Uribe-Convers, Simon - Chamala, Srikar - Tank, David - Martine, Chris
 Selection and validation of transcriptome-mined intronic primers for Fluidigm PCR and Illumina sequencing

PHYSIOLOGICAL SECTION

- PPS001 Smith, Christopher P. - Huth, John K. - Lackney, Stephen M. - Carrell, Skyler C. - Cote, Gary G.*
 Calcium Oxalate Crystals in Petioles of Deciduous Trees
- PPS002 Grzesiak, Maciej* - Janowiak, Franciszek - Szczyrek, Piotr - Kaczanowska, Katarzyna - Ostrowska, Agnieszka - Rut, Grzegorz - Rzepka, Andrzej - Grzesiak, Stanislaw
 Multistress effect of soil compaction combined with drought or waterlogging on changes in physiological characteristics in maize (*Zea mays* L.) hybrids
- PPS003 Chitnis, Vijaya R.* - Gao, Feng - Yao, Zhen - Jordan, Mark C. - Ayele, Belay T.
 After ripening induced transcriptional changes of hormonal genes in wheat seeds
- PPS004 Bucior, Erika* - Melcher, Peter
 The physiological responses of *Brassica rapa* (Fast Plants) to nutrient and drought stress
- Canceled** PPS005 Dowrey, Callie* - Burns, Jean - Medeiros, Juliana
 Relationship of leaf anatomy and function to climate tolerance differ among evergreen, deciduous, and semi-evergreen Rhododendrons
- PPS006 Nguyen-Tran, Nguyen* - Yao, Zhen - Levin, David B. - Ayele, Belay T.
 Characterization of lignin formation in wheat biomass
- PPS007 Stata, Matt* - Sage, Rowan F. - Sage, Tammy - Covshoff, Sarah - Hibberd, Julian M. - Ka-Shu Wong, Gane
 The 1kp Project and the Evolutionary Histories of Key Genes of C4 Photosynthesis
- PPS008 Carvalho, Monica R.* - Woll, Arthur - Niklas, Karl
 Calcium and zinc accumulation through leaf ontogeny
- PPS009 Deakova, Timea
 Volatile Emissions in *Polytrichum juniperinum*: The role of VOCs in moss sexual systems

PHYTOCHEMICAL SECTION

- PPH001 Hegebarth, Daniela* - Busta, Lucas - Jetter, Reinhard
The Plant Cuticle Matures: Regulation and Composition of
Arabidopsis thaliana Leaf Wax during Development
- PPH002 Bode, Gwen* - O'Quinn, Robin
An Analysis of the Aboveground Biomass Vitamin Content of
Claytonia lanceolata, a Wild-Foraged Food

POLLINATION BIOLOGY

- PPL001 Distefano, Isabel L.* - Gardner, Elliot M. - Zerega, Nyree - Clement, Wendy
Analysis of pollen morphology to predict pollination syndrome in
Artocarpus (Moraceae)
- PPL002 Buddin, Carl* - Penneys, Darin S.
Plant-animal interactions: repeated evolutionary acquisitions
of complex character suites in a tropical flowering plant family
(Melastomataceae)

POPULATION GENETICS

- PPG001 Shamoun, Simon Francis* - Hammett, Craig - Li, X
Development of species-specific PCR primers and molecular
diagnostic assay for the identification and differentiation of North
American *Heterobasidion* spp
- PPG002 Santiago, Mercedes* - Waselkov, Katherine - Heidel, Bonnie - Mayfield,
Mark H. - Ferguson, Carolyn J.
Genetic diversity of the rare plant species *Phlox pungens*
(Polemoniaceae)
- PPG003 Chiang, Yu-Chung* - Yi, Ting-Shuang - Chen, Mei-Hui - Chung,
Chia-Ying
Genetic diversity, genetic divergence and phylogeographical patterns
in *Calocedrus* based inferred by microsatellite data
- PPG004 De Oliveira, Luiz Orlando* - Vinson, Christina C. - Dal'sasso, Thais C. S.
- Sudre, Claudia P. - Mangaravite, Erica
Population genetics of the naturally rare tree *Dimorphandra wilsonii*
(Caesalpinioideae) of the Brazilian Cerrado

- PPG005 Roche, Morgan* - Jordon-Thaden, Ingrid - Hayes, Daniel - Boni, Alexandra - Martine, Chris
Population genetics of two study systems using ddRADtag and HiSeq Illumina
- PPG006 Chiang, Yu-Chung* - Shen, Hsien-Hui
Genetic divergence in three Asian Cycad Sections
- PPG007 Arlinghaus, Kellen R.* - Mardonovich, Sandra - Acosta, Johnsua - Moore, Richard C.
Morphological characteristics of wild *Carica papaya*
- PPG008 Lim, Chae Eun* - Choi, Ji-Eun - Yu, Jeong-Nam - Lee, Byoung-Yoon
Population genetic variability and structure of *Aconitum austrokore-ense* (Ranunculaceae) endemic to Korean peninsula inferred from microsatellite markers and chloroplast intergenic spacer marker

PTERIDOLOGICAL SECTION/AFS

- PPD001 Dauphin, Benjamin* - Farrar, Donald - Grant, Jason
Gene flow by spore dispersal vs sperm transport by subsurface water flow in outcrossing *Botrychium lunaria* populations in the Swiss Alps

REPRODUCTIVE BIOLOGY

- PRP001 Beck, Samantha
Micropropagation studies of *Capsicum annuum*: Trinidad Moruga Scorpion Pepper
- PRP002 Cattani, Douglas John* - Linski, Gabriel - Grieger, Ardelle
Selection of a perennial grain for seed productivity across years: *Thinopyrum intermedium* as the test species
- PRP003 Dudle, Dana A.* - Davis, Sandra L. - Ritke, Mary K.
Why does bouncing bet blush? Heritability and plasticity of floral color and anthocyanidin synthase expression in *Saponaria officinalis*
- PRP004 Best, Hannah L.* - Krakos, Kyra N.
The Reproductive Biology and Breeding System of *Aquilegia canadensis*
- PRP005 Kricsfalusy, Vladimir
Life-history variation in populations of the prairie crocus (*Anemone patens* L.)

- PRP006 Hayes, Daniel* - Jordon-Thaden, Ingrid - Boni, Alexandra - Sharbel, Timothy - Koch, Marcus - Martine, Chris
Flow cytometric seed screen of the apomictic alpine mustard, *Draba oligosperma* Hook., from the North American Cordillera
- PRP007 Rodriguez, Rosa* - Bastardo, Ruth - Manzueta, Katherine - Fernandez, Josue
Preliminary results on the population genetics and reproductive biology of *Vaccinium* (Ericaceae) in the Dominican Republic
- PRP008 Stammer, Theodore J.* - Donoghue, Michael - Clement, Wendy
Evolution of Endocarp Morphology and Implications for Seed Dispersal in *Viburnum* (Adoxaceae)
- PRP009 Jayasinghege, Charitha* - Reinecke, Dennis M. - Waduthanthri, Kosala Dinuka - Ozga, Jocelyn A.
Differential regulation of 1-aminocyclopropane-1-carboxylic acid (ACC) oxidase genes by the auxins IAA and 4-Cl-IAA during pea fruit development

SYMBIOSES: PLANT, ANIMAL, AND MICROBE INTERACTIONS

- PSB001 Davidson, Bill Eugene - Smith, James F. - Serpe, Marcelo Daniel*
Community Structure of Arbuscular Mycorrhizal Fungi Colonizing *Artemisia tridentata* Seedlings Following Inoculation and Transplanting
- PSB002 Davidson, Bill Eugene - Smith, James F.* - Serpe, Marcelo Daniel
Community Structure of Arbuscular Mycorrhizal Fungi Colonizing *Artemisia tridentata* Seedlings Following Inoculation and Transplanting
- PSB003 Velasco, Joel - Smith, James F.* - Serpe, Marcelo Daniel
Drought Effects on Colonization of *Artemisia tridentata* seedlings by Arbuscular Mycorrhizal Fungi
- PSB004 Puri, Akshit* - Padda, Kiran Preet - Chanway, Chris P
Growth promotion and nitrogen fixation in Corn and Canola colonized by an Endophytic strain isolated from lodgepole pine
- PSB005 Padda, Kiran Preet* - Puri, Akshit - Chanway, Chris P
Is the role of green fluorescent protein (gfp) more than a marker gene?
- PSB006 Moler, Ehren Reid Von* - Reinhardt, Keith - Aho, Ken
Whitebark Pine, Fungal Endophytes, and the White Pine Blister Rust Disease

- PSB007 DeVan, Megan Rae* - Taylor, D. Lee
Fungi, Fire, and the Changing Boreal Forest
- PSB008 Jones, James* - Guinel, Frédérique
Botany Rocks: an agro-mineral soil supplement for sustainable crop
plant nutrition
- PSB009 Yucel, Cagdas* - Mykytczuk, Nadia - Ryser, Peter
Differences among microbial rhizosphere communities are related to
phylogenetic relationships among wetland plants
- PSB010 Taerum, Stephen Joshua* - de Beer, Z. Wilhelm - Wingfield, Michael J.
Microsatellites and symbiont assemblages support different invasion
histories for the red turpentine beetle, *Dendroctonus valens*
- PSB011 Wachocki, Barbara* - Sondossi, Mohammad
Extent of fungal symbiosis in *Halogeton glomeratus*

SYSTEMATICS SECTION/ASPT

- PSY001 Yombiyeni, Prudence* - Cony, Decock
Diversity of *Phylloporia* (Hymenochaetaceae) from the lower Guinean
Congolian rainforest in Gabon
- PSY002 Miller, Chuck
The World Flora Online – Achieving Target 1 of the Global Strategy
for Plant Conservation
- PSY003 Johnson, Robert - Sadler, Camilla - Nufer, Jonathon - Sanders, Kayla -
Johnson, Leigh*
Physical and digital renovation of the vascular plant herbarium at
Brigham Young University
- PSY004 Houser, Dilys C. - From, Marge - Copeland, Alison I. - Kellar, P.
Roxanne*
Phylogenetic placement of *Diplazium laffanianum* (Athryiaceae), a
fern species endemic to Bermuda
- PSY005 Choi, Tae Young* - Park, Chong-Wook
A phylogeny of *Pyrrhosia* Mirb. (Polypodiaceae) inferred from
chloroplast DNA sequences
- PSY006 Lefler, Julia* - Willyard, Ann
Phylogeography of Jeffrey Pine in the Klamath Mountains
- PSY007 Huynh, Eric* - Willyard, Ann
Integrative Data Techniques for Species Delimitation in Ponderosa
Pine

- PSY008 Karemera, Hassan* - Gernandt, David S. - Willyard, Ann
Mitochondrial lineages of *Pinus ponderosa* s.l. in the USA and related species in Mexico and Central America
- PSY009 Won, Hyosig* - Lim, Chang Kun
Phylogeographic study of *Iris laevigata*
- PSY010 Lee, Jungho* - Lee, Minjee - Park, Jihye - Sohn, Seong-Han - Won, Hyosig
Plastid genome diversity from four populations of *Iris laevigata*, Iridaceae, based on complete chloroplast genomic sequences
- PSY011 Rodriguez, Jennifer* - Wilson, Carol
Phylogeny of three series of breadless *Iris* in Asia
- PSY012 Oh, Sang-Hun* - Suh, Hwa-Jung - Park, Chong-Wook
Two new species of *Calanthe* (Orchidaceae: Epidendroideae) from Korea
- PSY013 Roman, Maria Jose - Urbina-Casanova, Rafael - Ramirez, Pamela - Scherson, Rosa Amelia*
Tecophilaeaceae in Chile: A phylogenetic study of a highly endemic geophyte clade
- PSY014 Bauters, Kenneth - Asselman, Pieter - Goetghebeur, Paul - Larridon, Isabel*
Phylogenetics, ancestral state reconstruction, and a new infrageneric classification of *Scleria* (Cyperaceae) based on three DNA regions
- PSY015 Waterway, Marcia J.* - Prado, Alberto - Bruhl, Jeremy - Gehrke, Berit - Hoshino, Takuji - Jin, Xiao-Feng - Luceño, Modesto - Masaki, Tomomi - Phulphong, Kamolhathai - Simpson, David - Wilson, Karen - Zhang, Shuren
Testing sectional monophyly in *Carex* (Cyperaceae)
- PSY016 McCauley, Ross A.* - Paces, Margo N.
A preliminary analysis of phylogeography and species diversification of *Ostrya* (Betulaceae) in the southwestern US and Mexico
- PSY017 Herron, Sterling* - Wen, Jun - Zimmer, Elizabeth
Nuclear and Chloroplast Sequences Resolve the Concord Grape Mystery
- PSY018 Shipunov, Alexey* - Lee, Hye Ji - Choi, Jin Hee - Connolly, Bryan
Mysterious chokeberries: genus *Aronia* in space and time
- PSY019 Gonzalez, Lauren* - Soltis, Douglas E. - Soltis, Pamela S.
Elucidating the Evolutionary History of *Tropaeolum* (Tropaeolaceae)

- PSY020 Adenegan-Alakinde, Taiwo A.
Germination Studies on the *Basella* Linn. Species of the South western Nigeria
- PSY021 Last, Noah* - Thulin, Mats - Struwig, Madeleen - Douglas, Norman - Moore, Michael J.
Global biogeography of *Commicarpus* (Nyctaginaceae) based on nuclear and chloroplast loci
- PSY022 Steier, Julia* - Steele, Kelly - Mandakova, Terezie - Wojciechowski, Martin
Genome size and chromosome number evolution in early diverging species of *Medicago* (Fabaceae)
- PSY023 Lim, Chae Eun* - Ryu, Se-A - Park, Ki-Ryong
DNA Barcoding Study of Korean Euphorbiaceae Juss
- PSY024 Sanz Sancho, Ernesto* - Krosnick, Shawn
New insights into the evolution of the Austral-Pacific *Passiflora* (Passifloraceae: supersection *Disemma*, section *Disemma*)
- PSY025 Svoboda, Harlan* - Ballard, Harvey
Phenetic and micromorphological studies in *Passiflora* sect. *Dysosmia* (Passifloraceae)
- PSY026 Luz, Cintia* - Pirani, Jose Rubens
Specific circumscription problems and habitat diversity of *Schinus* sect. *Pseudoduvaia* Barkley (Anacardiaceae): simple leaved, non-spinescent species from Southern South America (Bolivia, Argentina and Chile)
- PSY027 Onuminya, Temitope* - Ogundipe, Oluwatoyin - Olowokudejo, James D.
A Review of the Taxonomy of African Sapindaceae based on Quantitative and Qualitative Characters
- PSY028 Kim, Hoe-Won* - Kim, Ki-Joong
Plastome evolution and the plastome phylogeny of the basal asterids
- PSY029 Guzman-Zaragoza, Lizette* - de la Torre, Jose - Burge, Dylan - Parker, Tom
Molecular systematics of *Arctostaphylos* (Ericaceae) using whole genome sequencing
- PSY030 Flowers, Nicholas* - Neubig, Kurt M. - Abbott, Richard - Liesner, Ron - Piatkowski, Bryan
The *Mitreola petiolata* (Loganiaceae) complex: cryptic species revealed with DNA and micromorphological data
- PSY031 Johnson, Erin* - Ochoterena, Helga - Flores Olvera, Hilda - Douglas, Norman - Moore, Michael J.
Exploring the phylogenetic position of a bizarre, poorly known gypsum endemic plant: *Hedyotis teretifolia* (Rubiaceae)

- PSY032 Wills, Brandee* - McGlaughlin, Mitchell E.
Resolving Taxonomic Synonymy of *Phacelia submutica* (DeBeque
Phacelia) using ITS (nuclear) and *ndhF* (chloroplast) Sequences:
Implications for Rare Plant Management
- PSY033 Salazar, Jackeline* - Santiago-Valentin, Eugenio - Clase, Teodoro -
Martinez, Nirzka - Mateo, Amelia
Two new species of *Tabebuia* ex Dc Gomez (Bignoniaceae) from
Puerto Plata, Dominican Republic
- PSY034 Wiese, Joshua* - Drew, Bryan
Molecular Phylogeny and Biogeographical History of the Genus
Agastache (Lamiaceae): Examining an East Asian-North American
Disjunction
- PSY035 Everett, Amanda* - Simpson, Michael
The Molecular Systematics of *Pogogyne* (Lamiaceae), a California
Vernal Pools Endemic
- PSY036 Frawley, Emma* - Jordon-Thaden, Ingrid - Martine, Rachel F. - Martine,
Chris
Celebrating difference: Morphological comparison between a
narrowly-endemic Australian species (*Solanum eburneum*) and a
locally-recognized variant
- PSY037 Kim, Kyeonghee* - Oh, Sang-Hun - Kim, Chan-Soo - Park, Chong-
Wook
A new species of *Peucedanum* (Apiaceae) from Korea
- PSY038 Sokolik, John* - Tippery, Nicholas
A morphological and phylogenetic study of African *Nymphoides*
(Menyanthaceae)
- PSY039 Gallagher, Patrick* - Goble, Amanda - Cohen, Alanna - Donoghue,
Michael - Clement, Wendy
An expanded species-level phylogeny for *Viburnum* (Adoxaceae)
and its evolutionary implications

TEACHING SECTION

- PTE001 Gostel, Morgan* - Verhoeven, Anne - Edwards, Cody W. - Schwebach, J. Reid
A call to train: Graduate teaching assistants, writing, and the STEM
curriculum
- PTE002 Khezri, Mariya* - Krakos, Kyra Neipp
Experimentation with Invasive Honeysuckle Biomass to Develop Art
Medium

- PTE003 McAssey, Edward* - Heyduk, Karolina - Leebens-Mack, James H. -
Burke, John
An active learning demonstration of artificial selection: Showing the
effects of domestication and drought stress on carrots and lettuce
- PTE004 Singh, Surat - Moses, Elgan - Mehroke, Jarnail - Singh, Santokh*
Plant hormones in Relation to Vegetative Growth and Seed and Pod
Development in Green Beans
- PTE005 Singh, Santokh
Enriched Educational Experience for the Undergraduate Plant
Physiology Students
- PTE006 Harley, Sue
Introducing the primary research literature via trade books in an
introductory botany class
- PTE007 Scott, Brenton* - Pate, Amy - Mullins, Guy - Pigg, Kathleen B.
Making the transition from traditional to online and hybrid plant
biology courses in the School of Life Sciences at Arizona State
University (ASU)
- PTE008 Moses, Elgan - Mehroke, Jarnail - Singh, Santokh*
Development of a New Undergraduate Plant Physiology Lab Project
on Plant Hormones and Nitrate Reductase Activity and Levels in
Barley Leaves

5:30 PM - 7:00 PM	CPS President's Reception (invitation only)	Riverview Room
6:30 PM - 10:00 PM	Paleo Banquet and Mixer	Faculty Club 116th St. and Saskatchewan Drive
7:00 PM - 9:00 PM	ABLS Executive Committee Meeting	SCC Board Room
7:00 PM - 9:00 PM	Herbarium Curators meeting	Salon 19/20
7:00 PM - 8:00 PM	PlantingScience Reception	Salon 12
8:00 PM - 9:00 PM	SHC All-Members Meeting	Salon 6

8:00 PM - 9:00 PM	S07	Weresub Special Lecture	Hall C
Curating and characterizing fungi at the University of Alberta Microfungus Collection and Herbarium (UAMH) – a Canadian biodiversity centre			
Lynne Sigler			

9:00 PM - 11:59 PM	Student Social and Networking Event	Craft Brew Market
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Notes

TUESDAY, JULY 28TH

6:00 AM - 11:00 PM	Botany 2015 Conference Office	D-2 Office
6:00 AM - 5:00 PM	Exhibit Hall Open	Hall D
7:00 AM - 8:30 AM	Continental Breakfast	Hall D Foyer
7:00 AM - 8:00 AM	AJB Editors Breakfast	Riverview Room
7:00 AM - 8:00 AM	Program Directors Breakfast	SCC Board Room
7:00 AM - 12:00 PM	Registration	Hall D Foyer
7:00 AM - 8:00 AM	University of Connecticut Breakfast	Salon 8

8:00 AM - 9:45 AM	25	Contributed Papers	Salon 16
Ecophysiology I - Focus on xylem and climate			
Chair: Unknown			

- | | | |
|------|-------|---|
| 8:00 | 25001 | Marquardt, Paula E.* - Jennings, Shane - Thurston, Ginger - Telewski, Frank W.
Dendrochronology and Climate Distinguishes the Sky Island Pines |
| 8:15 | 25002 | Bui, Vi* - Stangl, Zsofia - Hurry, Vaughan - Huner, Norman - Way, Danielle
Wood anatomy of Norway spruce and Scots pine under warming and elevated CO ₂ |
| 8:30 | 25003 | Hillabrand, Rachel* - Hacke, Uwe G.
Investigating the mechanisms of cavitation fatigue in two tree species of western Canada |
| 8:45 | 25004 | Schreiber, Stefan G.* - Hacke, Uwe G. - Hamann, Andreas
Variation of xylem vessel diameters across a climate gradient: insight from a reciprocal transplant experiment with a widespread boreal tree |
| 9:00 | 25005 | Chatelet, David - Sack, Lawren - Scoffoni, Christine - Edwards, Erika J. - Donoghue, Michael*
The evolution of stem anatomy in <i>Viburnum</i> (Adoxaceae) and its significance for plant function |
| 9:15 | 25006 | Woodruff, David* - Meinzer, Rick - Katherine, McCulloh - Kelly, Kerr - Danielle, Marias - Alicia, Magedman - John, Crandall
How do seedlings survive? Hydraulics, carbon acquisition and drought tolerance in the earliest phases of growth in two conifer species |

8:00 AM - 10:00 AM 26

Contributed Papers

Hall B

Evolution of Development I

Chair: Robert (Rob) L. Baker

- 8:00 26001 Zhang, Jingbo* - Zhang, Wenheng
Evolution, expression, and function of *CYC2*-like genes in Solanaceae
- 8:15 26002 Zhong, Jinshun* - Powell, Sarah - Powers, Beck - Preston, Jill
Functional evolution of NAC-domain transcription factors is implicated in the evolution of petal fusion
- 8:30 26003 Roberts, Wade* - Roalson, Eric H.
Understanding Flower Diversification in *Achimenes* (Gesneriaceae): Utilizing a Comparative Transcriptomics Approach
- 8:45 26004 Millar, Jenna* - Becker, Michael - Chan, Ainsley - Belmonte, Mark
Tissue-specific RNA sequencing and laser microdissection of the *Brassica napus* (canola) maternal seed subregions
- 9:00 26005 Little, Stefan A.* - Massoni, Julien - von Balthazar, Maria - Carrive, Laetitia - Couvreur, Thomas L. P. - Schoenenberger, Juerg - Staedler, Yannick - Sauquet, Herve
Floral evolution in Magnoliidae: an integrated approach
- 9:15 26006 Preston, Jill* - McKeown, Meghan - Zhong, Jinshun
Evolutionary genetics of vernalization responsiveness in the temperate grass clade Pooideae
- 9:30 26007 Baker, Robert (Rob) L.* - Leong, Wen Fung - An, Nan - Welch, Stephen-Weinig, Cynthia
Function valued trait mapping: Bayesian modeling of leaf development reveals novel genetic controls for leaf size and shape and genotype by environment interactions for plant fitness
- 9:45 26008 Trail, Frances* - Stefenko, Kayla - Cubba, Caitlyn - Wang, Zheng - Townsend, Jeffrey
Comparative transcriptomics identifies genes for species-specific morphology

8:00 AM - 9:45 AM 27

Contributed Papers

Hall A

Metabolic Biochemistry-I

Chair: Unknown

- 8:00 27001 Lapointe, Line* - Dong, Yanwen - Munne-Bosch, Sergi - Gérard, Dominique
Growth temperature influences the metabolite and phytohormone profile in leaves as they age and enter senescence

- 8:15 27002 Waduthanthri, Kosala Dinuka* - Ozga, Jocelyn A. - Kaur, Harleen - Reinecke, Dennis M.
Gibberellin increases seed sink strength in *Pisum sativum* L.
- 8:30 27003 Kambhampati, Shrikaar* - Marsolais, Frederic
Role of a class I glutamine amidotransferase (*GAT1_2.1*) in maintaining C/N balance in roots of *Arabidopsis thaliana*
- 8:45 27004 Mietkiewska, Elzbieta* - Miles, Robin - Wickramarathna, Aruna - Firman Sahibollah, Ariff - Greer, Michael S. - Chen, Guanqun - Shah, Saleh - Weselake, Randall J.
Development of puniic acid enriched oils in genetically modified plants
- 9:00 27005 Lin, Yingyu* - Chen, Guanqun - Mietkiewska, Elzbieta - Singer, Stacy Dawn - Dyer, John - Smith, Mark - McKeon, Thomas - Zhou, Xue-Rong - Weselake, Randall J.
Functional characterization of *Lesquerella fendleri* phospholipase A (PLA) in transgenic *Arabidopsis thaliana* producing C18 hydroxy fatty acid
- 9:15 27006 Xu, Yang* - Chen, Guanqun - Weselake, Randall J.
Recombinant variants of *Brassica napus* type-1 diacylglycerol acyltransferase increase oil accumulation in baker's yeast
- 9:30 27007 Singer, Stacy Dawn* - Chen, Guanqun - Mietkiewska, Elzbieta - Jayawardhane, Kethmi - Weselake, Randall J.
A functional characterization of *GLYCEROL-3-PHOSPHATE ACYLTRANSFERASE 9 (GPAT9)* from the model oilseed plant, *Arabidopsis thaliana*

8:00 AM - 9:45 AM 28 Contributed Papers Salon 13
Upper Cretaceous, Cenozoic, and recent
Chair: Patricia Ryberg

- 8:00 28001 Koppelhus, Eva* - Coria, Rodolfo
A new record of a species of Osmundaceae from the Upper Cretaceous of James Ross Island, Antarctic Peninsula
- 8:15 28002 Gandolfo, Maria A.* - Zamalao, Maria C. - Archangelsky, Ana - Archangelsky, Sergio - Barreda, Viviana - Cuneo, N. Ruben - Hermsen, Elizabeth - Iglesias, Ari - Llorens, Magdalena - Narvaez, Paula - Passalia, Mauro - Perez Lonaize, Valeria - Povilauskas, Leticia - Pramparo, Mercedes B. - Puebla, Griselda - Quattrocchio, Mirta - Romero, Edgardo J. - Vallati, Patricia - Wilf, Peter
An Updated Comprehensive Study Of Cretaceous-Paleogene Angiosperms From Argentina

TUESDAY

- 8:30 28003 Gandolfo, Maria A. - Zamalao, Maria C. - Hermsen, Elizabeth*
What are the Miocene floras from Tierra del Fuego, Patagonia, Argentina, telling us?
- 8:45 28004 Nelson, Christopher* - Jud, Nathan
Lianas from the Miocene of Panama: anatomy and implications for paleo-environment
- 9:00 28005 Benedict, John C.* - Smith, Selena Y. - Specht, Chelsea - Pigg, Kathleen B. - Devore, Melanie L. - Parkinson, Dilworth Y.
A reexamination of the enigmatic North American zingiberalean fossil fruit and seed record
- 9:15 28006 Larson-Johnson, Kathryn* - Boyce, CK
A functional design space for aerodynamic dispersal behavior based on wing morphology for all living and fossil plant propagules

8:00 AM - 10:15 AM

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Contributed Papers

Salon 1

Mycology III

Chair: Matthew P. Nelsen

- 8:00 29001 Picard, Kathryn T.* - Pryer, Kathleen M.
Fungal diversity and community composition of coastal marine habitats in North Carolina
- 8:15 29002 Klymiuk, Ashley A.* - Sikes, Benjamin A.
Canceled Variability of fungal root endophyte communities in the aquatic macrophyte *Typha*
- 8:30 29003 Nadeau, Courtney - Davey, Marie*
Soil microbial diversity at the world's northernmost hot springs
- 8:45 29004 Chung, Yan-Yi Anny* - Taylor, D. Lee - Kuske, Cheryl R. - Sinsabaugh, Robert L. - Rudgers, Jennifer A.
Probing the functional and community composition of desert fungi using selective baiting and culturing
- 9:00 29005 Brown, Shawn* - Heath, Katy - Dalling, Jim - Mosquera, Sergio - Suarez, Yaravi - Ferrer, Astrid
Community assembly, phylogenetic diversity, and function of decomposing aquatic fungi along a salinity gradient
- 9:15 29006 Roy, Bitty A.* - Soukup, Hannah - Vandegrift, Roo - Thomas, Dan - Yombiyeni, Prudence
Patterns of diversity of tropical forest saprotrophic fungi within the family Xylariaceae

TUESDAY

- 9:30 29007 Nelsen, Matthew P.* - DiMichele, William A. - Peters, Shanan - Boyce, C. Kevin
Re-assessing the role of fungi and lignin in coal formation
- 9:45 29008 Hughes, Karen Woodbury
The consequences of cloning: clone chimeras, their frequency and distribution

8:00 AM - 11:30 AM 31 Contributed Papers Salon 4
Cooley Awards I
Chair: Sandra Knapp and Robert F. C. Nacz

- 8:00 31001 Xing, Yaowu* - Ree, Richard
Comparative phylogenetic analysis of angiosperm diversification in the Hengduan Mountains biodiversity hotspot
- 8:15 31002 Zuluaga, Alejandro* - Cameron, Kenneth M.
Evolution of the hemi-epiphytic Aroids
- 8:30 31003 McDaniel, James* - Cameron, Kenneth M.
Phylogenetic Utility of Genotyping by Sequencing (GBS) at the Species-Level: An Example from Flowering Plants (*Porroglossum*: Orchidaceae)
- 8:45 31004 Aguirre-Santoro, Julian* - Michelangeli, Fabian - Stevenson, Dennis
Systematics, biogeography, and morphological evolution of the *Rombergia* Alliance (Bromeliaceae), an undescribed clade within the Core Bromelioideae
- 9:00 31005 Lévillé-Bourret, Étienne* - Donadío, Sabina - Gilmour, Claire N. - Starr, Julian R.
Rhodoscirpus (Scirpeae, Cyperaceae), a new South American sedge genus supported by molecular, morphological, anatomical and embryological data
- 9:15 31006 Spalink, Daniel* - MacKay, Ron - Sytsma, Kenneth J.
When you can't run and you can't hide: biological and climatic threats to a globally imperiled bulrush (*Scirpus*) revealed by genotyping-by-sequencing and ecological niche modeling
- 9:30 31007 Stoughton, Thomas
Dumpster diving for clade resolution: Next Generation Sequencing of *Claytonia*

9:45 Break

- 10:15 31009 Retamales, Hernán* - Scharaschkin, Tanya
Phylogenetic relationships and character evolution in Australian Myrteae (Myrtaceae)

- 10:30 31010 Freire-Fierro, Alina* - Horn, James W. - Forest, Felix - Devey, Dion D. - Pastore, José Floriano B. - Bien, Walter F.
Systematics and Character Evolution in *Monnina* (Polygalaceae)
- 10:45 31011 Schneider, Adam* - Freyman, William - Guilliams, C. Matt - Springer, Yuri P. - Baldwin, Bruce G.
Divergence times in Linaceae and the recent, rapid serpentine radiation *Hesperolinon*
- 11:00 31012 Rose, Jeff* - Sytsma, Kenneth J.
Nature or Nurture? Investigating the Evolution of Cotyledons In Polemoniaceae
- 11:15 31013 Chansler, Matt* - Ferguson, Carolyn J. - Fehlberg, Shannon D. - Prather, L. Alan
Distinctive phenotypic patterns in polyploid *Phlox amabilis* (Polemoniaceae)

8:00 AM - 11:45 AM

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Contributed Papers

Salon 11

Phylogenomics I

Chair: David A. Baum and Kiela B. Caudillo-Ruiz

- 8:00 32001 Stephens, Jessica* - Rogers, Willie - Mason, Chase - Donovan, Lisa - Malmberg, Russell
Species tree estimation of diploid *Helianthus* (Asteraceae) using target enrichment
- 8:15 32002 Mort, Mark - Crawford, Daniel J.* - Kelly, John K. - Santos-Guerra, Arnoldo - Menezes de Sequeira, Miguel - Moura, Mónica - Caujapé-Castells, Juli
Multiplexed-shotgun-genotyping data resolve phylogeny within a very recently-derived insular lineage
- 8:30 32003 Folk, Ryan* - Mandel, Jennifer - Freudenstein, John
Protocol for Targeted Enrichment of Intron-Containing Sequence Markers for Recent Radiations: A Phylogenomic Example from *Heuchera* (Saxifragaceae)
- 8:45 32004 Folk, Ryan* - Mandel, Jennifer - Freudenstein, John
Phylogenomic Approaches in the Genus *Heuchera* (Saxifragaceae)
Elucidate Deep Reticulation and Simultaneous Mitochondrial and Chloroplast Capture
- 9:00 32005 Hou, Chen* - Saunders, Richard M.K. - Wikström, Niklas - Strijk, Joeri S. - Rydin, Catarina
High-throughput sequencing of chloroplast genomes to resolve a rapidly evolving lineage - a case study in Chinese lianoid *Gnetum* (Gnetales)

TUESDAY

- 9:15 32006 Beck, James* - Semple, John
Next generation sampling: obtaining genomic data from large sets of herbarium specimens
- 9:30 32007 Ortiz, Edgardo M.* - Juenger, Thomas - Simson, Beryl
RADseq phylogeography of *Demosthenesia mandonii* (Ericaceae:Vaccinieae), a blueberry from the Andean cloud forest
-
- 9:45 Break
-
- 10:15 32009 Baum, David A.* - Grover, Corrinne E. - Karimi, Nisa - Stenz, Noah - Gallagher, Joseph P. - Wendel, Jonathan
Genealogical concordance in *Adansonia* (Malvaceae) as inferred from hyb-seq data
- 10:30 32010 Payton, Adam* - Burleigh, Gordon
Creating an Updatable Community Resource for Chloroplast Phylogenomics
- 10:45 32011 Waselkov, Katherine* - Fehlberg, Shannon D. - Prather, L. Alan - Wright, Bethany - Ferguson, Carolyn J.
Assessing allelic diversity in polyploid complexes of *Phlox* (Polemoniaceae) using next-generation amplicon sequencing
- 11:00 32012 Caudillo-Ruiz, Kiela B.* - Banniza, Sabine
Species identification of the stemphylium blight pathogen in Saskatchewan
- 11:15 32013 Moore, Abigail J.* - de Vos, Jurriaan M. - Edwards, Erika J.
Evolution of adaptations to drought, with an emphasis on photosynthetic physiology in *Anacampseros* (Anacampserotaceae, Caryophyllales) using targeted sequence capture
- 11:30 32014 Johnson, Matthew* - Wickett, Norm - Medina, Rafael - Liu, Yang - Devos, Nicolas - Shaw, Jonathan - Goffinet, Bernard
Phylotranscriptomic insights into the radiation of mosses: gene family expansions and paleopolyploidy

8:00 AM - 11:45 AM 33 Contributed Papers Salon 10
Pteridophytes, Gymnosperms, Basal angiosperms, Monocots I
Chairs: Catarina Rydin and Eric J. Tepe

- 8:00 33001 Rothwell, Gar W.* - Millay, Michael A. - Stockey, Ruth A.
Resolving the overall pattern of marattialean fern phylogeny
- 8:15 33002 Larsén, Eva* - Rydin, Catarina
Disentangling the phylogeny of *Isoetes*

- 8:30 33003 Little, Damon - Hansen, Kimberley - Lam, Vivienne K.Y. - Ross, Gregory - Rai, Hardeep - Raubeson, Linda - Graham, Sean W. - Straub, Shannon - Liston, Aaron - Stevenson, Dennis - Mathews, Sarah*
Plastid phylogenomics resolves relationships among cycad genera
- 8:45 33004 Rydin, Catarina* - Bolinder, Kristina - Norback Ivarsson, Lena - Thureborn, Olle - Humphreys, Aelys - Han, Fang - Ickert-Bond, Stefanie Hoorn, Carina
Moonlight pollination and more in gnetalean evolution
- 9:00 33005 Ickert-Bond, Stefanie* - Pellicer, Jaume - Souza, Aretuza - Metzgar, Jordan - Leitch, Ilia
Ephedra – the gymnosperm genus with the largest and most diverse genome sizes driven by a high frequency of recently-derived polyploid taxa and a lack of genome downsizing
- 9:15 33006 Thureborn, Olle* - Rydin, Catarina
Phylogeny of *Ephedra* revisited
- 9:30 33007 Gernandt, David S.* - Holman, Garth - Campbell, Christopher S. - Stockey, Ruth A. - Rothwell, Gar W.
Stricter taxon selection criteria and implied character weighting increases phylogenetic resolution of living and fossil Pinaceae

9:45 Break

- 10:15 33009 Willyard, Ann
Phylogeography of ponderosa pine based on the integration of several distinct data types
- 10:30 33010 Morris, Ashley* - Leonard, O. Rayne - Shafer, Haden - Schorr, Mark - Kovach, Margaret - Shaw, Joey
Variation in noncoding chloroplast DNA regions at the lowest taxonomic levels: Tortoise and Hare IV and beyond
- 10:45 33011 Wiersema, John H.* - Borsch, Thomas - Hellquist, C. Barre - Loehne, Cornelia - Govers, Kim
A newly discovered Central Canadian endemic water-lily, *Nymphaea loriana* (Nymphaeaceae)
- 11:00 33012 Tepe, Eric J.* - Bornstein, Allan J. - Carvalho-Silva, Micheline - Egydio, Anary P.M. - Jaramillo, M. Alejandra - Smith, James F.
Creating order out of chaos: a phylogeny of the *Radula* clade of *Piper*
- 11:15 33013 Takawira Nyenya, Ratidzayi* - Brysting, Anne Krag - Kativu, Shakkie - Wilkin, Paul - Stedje, Brita
Molecular Phylogeny of the genera *Dracaena* Vand.ex L. and *Sansevieria* Thunb. (Asparagaceae)

- 11:30 33014 Givnish, Thomas J.* - Spalink, Daniel - Ames, Mercedes - Lyon, Stephanie P. - Hunter, Steven J. - Zuluaga, Alejandro - Iles, William J. D. - Clements, Mark A. - Arroya, Mary T. K. - Leebens-Mack, James - Endara, Lorena - Kriebel, Ricardo - Neubig, Kurt M. - Whitten, M. Mark Williams, Norris H. - Cameron, Kenneth M.
Orchid phylogenomics and multiple drivers of their extraordinary diversification

8:00 AM - 12:00 PM **34** **Contributed Papers** **Salon 9**
Teaching Section I
Chair: Madhav P. Nepal; Carina Anttila-Suarez

- 8:00 34001 Nepal, Madhav P.* - Browning, Larry M. - Miller, Matthew L.
From Plant Press to Bioinformatics: Professional Development Workshops for Science Teachers in a Rural Setting
- 8:15 34002 Doubt, Jennifer* - Kilian, Maggie
Bringing flat plants to life: An education-science collaboration in hands-on botany at the National Herbarium of Canada
- 8:30 34003 Robson, Diana Bizecki
Connecting Students with Collections
- 8:45 34004 Tuominen, L.K.
Inquiry-Based Research in the Undergraduate Genetics Lab: Lessons Learned
- 9:00 34005 Gerber, Daniel Timothy
Plant-based Secondary Lesson Plans Developed as Broader Impact Materials for Grassland Research
- 9:15 34006 Clary, Renee
Taken for Granite? A Case Study Analysis of Rock and Substrate Interpretation in Botanical Gardens
- 9:30 34007 Nepal, Madhav P.* - Turner, Robert - Shea, Patricia A.
Helping Transfer Students: Drafting Passport Learning Outcomes and Proficiency Criteria for Natural Science General Education Courses

9:45 Break

- 10:15 34009 Keeler, Kathleen
Popular Botany and the Baby Boomers
- 10:30 34010 Wilkinson-Lamb, Sara* - Barkworth, Mary E. - Gayou, Sean Anthony
Specimens and Inmates: A synergy that benefits many

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- 10:45 34011 Struwe, Lena* - Howe, Natalie - Irizarry, Ivelisse - Lorusso, Nicholas - Kruger, Ariel - Pollock, Nicholas - Loarie, Scott R.
Personal BioBlitzing increases biodiversity awareness, excitement of science, and engages people at all educational and age levels
- 11:00 34012 Butko, Alicia F.* - Goodrich, Katherine R.
Cataloging local flora as a resource for undergraduate field labs and the local community
- 11:15 34013 Blake, Jennifer* - Struwe, Lena
#notthatkindofweed: Using spontaneous weedy plants in elementary to college level education
- 11:30 34014 Struwe, Lena
Teaching botany skills to a new student generation formed by our digital and instant world - learning how, when, and what?

8:00 AM - 12:00 PM 35 Contributed Papers Salon 6
Ecological Section: Population Biology
Chair: Tammy Lynn Elliott; Christopher Muir

- 8:00 35001 Light, Marilyn - Doubt, Jennifer* - MacConaill, Michael
Herbivores, hosts, and herbaria: Finding and documenting links for biodiversity research
- 8:15 35002 Perez, Amy Amanda* - Kolp, Matthew R. - Chansler, Matt - Springer, Joshua C. - Prather, L. Alan
A Preliminary Analysis of the Changing Flora of Baker Woodlot
- 8:30 35003 Blake, Jennifer* - Frazee, Lauren - Bhattacharjee, Aishwarya - Sharma, Alisha - Struwe, Lena
Patterns of plant species diversity in extreme urban environments
- 8:45 35004 Rollinson, Emily* - Gurevitch, Jessica
Functional diversity and the assembly of riparian plant communities
- 9:00 35005 Park, Daniel* - Potter, Daniel
The Perils and Pitfalls of Community Phylogenetics: A Reciprocal Test of Darwin's Naturalization Hypothesis in Mediterranean Climates
- 9:15 35006 Catling, Pauline* - Kenkel, Norman - Ford, Bruce
The Classification and Management of Alvars in the Interlake Region of Manitoba, Canada
- 9:30 35007 Elliott, Tammy Lynn* - Davies, T. Jonathan
Understanding shifting plant boundary distributions using phylogenetic methods
-
- 9:45 Break
-

- 10:15 35009 Muir, Christopher
Constraint around quarter-power allometric scaling in wild tomatoes
(*Solanum* sect. *Lycopersicon*; Solanaceae)
- 10:30 35010 Bao, Tan* - Cahill Jr., James F. - Dale, Mark R.T.
Inability to scale up from individuals to communities in competitive networks
- 10:45 35011 McIntosh, Anne* - Ryerson, Delinda
How are plant communities on wellsites in Alberta's native grasslands and forests recovering after they are reclaimed?
- 11:00 35012 Schwallier, Rachel* - Raes, Niels - de Boer, Hugo J. - Vos, Rutger - van Vugt, Rogier R. - Gravendeel, Barbara
Phylogenetic analysis of niche divergence reveals distinct evolutionary histories and climate change implications for tropical carnivorous plants
- 11:15 35013 Asemaninejad, Asma* - Thorn, Greg - Lindo, Zoe - Brian, Branfireun
The Impacts of Climate Change on Fungal Communities in Boreal Peatlands
- 11:30 35014 Amend, Anthony Stuart* - Martiny, Adam C. - Martiny, Jennifer B. H.
Phylogenetic insights into fungal community composition and function under climate change: a future living with close relatives and picky eaters
- 11:45 35015 Bamba, M.* - Nakata, S. - Aoki, S. - Takayama, K. - Farfán, J. N. - Ito, M. - Miya, M. - Kajita, T
Analysis of nodulating bacteria associated with pantropical legumes with sea-drifted seeds

8:00 AM - 12:00 PM 36 **Contributed Papers** Salon 5
Symbioses: Plant, Animal, and Microbe Interactions I
Chair: Danny Haelewaters; Barbara J. Hawkins

- 8:00 36001 Simmons, Rabern* - You, Li - Bateman, Craig - Short, Dylan - Kasson, Matt - Hulcr, Jiri
New fungus-insect symbiosis: molecular and histological methods determine hyphal Polyporales symbionts of *Ambrosiodmus* ambrosia beetles
- 8:15 36002 Koch, Rachel A.* - Aime, M. Catherine
Guyanagaster necrorhizus harbors nitrogen-fixing bacteria—fitness implications for this dispersal-limited fungus
- 8:30 36003 Doyle, Jeff J.* - Powell, Adrian F.
The origins of legume nodulation symbioses: a conundrum involving homology, exaptation, and polyploidy

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- 8:45 36004 Powell, Adrian E.* - Doyle, Jeff J.
Nodulation symbioses, signaling, and allopolyploidy in *Glycine* subgenus *Glycine* (Leguminosae)
- 9:00 36005 Selosse, Marc-André* - Gonneau, Cédric - Bellino, Alessandro - Jersakova, Jana
Plants eating mycorrhizal fungi: the evolution from mixotrophy to mycoheterotrophy
- 9:15 36006 Stephens, Jessica* - Determann, Ron - Malmberg, Russell
The Evolution of Plant Carnivory: Insights into Morphological Diversification and Prey Partitioning in the Carnivorous Pitcher Plant Genus *Sarracenia*
- 9:30 36007 Haelewaters, Danny* - Shapiro-Ilan, David I. - Cottrell, Ted E.
Will dual fungal infections increase *Harmonia axyridis* mortality in natural populations?
-
- 9:45 Break
-
- 10:15 36009 Hawkins, Barbara J.* - Kranabetter, J. Marty - Jones, Melanie D. - Li, Tao
Evidence for adaptation of ectomycorrhizae to nitrogen form availability
- 10:30 36010 Hupperts, Stefan* - Karst, Justine - Landhäusser, Simon M.
Recovery of ectomycorrhizal fungi following reclamation of boreal forest
- 10:45 36011 Xu, Hao* - Zwiazek, Janusz J. - Cooke, Janice E. K.
Laccaria bicolor MIPs contribute to root water transport and basidiocarp development in ectomycorrhizal association with *Picea glauca*
- 11:00 36012 Tanney, Joey Brent
Beyond the needle: Species-level identification of *Picea* endophytes in Northeastern Canada
- 11:15 36013 Whiteside, Matthew D. - Smith, Joshua M. - Durall, Daniel M. - Jones, Melanie D.*
I just don't know who to send it to: Transfer of nitrogen and phosphorus between an ectomycorrhizal fungus and two symbiotic pine seedlings varying in nutrient supply
- 11:30 36014 Sulyanti, Eri* - Trisno, Jumsu - Pratama, Yudha
The potential endophytic fungi from healthy banana root as promising biocontrol agents to control Fusarium wilt banana disease caused by *Fusarium oxysporum* f.sp. *cubense*
- 11:45 36015 Kamino, Leila. N* - Gulden, Robert H.
Linking crop species to soil DNase activity and microbial biomass

8:00 AM - 12:00 PM SY07 Symposium Hall C
Ecological impacts and restoration of industrial sites: roles of bryophytes and graminoid vascular plants
Chair: Nicole Fenton

- 8:00 Introduction
- 8:15 SY07002 Vitt, Dale H.* - House, Melissa - Ebbs, Stephen - Glaeser, Lilyan - Hazen, Renee
 Reclaiming Peatlands after Oil Sands Mining: Plant Responses after Two Years at Sandhill Fen
- 8:45 SY07003 Borkenhagen, Andrea* - Cooper, David - Kaczynski, Kristen
 Vegetation establishment on a reclaimed fen in Alberta's oil sands region
- 9:15 SY07004 Caners, Richard* - Liefers, Victor
 Bryophyte decomposition in wooded moderate-rich fens following in situ oil sands exploration

9:45 Break

- 10:15 SY07006 Rochefort, Line
 The moss layer transfer as an ecological restoration approach in degraded peatlands
- 10:45 SY07007 Guittonny-Larchevêque, Marie* - Bouchard, Hugo - Remaury, Arnaud
 Do herbaceous species used for mine waste revegetation facilitate or compete with tree establishment?

11:15 Discussion

8:00 AM - 12:00 PM SY08 Symposium Salon 17/18
Underutilized Crops for Secure and Green Futures
Chair: Nyree Zerega

- 8:00 Introduction
- 8:15 SY08002 Ross, Nanci J.
 The ecological side of an ethnobotanical coin: how long do our selective impacts on the landscape persist?
- 8:45 SY08003 Khoury, Colin
 Increasing homogeneity in global food supplies, agricultural research funding, and recommendations for diversifying food systems
- 9:15 SY08004 Knapp, Sandra
 Crop wild relatives – how much do we really understand?

9:45 Break

TUESDAY

- 10:15 SY08006 Gardner, Elliot M.* - Zerega, Nyree
Basic research with practical applications: Phylogenomics and pol-
lination biology in a genus of underutilized tree crops (*Artocarpus*,
Moraceae)
- 10:45 SY08007 Van Deynze, Allen* - Simons, Tony - Jamnadass, Ramni - Shapiro,
Howard
The African Orphan Crops Consortium, an Uncommon
Collaboration
- 11:15 SY08008 Lawton-Rauh, Amy
Amaranthus – Highly Adaptable and Underutilized Crops and
Weeds
- 11:45 Discussion

8:00 AM - 12:00 PM SY09 Symposium Salon 3
What can Next Generation Fungal Genome Sequencing do for you?
Chair: Tom Hsiang; Ning Zhang

- 8:00 Introduction
- 8:15 SY09002 Hsiang, Tom
Introduction to fungal genome sequencing and assembly
- 8:45 SY09003 Bernier, Louis
Genome-wide analysis of yeast/mycelium dimorphism in a non-
model tree pathogen
- 9:15 SY09004 Crouch, Jo Anne
Genomics of *Colletotrichum* fungi impacting the production of food,
fuel and fiber
-
- 9:45 Break
-
- 10:15 SY09006 Zhang, Ning* - Luo, Jing - Qiu, Huan - Cai, Guohong - Wagner, Nicole
- Bhattacharya, Debashish
Phylogenomic analysis and comparative genomics of
Magnaporthales
- 10:45 SY09007 Peng, You Liang* - Yin, Chang Fa - Zhao, Wen Sheng - Yang, Jun - Liu,
Cui Cui - Fang, Wen Wen - Zhou, Si
Comparative genomics of the rice blast fungus *Magnaporthe oryzae*
- 11:15 SY09008 Hittinger, Chris Todd
Saccharomyces evolutionary genomics and beyond
- 11:45 Discussion

Production Agronomy and Breeding Advancements

Chair: Brian Beres

-
- 8:10 Introduction
- 8:15 37002 Grant, Cindy
The Role of Agronomy in a Technological World
- 8:45 37003 Sahota, Dr. Tarlok Singh
Effect of urea, ESN and ammonium sulphate on forage grasses production in northwestern Ontario
- 9:00 37004 King, Tom* - Schoenau, Jeff - Hanga, Ryan - Ahmed, Hasan - Malhi, S.S. - Urton, Ron
Effect of Sulfur Fertilizer Form on Wheat, Canola and Yellow Pea Yield and Sulfur Utilization in Three Saskatchewan Soils
- 9:15 37005 Lee, Shien Yang* - Robertson, Daniel - Julias, Margaret - Cook, Douglas
Non-destructive mechanical measurement techniques to predict stalk strength
- 9:30 37006 Perrott, Laurel* - Strydhorst, Sheri - Hall, Linda - Bowness, Robyne - Pauly, Doon - Gill, Kabal - Chapman, Bill - Tieulie, Jackie - Kelly, Brandi
Cultivar Specific Responses to Advanced Agronomic Practices in Feed Barley
-
- 9:45 Break
-
- 10:15 37008 Strydhorst, Sheri* - Bowness, Robyne - Pauly, Doon - Gill, Kabal - Chapman, Bill - Tieulie, Jackie - Kelly, Brandi
Wheat Cultivar Specific Responses to Advanced Agronomic Management
- 10:30 37009 Entz, Martin - Kirk, Anne* - Vaisman, Iris - Fox, Stephen - Fetch, Jennifer M. - Hobson, David - Jensen, Helen - Rabinowicz, Jane
Farmer participation in plant breeding for Canadian organic crop production
- 10:45 37010 Cober, Elroy* - Molnar, Stephen - Charette, Martin
Genetic Control of High Seed Protein in Short Season Soybean
- 11:00 37011 Tefera, Abeya Temesgen* - Sarial, Ashok Kumar - Aga, Amsalu Ayana
Reciprocal cross effects due to maternal gene on common bean (*Phaseolus vulgaris* L.)

ABLS II

Chair: Hannah M. Prather

-
- 8:30 38001 Prather, Hannah M.* - Rosenstiel, Todd N.
A canopy in the urban cloud: urbanization impacts on canopy communities across the Portland urban airshed
- 8:45 38002 Tessler, Michael - Clark, Theresa An*
The Impact of Bouldering on Boulder-Associated Plants and Lichens
- 9:00 38003 Leavitt, Steven* - St. Clair, Larry
Great Air in the Great Basin? Using Elemental Accumulation Patterns in Lichens to Assess Air Quality
- 9:15 38004 Tuovinen, Veera* - Bergström, Linnea - Ament Velásquez, Sandra Lorena - Spribille, Toby - Vanderpool, Dan - Nascimbene, Juri - Yamamoto, Yoshikazu - Thor, Göran - Johannesson, Hanna
Reproductive system in *Letharia* - implications for conservation in Scandinavia
- 9:30 38005 Scharnagl, Klara* - Ebert-May, Diane
Forty years later: changes in lichen communities on alpine tundra at Niwot Ridge, Colorado
-
- 9:45 Break
-
- 10:15 38007 Hedenas, Lars
Mosses in a system of Scandinavian interglacial refugia
- 10:30 38008 Barbé, Marion* - Fenton, Nicole - Bergeron, Yves
So close and yet so far away: the role of local and regional propagule dispersal in re-assembling bryophyte communities
- 10:45 38009 McLetchie, D. Nicholas* - Alvarenga, Lisi - Machado, Priscila
The effect of long periods of reduced light on recovery from desiccation in an epiphyllous bryophyte
- 11:00 38010 Shortlidge, Erin E. - Kohler, Hans - Eppley, Sarah M. - Zuniga, Gustavo - Rosenstiel, Todd N.* - Casanova-Katny, Angelica
Warming reduces stress and enhances reproductive success in an Antarctic moss

8:30 AM - 11:15 AM C3 Colloquium Salon 12
**Celebrating More Than Three Decades of Research in Nymphaeales: A Colloquium
Honoring Ed Schneider**
Chair: Ranessa Cooper and Mackenzie Taylor

- 8:30 C3SUM Cooper, Ranessa L.* - Taylor, Mackenzie L.
Celebrating More Than Three Decades of Research in Nymphaeales:
A Colloquium Honoring Ed Schneider
- 8:45 C3001 Cooper, Ranessa L.* - Taylor, Mackenzie L.
Celebrating More Than Three Decades of Research in Nymphaeales:
A Colloquium Honoring Ed Schneider
- 9:00 C3002 Les, Donald H.
The role of anatomical data in the systematic study of water lilies
(Nymphaeales)
- 9:15 C3003 Devore, Melanie L.* - Pigg, Kathleen B.
Ed Schneider's legacy: On Integrating Morphology, Anatomy, and
Pollination Ecology of Nymphaeales with the fossil record
- 9:30 C3004 Seago, James L.* - Yang, Chaodong - Zhang, Xia - Bachelier, Julien -
Yuan, Longyi - Ai, Xunru - Razik, Imran
Anatomical Aspects of Nymphaeales That Ed Schneider Did Not
Do - Mostly Under Water
- 9:45 C3005 Endress, Peter K.
Ancestral traits and specializations in the flowers of the basal grade
of living angiosperms

10:00 Break

- 10:30 C3007 Osborn, Jeffrey M.* - Taylor, Mackenzie L.
The Pollen Life Cycle in Nymphaeales: From Microsporogenesis to
Fertilization
- 10:45 C3008 Taylor, Mackenzie L.* - McGlynn, Mary C. - Manke, Erik - Cooley,
Diane
Post-pollination Development in Nymphaeaceae: Consequences of
Flower Evolution
- 11:00 C3009 Stevenson, Dennis
Whither goeth Morphology?

TUESDAY

Genomics/Proteomics I

Chair: Eric Von Wettberg

-
- 9:00 39001 Straub, Shannon C.K.* - Bailey, C. Donovan - Cronn, Richard C. - Fishbein, Mark - Liston, Aaron
Challenges of using transcriptomes for comparative gene family evolution: Examples from Apocynaceae
- 9:15 39002 Marchant, Blaine* - Sessa, Emily Butler - Heo, Kweon - Soltis, Pamela S. - Soltis, Douglas E.
Transcriptomic and genomic investigations of the homosporous fern, *Ceratopteris richardii*
- 9:30 39003 Heyduk, Karolina* - Ray, Jeremy N. - Burrell, Nia - Lalani, Falak - Leebens-Mack, James H.
CAM physiology and transcriptomics in the homoploid hybrid *Yucca gloriosa*
- 9:45 39004 Hertweck, Kate L.* - Bousios, Alexandros - McKain, Michael
Transposable elements of Agavoideae
-
- 10:00 Break
-
- 10:30 39006 Steenwyk, Jacob - Gibbons, John*
Cryptic Diversity in the *Cryptococcus gattii* Genome Revealed through Population-Level Sequencing
- 10:45 39007 Weitemier, Kevin* - Straub, Shannon C.K. - Fishbein, Mark - Liston, Aaron
Intragenomic polymorphisms among high-copy loci: a genus-wide study of nuclear ribosomal DNA in *Asclepias* (Apocynaceae)
- 11:00 39008 Visger, Clayton* - Wong, Gane Ka-Shu - Soltis, Pamela S. - Soltis, Douglas
Quantifying transcriptome-wide levels of gene expression following autopolyploidy in *Tolmiea* (Saxifragaceae)
- 11:15 39009 Eserman, Lauren* - Leebens-Mack, James H.
Evolution and development of storage roots in morning glories
- 11:30 39010 Sinn, Brandon T.* - Sedmak, Dylan - Kelly, Lawrence - Freudenstein, John
Not all magnoliid genomes are "fossils."
-

9:45 AM - 10:15 AM

Coffee BreakHall D

Mycology IV

Chair: Keith A. Seifert

- 10:15 40001 Seifert, Keith A.* - Atkinson, Toni J. - Hughes, Stanley J.
The sooty mould genus *Capnrofrasera* and the phylogenetic enigma of the Metacapnodiaceae
- 10:30 40002 Le Renard, Ludovic* - Berbee, Mary - Stockey, Ruth A.
Phylogeny of Microthyriales and comparative anatomy of fossils and extant lineages of thyrlothezia
- 10:45 40003
Canceled Spatafora, Joey* - Benny, Gerald - Berbee, Mary - Bonito, Gregory - Corradi, Nicolas - Grigoriev, Igor - Gryganskyi, Andrii - James, Timothy - Kuo, Alan - Lazarus, Katy - O'Donnell, Kerry - Roberson, Robert - Smith, Matthew - Taylor, Thomas N. - Uehling, Jessie - Vilgalys, Rytas - White, Merlin - Stajich, Jason
Phylogenomics of zygomycete fungi: impacts on a phylogenetic classification of Kingdom Fungi
- 11:00 40004 Miller, Andrew N.* - Nguyen, Nam-phuong - Warnow, Tandy - Schoch, Conrad L. - Réblová, Martina - Jones, E.B. Gareth - de Beer, Z. Wilhelm - Boonyuen, Nattawut - Crous, Pedro W. - Duong, Tuan A. - Ferrer, Astrid - Hashimoto, Akira - Hernández-Restrepo, Margarita - Huhndorf, Sabine M. - Hyde, Kevin D. - Kruys, Åsa - Kuhnert, Eric - Lombard, Lorenzo - Luangsa-ard, J. Jennifer D. - Luo, Jing - Maharachchikumbura, Sajeewa - Marín Félix, Yasmina - Matsumura, Misato - Pang, Ka-Lai - Raja, Huzefa A. - Rossman, Amy R. - Sakayaroj, Jariya - Shearer, Carol A. - Stadler, Marc - Stchigel, Alberto M. - Sueterong, Satinee - Tanaka, Kazuaki - Abdel-Wahab, M.A. - Wendt, Lucile - Wingfield, Brenda D. - Wingfield, Michael J. - Zelski, Steven E. - Zhang, Ning
Overview of Sordariomycetes
- 11:15 40005 Shaffer, Justin P.* - Gallery, Rachel E. - Baltrus, David A. - Arnold, A. Elizabeth
Endohyphal bacteria of tropical plant-associated Sordariomycetes
- 11:30 40006 Doyle, Vinson P.* - Faircloth, Brant C.
The utility of ultraconserved elements for inferring phylogenies in the Fungi
- 11:45 40007 Firmino, Andre Luiz* - Pereira, Olinto Liparini
A new family of Asterinales (Dothideomycetes) associated with necrotic leaves of the bromeliad *Alcantarea imperialis*, from Minas Gerais, Brazil

Ecophysiology II - Focus on leaves and roots

Chair: Unknown

- 10:15 41001 Momayyezi, Mina* - Guy, Robert
Genotypic variation in mesophyll conductance in *Populus trichocarpa*, *Betula papyrifera* and *Alnus rubra* from western North America
- 10:30 41002 Brocious, Caroline* - Hacke, Uwe G.
Discerning genetic differences in leaf anatomy and leaf hydraulic conductance in hybrid poplar clones
- 10:45 41003 Mocko, Kerri* - Jones, Cynthia
Stomatal behavior and integration of functional traits are consistent with climate of origin for co-occurring congeners
- 11:00 41004 Baker, Robert (Rob) L.* - Yarkhunova, Yulia - Ewers, Brent - Weinig, Cynthia
Polyploidy: consequences for leaf structure and function in *Brassica* triangle species
- 11:15 41005 Lauer, Nathan* - Zwiazek, Janusz J.
Effects of pH on Salt Tolerance in White Spruce and Trembling Aspen
- 11:30 41006 Gagnon, Dominique - Wilson, Adrienne - Marcotte, Susara J.E. - Porter, Jacob - Cote, Kathleen - Ryser, Peter*
Herbaceous perennials of Northern Ontario wetlands with single-season or multi-season roots: relations to environmental factors
- 11:45 41007 Hynson, Nicole A.* - Bidartondo, Martin I. - Read, David J.
Canceled Mycorrhizal specificity can lead to ecophysiological plasticity in plants living off fungi

Evolution of Development II - Esau award talks

Chair: Stefan A. Little

- 10:15 42001 Landis, Jacob* - O'Toole, Rebecca - Ventura, Kayla - Soltis, Douglas - Soltis, Pamela S.
Investigating the genetic underpinnings of corolla cell size and shape differences in *Saltugilia* (Polemoniaceae)
- 10:30 42002 Bruenn, Riva* - Almeida, Ana - Specht, Chelsea

The Fearful Symmetry of Flowers: investigating the role of TCP and MYB transcription factors in establishing dorsal/ventral asymmetry in the Zingiberales, an order of tropical gingers

- 10:45 42003 Bukhari, Ghadeer* - Zhang, Jingbo - Zhang, Wenheng
Floral orientation and evolution of flower symmetry in pentapetalous angiosperms
- 11:00 42004 Hodge, John* - Kellogg, Elizabeth
Abscission zone development and the loss of shattering in foxtail millet (*Setaria italica*)
- 11:15 42005 Spriggs, Elizabeth* - Edwards, Erika J. - Donoghue, Michael
Seasonal heteroblastic leaf sequences provide insight into the evolution of temperate leaf form
- 11:30 42006 West, Nick* - Golenberg, Edward
Feminization pathway mediated by GAI repressor protein in *Spinacia oleracea*

10:15 AM - 12:00 PM 43 Contributed Papers Hall A
Metabolic Biochemistry-II
Chair: Unknown

- 10:15 43001 Liu, Fushan - mahkmoudova, Amina - Zhao, Qianru - Ahmed, Zaheer - Tetlow, Ian J. - Emes, Michael J.*
Protein-protein interactions regulate starch biosynthesis and amylopectin structure
- 10:30 43002 Liu, Fushan* - Tetlow, Ian J. - Emes, Michael J.
Phosphorylation of Specific Serine Residues of Maize Branching Enzymes Conditions Protein-Protein Interactions between SBEI and SBEIIb Isoforms
- 10:45 43003 Labandera, Anne-Marie* - Uhrig, R. Glen - Moorhead, Greg
Identification and biochemical characterization of a new class of tyrosine phosphatase in plants
- 11:00 43004 Freixas-Coutin, Jose A.* - Munholland, Seth - Crosby, William L. - Pauls, K. Peter - Bozzo, Gale G.
Identification, cloning and biochemical characterization of anthocyanidin reductase 1 isolated from the seed coat of darkening cranberry beans (*Phaseolus vulgaris*)
- 11:15 43005 Morris, Jeremy* - Facchini, Peter
Biosynthesis of magnoflorine in opium poppy
- 11:30 43006 Sarker, Lukman* - Mahmoud, Soheil

Cloning and functional characterization of two monoterpene acetyltransferases from glandular trichomes of *L. x intermedia*

11:45	43007	Constabel, Peter* - Ma, David - Yoshida, Kazuko	
		The Gene Regulatory Network of Condensed Tannin Synthesis in <i>Populus</i>	
11:30 AM - 12:00 PM		Tropical Biology Section Business Meeting	SCC Board Room
12:00 PM - 1:30 PM		BSA Teaching Section Meeting	Salon 9
12:00 PM - 1:30 PM		Physiological Section Meeting	Salon 16
12:00 PM - 1:30 PM		Canadian Phytopathological Society (CPS) Annual Members meeting and lunch	Salon 8
12:00 PM - 1:30 PM	TE13	Enhancing Scientist Diversity in Plant Biology Luncheon	Riverview Room
		Can I Really Make a Difference? Enhancing Diversity in the Sciences Through Mentoring: The critical role we play and how to get involved	
		Gretchen Adam	
12:00 PM - 1:30 PM		CPS - Annual General Meeting	Hall B
12:00 PM - 1:30 PM		CBA/Development Section Meeting	Hall A
12:00 PM - 1:30 PM		CBA/Ecology Section Meeting	Hall C
12:00 PM - 1:30 PM		CBA/Mycology Section Meeting	Hall A
12:00 PM - 1:30 PM		CBA/Systematics Section Meeting	Hall C
12:00 PM - 1:30 PM		CSHS Annual General Meeting	Hall B
1:30 PM - 3:15 PM	44	Contributed Papers	Salon 9
		Teaching Section II	
		Chair: Madhav P. Nepal; Carina Anttila-Suarez	
1:30	44001	Krakos, Kyra Neipp	
		Bauhaus Botany: Invasive honeysuckle as an integrative teaching tool	
1:45	44002	Volk, Thomas	
		The F- word: What should botany and other biology students learn about Fungi?	
2:00	44003	Garrett, Patrick Charles* - Hoven, Brian M. - Peebles-Spencer, Jessica -	

TUESDAY

Bowen, Anna

Developing dichotomous keys based on local flora: Improving student learning and increasing engagement in an introductory botany course

- 2:15 44004 Metsger, Deborah
The Role of Herbaria in Developing Species Identification and Awareness Products
- 2:30 44005 Krimmel, Erica R. - Linton, Debra L. - Marsico, Travis D. - Monfils, Anna - Morris, Ashley* - Ruhfel, Brad
Connecting Students to Citizen Science and Curated Collections

1:30 PM - 3:15 PM

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Contributed Papers

Salon 11

Development and Structure I - Esau award talks

Chair: Andrew Doust

- 1:30 45001 Conway, Stephanie* - Drinnan, Andrew
Surface analysis of cell division in the shoot apical meristem of gymnosperms
- 1:45 45002 Carvalho, Monica R.* - Niklas, Karl
Murray or DaVinci? Phloem architecture in leaves of *Populus tremuloides x alba*
- 2:00 45003 Povilus, Rebecca* - Friedman, William
Reciprocal interploidy crosses in *Nymphaea thermarum* (Nymphaeales) – implications for the evolution of imprinting during seed development
- 2:15 45004 Galimba, Kelsey* - Martínez-Gomez, Jesús - Di Stilio, Veronica
Duplication and Divergence of the Floral Organ Identity Genes
- 2:30 45005 Trivedi, Kshitij* - Norton, Christian - Lacroix, Christian
Study of expression of organ identity genes in the flowers of *Hibiscus rosa-sinensis* (Malvaceae)
- 2:45 45006 Khan, Deirdre* - Millar, Jenna - Girard, Ian J. - Chan, Ainsley - Becker, Michael - Belmonte, Mark
Transcriptome atlas of the *Arabidopsis funiculus* – a study of maternal seed regions

1:30 PM - 3:15 PM

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Contributed Papers

Salon 2

Host/Plant Pathogen Interactions and Plant Health Management Session I

Chair: Khalid Y. Rashid; Gurcharn Brar

- 1:30 46001 Belmonte, Mark* - Becker, Michael - Zhang, Xuehua - Fernando, Dilantha

Comprehensive RNA profiling of the *Leptosphaeria maculans* –
Brassica napus cotyledon pathosystem

- 1:45 46002 Brar, Gurcharn
Fusarium head blight resistance QTLs *Fhb1*, *Fhb2*, and *Fhb3* reduce disease severity by up to 50% in near-isogenic wheat lines developed by marker-assisted selection
- 2:00 46003 Aboukhaddour, Reem* - Strelkov, Stephen. E.
Pyrenophora tritic-repentis and barley: a subtle compatibility
- 2:15 46004 Akhavan, Alireza* - Turkington, T. Kelly - Askarian, Homa - Legge, William G. - Tekauz, Andy - Tucker, James R. - Strelkov, Stephen. E.
Ability of *Pyrenophora teres* pathotypes to overcome net blotch resistance in Canadian barley genotypes
- 2:30 46005 Rashid, Khalid Y.
Host-Pathogen interactions between flax and *Septoria linicola* causing pasmo disease in flax
- 2:45 46006 McCallum, Brent* - Thomas, Julian
Wheat leaf rustresistance gene *Lr34* appears to have an effect on Fusarium head blight in wheat
- 3:00 46007 Martinez, Paulina Cholango* - Hucl, P - Kutcher, R
Variation for virulence of *Septoria triseti* on genotypes of canary seed

1:30 PM - 4:45 PM

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Contributed Papers

Salon 3

Asterids II

Chairs: Jim Cohen and David Tank

- 1:30 47001 Cohen, Jim
The Evolution of Heterostyly in Boraginaceae
- 1:45 47002 Smith, James F.* - Clark, John K. - Marín-Gómez, Oscar H. - Amaya-Marquez, Marisol
Species of Hybrid Origin in *Columnnea* (Gesneriaceae)
- 2:00 47003 Drew, Bryan T.* - Walker, Jay - Sytsma, Kenneth J.
Unravelling Species Relationships and Diversification within the Iconic California Floristic Province Sages (*Salvia* subgenus *Audibertia*, Lamiaceae)
- 2:15 47004 Drew, Bryan T.* - Guadalupe González-Gallego, Jesús - Xiang, Chunlei - walker, Jay - Kriebel, Ricardo - Sytsma, Kenneth J.
Supermatrix phylogeny of *Salvia* and the taxonomic state of the genus

TUESDAY

- 2:30 47005 Wolfe, Andrea* - Stone, Benjamin - Padmalwar, Niharika - Blischak, Paul - Kubatko, Laura
Hyobanche sanguinea (Orobanchaceae): there's more than meets the eye
- 2:45 47006 Wenzel, Aaron* - Wolfe, Andrea
Systematics of *Penstemon* section *Ericopsis* using genus-specific low-copy nuclear loci
- 3:00 47007 Ree, Richard* - Kuss, Patrick
Global phylogeny of *Pedicularis* (Orobanchaceae) and its radiations across the Northern Hemisphere

3:15 Break

- 3:45 47009 Latvis, Maribeth* - Jacobs, Sarah J. - McCullough, Jenna - Torpey, Samuel - Tank, David
Phylogenomic data and dense taxon sampling reveal repeated episodes of hybridization throughout the complex evolutionary history of *Castilleja* (Orobanchaceae)
- 4:00 47010 Jacobs, Sarah J.* - Torpey, Samuel - Latvis, Maribeth - Tank, David
Integrated species delimitation in the *Castilleja cusickii* (Orobanchaceae) species complex
- 4:15 47011 Tank, David* - Laney, Widener - Latvis, Maribeth - Jacobs, Sarah J. - Skogen, Krissa - Fant, Jeremie
Phylogeny and evolution of a historically challenging species group: mixed data types identify cryptic species and a history of gene flow in the *Castilleja latifolia* (Orobanchaceae) species alliance
- 4:30 47012 Ahdor, Adjoa R.* - Elisens, Wayne
Morphological and clinal variation in *Mecardonia acuminata* (Plantaginaceae) species complex

1:30 PM - 5:00 PM 48 Contributed Papers Salon 19/20
Genomics/Proteomics II
Chair: Eric Von Wettberg

- 1:30 48001 Samanfar, Bahram* - Charette, Martin - Cober, Elroy - Molnar, Stephen
Early flowering soybean: the art of mixing plant breeding, molecular biology and bioinformatics
- 1:45 48002 Anguraj Vadivel, Arun Kumaran* - Dhaubhadel, Sangeeta
Regulation of Isoflavonoid Biosynthesis and GmMYB176 interaction in soybean
- 2:00 48003 Hannoufa, Abdelali* - Gruber, Margaret - Aung, Banyar - Bertrand, Annick - Amyot, Lisa - Omari, Khalid

Overexpression of *miR156* affects forage yield and other traits in alfalfa by regulating *SPL* genes

- 2:15 48004 Perry, Gregory - Dinatalle, D - Xie, Weilong - Munholland, Seth - Crosby, William L. - Pauls, Karl Peter*
Genome Sequence for OAC Rex, a Dry Bean (*Phaseolus vulgaris*) Line with Common Bacterial Blight Resistance Introgressed from *Phaseolus acutifolius*
- 2:30 48005 Tiley, George* - Burleigh, Gordon
Evaluating evidence for ancient Whole Genome Duplications from Synonymous Substitution Rates
- 2:45 48006 Uhrig, R. Glen* - Echevarría-Zomeño, Sira - Grossmann, Jonas - Roschitzki, Bernd - Gruissem, Wilhelm
Examination of clock related post-translational protein regulation through quantitative proteomics
- 3:00 48007 Xu, Jihua* - Robinson, Steve - Tanino, Karen
Using a hypomethylated population of strawberry to demonstrate that epigenetic variation can be subject to selection

3:15 Break

- 3:45 48009 Singh, Surinder - Singh, Jaswinder*
Genomic dissection of an important malting quality QTL in barley
- 4:00 48010 Liu, Jun-jun* - Sniezko, Richard - Murray, Michael - Wang, Ning - Sturrock, Rona - Zamany, Arezoo - Kegley, Angelia - Savin, Douglas
Transcriptome profiling reveals whitebark pine genetic diversity for resistance to white pine blister rust
- 4:15 48011 Adhikary, Dinesh* - Deyholos, Michael
Transcriptome profiling of *Amaranthus hypochondriacus*.
- 4:30 48012 Miller, Allison
Comparative transcriptomics of two closely related grapevine species (*Vitis riparia* and *V. rupestris*)

1:30 PM - 5:15 PM 49 **Contributed Papers** **Salon 4**
Cooley Awards II/Hybrids & hybridization II
Chair: Catarina Rydin and Eric J. Tepe

- 1:30 49001 Kiel, Carrie A.* - McDade, Lucinda
The evolution of androecial form in the 'justicioid' lineage (Acanthaceae)

TUESDAY

- 1:45 49002 Ragsac, Audrey* - Farias-Singer, Rosana - Lohmann, Lucia - Freitas, Loreta - Olmstead, Richard
A phylogeny of the earliest diverging lineage in Bignoniaceae (Jacarandaeae)
- 2:00 49003 Mabry, Makenzie* - Simpson, Michael
Evaluating the Monophyly and Biogeography of *Cryptantha* (Boraginaceae)
- 2:15 49004 Fragoso-Martinez, Itzi* - Martinez-Gordillo, Martha - Salazar-Chavez, Gerardo - De Luna, Efrain - Granados Mendoza, Carolina
Phylogeny of *Salvia* subgenus *Calosphace* section *Lavanduloideae* (Lamiaceae) based on a combined parsimony analysis
- 2:30 49005 Arbizu, Carlos* - Simon, Philipp - Ruess, Holly - Spooner, David
Phylogeny of *Daucus broteri*, *D. guttatus*, and related species
- 2:45 49006 Vargas, Oscar M.* - Simpson, Beryl
Explosive Radiation Phylogeny of the Andean Genus *Diplostephium* Elucidated by High-throughput Sequencing: Insight into Paramo Plant Evolution and the Discovery of at Least One New genus
-
- 3:00 Break
-
- 3:30 49008 Hall, Linda* - Martin, Sara
Fitness implications of introgression of novel traits from *Camelina sativa* to *C. microcarpa*
- 3:45 49009 McCarthy, Elizabeth* - Landis, Jacob - Litt, Amy
Does reconstructing ancestral progenitor phenotypes alter the interpretation of morphological evolution in allopolyploids?
- 4:00 49010 Goodrich, Katherine* - Raguso, Robert Andrew
Floral phenotypes of *Asimina triloba*, *Asimina parviflora*, and putative natural hybrids
- 4:15 49011 Campbell, Lesley* - Teitel, Zachary - Miriti, Maria - Snow, Allison
Contemporary evolution and the dynamics of persistence in crop-wild hybrids with heritable variation for two weedy life histories
- 4:30 49012 Liston, Aaron - Weitemier, Kevin - Zarrei, Mehdi - Dickinson, Tim*
Using Hyb-Seq data to test phylogenetic hypotheses in hawthorns (*Crataegus*, Rosaceae)
- 4:45 49013 Kephart, Susan R.* - Mortimer, Sebastian
Linking floral anthesis, pollination, and species boundaries in *Camassia* (Agavoideae: Asparagaceae)

Monocots II

Chair: Craig Barrett and Chelsea Specht

- 1:30 50001 Barrett, Craig* - Baker, William - Comer, Jason - Conran, John - Lahmeyer, Sean Anthony - Leebens-Mack, James - Li, Jeff - Lim, Gwynne - Mayfield-Jones, Dustin - Medina, Jesus - Perez, Leticia - Pires, J. Chris - Santos, Cristian - Stevenson, Dennis - Zomlefer, Wendy Davis, Jerrold
Deep branch support and extensive variation in substitution rate in the commelinid monocots based on plastid genomes, with emphasis on the palms
- 1:45 50002 Medina, Jesus* - Lahmeyer, Sean Anthony - Barrett, Craig
A preliminary investigation of phylogeny and plastid genome evolution in the palm genus *Brahea* (Mart. ex Endl.)
- 2:00 50003 Tungmunnithum, Duangjai
Morphological and Molecular Evidences of the Greatest Variable *Monochoria* Species in Thailand
- 2:15 50004 Léveillé-Bourret, Étienne* - Gilmour, Claire N. - Starr, Julian R. - Naczi, Robert F. C. - Spalink, Daniel - Sytsma, Kenneth J.
Searching for the sister to sedges (*Carex*): resolving relationships within the Cariceae-Dulichieae-Scirpeae clade (Cyperaceae)
- 2:30 50005 Starr, Julian* - Janzen, Francesco - Ford, Bruce
Three new, early diverging *Carex* (Cariceae, Cyperaceae) lineages from East and Southeast Asia with important evolutionary and biogeographic implications
- 2:45 50006 Dorey, Jenna
Systematics of the *Carex laxiflora* complex (Cyperaceae)
- 3:00 50007 Spalink, Daniel* - Léveillé-Bourret, Étienne - Starr, Julian - Sytsma, Kenneth J.
Patching a persisting paraphyly in Cyperaceae: divergent geographical, morphological, and ecological evolution in the bulrushes (*Scirpus*) and cotton-grasses (*Eriophorum*)
-
- 3:15 Break
-
- 3:45 50009 Neubig, Kurt M.* - Majure, Lucas - Abbott, Richard - Naczi, Robert F. C. - Judd, Walter - Whitten, M. Mark
Preliminary phylogenetic relationships of *Dichanthelium* (Poaceae) as revealed through whole plastomes and nrDNA via genome skimming

- 4:00 50010 Hadle, Jacob* - Beck, James
Polyploidy in Dominant Great Plains Grasses: Investigating the Geographic Distribution of Cytotypes in Buffalograss (*Buchlo, dactyloides*)
- 4:15 50011 Peterson, Paul M.* - Romaschenko, Konstantin - Herrera Arrieta, Yolanda
A molecular phylogeny of the Cynodonteae (Poaceae: Chloridoideae)
- 4:30 50012 Fisher, Amanda Elizabeth - Hasenstab, Kristen M. - Bell, Hester - Ingram, Amanda - Columbus, J. Travis*
Nuclear phylogeny of chloridoid grasses with >100 targeted loci
- 4:45 50013 Gallaher, Timothy* - Wysocki, William - Attigala, Lakshmi - Craine, Joe - Duvall, Mel - Clark, Lynn
Chlorenchyma shape variation in the grasses
- 5:00 50014 Specht, Chelsea* - Iles, William J.D. - Sass, Chodon - Benson-Martin, Gracie - Ng, Molly - Kress, John - Gupta, Shalika - Driscoll, Heather
Evolution of *Heliconia*: Temporal and Spatial Diversification at the Species Level

1:30 PM - 5:30 PM **51** **Contributed Papers** **Salon 5**
Symbioses: Plant, Animal, and Microbe Interactions II
Chair: Melanie D. Jones; Steven Harris

- 1:30 51001 Harris, Steven* - Kumar, Jyothi - Creasey, Erin
The stress biology of extremophile fungi and the nature of fungal interactions with algae
- 1:45 51002 Hayward, Jeremy* - Hynson, Nicole A.
The species-area relationship of arbuscular-mycorrhizal fungi under biological invasions
- 2:00 51003 Paasch, Amber* - Kim, Eunsoo
Phagocytosis of bacteria provides the mixotrophic green alga *Cymbomonas tetramitiformis* (Prasinophyceae) with a competitive advantage in phosphate-limited environments
- 2:15 51004 Thomas, Daniel* - Vandegrift, Roo - Carroll, George - Ju, Yu-Ming - Hsieh, Huei-Mei - Roy, Bitty A.

Shifting alliances: tracking changes in fungal endophyte community composition across hosts and habitats in one cloud forest reserve in northern Taiwan

2:30 51005 Castillo, Buck Tanner* - James, Timothy - Nave, Luke - Le Moine, Jim - Nadelhoffer, Knute
Belowground Plant and Fungal Community response to accelerated forest succession

2:45 51006 Hart, Andrew* - Volk, Thomas
Fungal-bacterial interactions between a wood-inhabiting Coprinellus species and a native bacterium

3:00 51007 Boubakir, Zakia* - Repas, Tim - Kaminskyj, Susan
Bioremediation of oil-contaminated soil using the endophytic fungus, Trichoderma harzianum strain TSTh20-1

3:15 Break

3:45 51009 Bonito, Gregory* - Uehling, Jessie - Pol, Natalie Vande - Desiro, Alessandro - Benning, Nils - Schadt, Christopher - Grigoriev, Igor - Rashid, Khalid Y. - Vilgalys, Rytas
Early diverging plant-associated fungi and their endobacteria: assessments of function and diversity

4:00 51010 Azad, Kumkum* - Kaminskyj, Susan - Basinger, James
Fungal endophytes: a strategy for mitigating salt and drought stress on plant growth

4:15 51011 Chen, Ko-Hsuan* - Liao, Hui-Ling - Arnold, A. Elizabeth - Lutzoni, François
Using metatranscriptomics to characterize functional shifts in endophytic fungi at plant senescence: Are endophytic fungi latent saprotrophs?

4:30 51012 Tu, Jiangying* - Bonham-Smith, Peta - Wei, Yangdou
PIN-mediated auxin transport modulates clubroot disease symptom development during the Arabidopsis-Plasmodiophora interaction

4:45 51013 Hirsch, Ann M.* - Maymon, Maskit - Martínez-Hidalgo, Pilar - Tran, Stephen - Ice, Tyler - Craemer, Karena - Anbarchian, Teni - Hwang, Lin H. - Faull, Kym E.
Plants do not live alone

5:00 51014 Hallen-Adams, Heather
The significance of fungi in human gut microbiome studies

TUESDAY

Coevolution/Mutualisms

Chair: Jeremy Yoder; James H. Leebens-Mack

-
- 1:30 C4SUM Leebens-Mack, James H.* - Yoder, Jeremy
Botany 2015 Colloquium: Integrated perspectives on the ecology, genetics and coevolution of intimate mutualisms
- 1:30 C4001 McKain, Michael* - Heyduk, Karolina - McNeal, Joel - Kellar, P. Roxanne - Linder, Peter - Pires, J. Chris - Eguiarte, Luis E. - Leebens-Mack, James
Timing of rapid diversification and parallel origins of active pollination within Agavoideae (Asparagaceae)
- 1:45 C4002 Smith, Christopher* - Royer, Anne
Genomic and geographic clines in the Joshua tree (*Yucca*) hybrid zone
- 2:00 C4003 Raguso, Robert Andrew
Geographic variation in *Yucca*-*Yucca* moth interactions: volatile handshakes and footprints
- 2:15 C4004 Althoff, David
The role of mutualism and antagonism in diversification of yuccas and yucca moths
- 2:30 C4005 Weiblen, George D.* - Moe, Annika M.
Pollinator-mediated reproductive isolation among dioecious fig species (*Ficus*, Moraceae)
- 2:45 C4006 Jander, Karin Charlotte
Host sanctions in the fig tree – fig wasp mutualism
-
- 3:00 Break
-
- 3:30 C4008 Segraves, Kari A.
The impact of cheating on mutualism
- 3:45 C4009 Armbruster, W. Scott* - Wege, Juliet - Evans, Sian - Forest, Felix
Evolution of Ecologically Generalized Pollination through Phenotypic Specialization and “Adaptive Behavior” of *Stylidium* flowers
- 4:00 C4010 Hembry, David
Diversification of the brood pollination mutualism between leaf-flower trees (*Phyllanthus* s. l. [*Glochidion*]) and leaf-flower moths (*Epicephala*) on oceanic islands
- 4:15 C4011 Svensson, Glenn P.* - Okamoto, Tomoko
The role of floral scent in *Epicephala* moth nursery pollination system

- 4:30 C4012 Herre, Edward Allen
Overview of Foliar Fungal Endophyte interactions with their host plants
- 4:45 C4013 Yoder, Jeremy* - Tiffin, Peter
Understanding the dynamics of mutualistic symbiosis with population genomics
- 5:00 C4014 Grillo, Michael* - Heath, Katy
Population genomics in the model legume, *Medicago truncatula*
- 5:15 C4015 Porter, Stephanie* - Simms, Ellen
Fitness alignment and conflict in the mutualism between plants and nitrogen-fixing rhizobium bacteria

1:30 PM - 5:00 PM SY10 Symposium Salon 13
Advances in Modelling Plant Development
Organized by: Moira Elspeth Galway

- 1:30 Introduction
- 1:45 SY10002 Dupouy, Lionel X. - Silk, Wendy K.*
Models of Bacterial Colonization of Root Tips Must Include Root Development
- 2:15 SY10003 Jafari Bidhendi, Amir - Altartouri, Bara - Geitmann, Anja*
Morphogenesis of jigsaw-puzzle shaped leaf pavement cells
- 2:45 SY10004 Owens, Andrew Robert* - Prusinkiewicz, Przemyslaw
Towards a computational model of the development and diversity of inflorescences
-
- 3:15 Break
-
- 3:45 SY10006 Hong, Lilan* - Routier-Kierzkowska, Anne-Lise - Dumond, Mathilde - Boudaoud, Arezki - Smith, Richard S. - Roeder, Adrienne
ROS (reactive oxygen species) controls sepal growth
- 4:15 SY10007 Holloway, David
Chemical patterning dynamics in conifer cotyledon formation
- 4:45 Discussion

1:30 PM - 5:30 PM SY11 Symposium Salon 8
Desiccation tolerance in bryophytes: perspectives from early career scientists -
Chair: Lloyd Stark

- 1:30 Introduction

- 1:45 SY11002 Deane-Coe, Kirsten K.
Comparative desiccation tolerance of biocrust mosses in colonial habit revealed by imaging chlorophyll fluorescence
- 2:15 SY11003 Slate, Mandy* - Callaway, Ragan
The effects of bryo-tic pulses on interactions between vascular plants
- 2:45 SY11004 Greenwood, Joshua
Influence of life history phase, genotype, and rate of drying upon desiccation tolerance in *Bryum argenteum*
-
- 3:15 Break
-
- 3:45 SY11006 Marks, Rose* - McLetchie, D. Nicholas
Tradeoffs in Desiccation Tolerance and Reproductive Allocation
- 4:15 SY11007 Cruz de Carvalho, Ricardo
Bryophyte morphology: a trait associated to desiccation tolerance
- 4:45 SY11008 Stark, Lloyd
Antheridia are Desiccation Tolerant in *Bryum argenteum*:
Postrehydration Water Content Predicts Time to Sperm Release
- 5:15 Discussion

1:30 PM - 5:30 PM SY12 Symposium Hall A
The rise and fall of photosynthate: Evolution of plant/fungus interactions from paleobotanical and phylogenomic perspectives
 Chair: Mary Berbee

- 1:30 Introduction
- 1:45 SY12002 Kenrick, Paul* - Strullu-Derrien, Christine - Mitchell, Ria
The origins of land plant communities
- 2:15 SY12003 Field, Katie* - Rimington, William - Leake, Jonathan - Cameron, Duncan - Duckett, Jeff - Bidartondo, Martin I. - Pressel, Silvia
Mutualism between ancient plant lineages (Haplomitriopsida liverworts) and Mucoromycotina fungi and its response to atmospheric CO₂
- 2:45 SY12004 Mills, Benjamin* - Lenton, Timothy
Geochemical cycles at the dawn of terrestrialization
-
- 3:15 Break
-
- 3:45 SY12006 Selosse, Marc-André
Evolution of the plant-fungal symbioses: questions for palaeontology

- 4:15 SY12007 Strullu-Derrien, Christine* - Kenrick, Paul
Fossil evidence of fungal-plant interactions in early terrestrial environments
- 4:45 SY12008 Hibbett, David S.* - Nagy, Laszlo G. - Floudas, Dimitrios
The origin and impact of lignin decomposition in basidiomycetes
- 5:15 Discussion

1:45 PM - 5:00 PM 52 **Contributed Papers** Salon 6
Ecological Section: Reproductive Ecology
Chair: Suzanne Koptur

- 1:45 52001 Koontz, Stephanie M.* - Weekley, Carl W. - Haller Crate, Sarah J. - Menges, Eric S.
Patterns of chasmogamy and cleistogamy by age and season in a rare *Polygala*
- 2:00 52002 Dorken, Marcel Eric* - Van Drunen, Wendy - van Kleunen, Mark
Clonality promotes sexual fitness under spatially-restricted dispersal of pollen and seeds
- 2:15 52003 Koptur, Suzanne* - Barrios, Beyte - Valdes, Imena - Nusrat, Maha
A fishing expedition to discover the pollinators of several subtropical Apocynaceae
- 2:30 52004 Stephens, Samantha* - Dorken, Marcel Eric
The effects of clonality on patterns of siring success in a natural population of *Sagittaria latifolia* (Alismataceae)
- 2:45 52005 Hersh, Evan* - Grimm, Jaime - Whitton, Jeannette
The clone wars: sexual-asexual dynamics in the *Crepis* agamic complex
- 3:00 52006 Van Drunen, Wendy* - Husband, Brian
The association between polyploidy and clonal reproduction in the angiosperms: A comparative approach

3:15 Break

- 3:45 52008 Primer, Samantha B.* - Annis, Jenna - Coons, Janice - Feist, Mary Ann - Molano-Flores, Brenda
Effect of Habitat Structure on the Reproductive Success and Prey Capture of *Pinguicula lutea* a Threatened Carnivorous Plant
- 4:00 52009 Shonubi, Olusola* - Okusanya, Olubukanla - Babalola, Sadat
Prodigal nature in the reproduction of *Cassia fistula* Linn. population from South West Nigeria.

- 4:15 52010 Hawkins, Tracy S.* - Meadows, James S. - Williams, Justin P.
Masting periodicity and fate of acorns for *Quercus pagoda* in four silvicultural treatments: 7 year results
- 4:30 52011 Limbird, Eric James* - Walck, JL - Phillips, NC - Hidayati, Siti
Freeze-thaw effects on seed viability, seed germination and seedling survivorship vary among exotic and native woody plants
- 4:45 52012 Pyle, Lysandra Ann* - Bork, Edward - Hall, Linda
Linking seed bank composition and plant community change to pipeline disturbance in mixed-grass prairie

2:00 PM - 4:30 PM

53

Contributed Papers

Salon 16

Physiological Section Contributed Papers

Chair: Anitra Thorhaug; Frank Ewers; Peter Melcher; Arthur Schwarz

- 2:00 53001 Goodale, Uromi Manage
Water balance characteristics of terrestrial, epiphytic and saprophytic orchids as an indicator of habitat preference and basis for determining long term seed storage
- 2:15 53002 Gao, Libiao* - Caldwell, Claude D. - Lynch, Derek H. - Lada, Raj. R
Comparative effects of water deficit and applied nitrogen on physiological responses and biomass accumulation of camelina (*Camelina sativa* L. Crantz.) and canola (*Brassica napus* L.) under controlled environments
- 2:30 53003 Spicer, Rachel* - Evanich, Daniel
Basipetal auxin transport during secondary xylem development in *Populus*
- 2:45 53004 Thorhaug, Anitra* - Poulos, Helen - Lopez-Portillo, Jorge - Schwarz, Arthur - Berlyn, graeme
Gulf of Mexico Blue Carbon in Seagrasses: Natural, Restored, Degraded, barren sediment
- 3:00 53005 Hassan, Abdullahi Gana
The significance of osmosis in water balance among the tropical vascular plants
-
- 3:15 Break
-
- 3:45 53007 Junker, Laura* - Ensminger, Ingo
Assessing autumn physiology of *Acer saccharum* using spectral reflectance and digital image vegetation indices

- 4:00 53008 Savage, Jessica Anne
Vascular constraints on flower development: Understanding resource allocation and vascular transport in precocious flowering species
- 4:15 53009 Mukhtar, Fatimah Batul* - Audi, Auwalu H.
Utilization of Salicylic Acid for the Control of Pod Sucking Bug, *Clavigralla tomentosicollis* Stal. (Hemiptera: Coreidae) in Four Pre-hardened Cowpea cultivars

2:00 PM - 4:00 PM D2 Discussion Session Salon 12
Evaluation of ten wild Nigerian Mushrooms for amylase and cellulase activities -
Chair: Enayaba Martins

2:00 PM - 4:00 PM D3 Discussion Session Hall B
Effects of season's management practices and topography on floral Development in a typical tropical watershed
Chair: Chukwujekwu Gratius Ukpaka

Canceled

3:00 PM - 4:00 PM 54 Contributed Papers Salon 14
Historical Section
Chair: Unknown

- 3:00 54001 Dixon, Jennifer
The History and Beauty of Florilegia and Botanical Codices
- 3:15 54002 Flannery, Maura C.* - Gregg, Katharine
The Rossbach Herbarium at West Virginia Wesleyan College: A Case Study in Sustaining a Collection
- 3:390 54003 Ryu, BoMi* - Ratsch, Angela - Steadman, Kathryn
Pituri: Is it *Duboisia* or *Nicotiana*?

3:15 PM - 5:30 PM 55 Contributed Papers Salon 2
Host/Plant Pathogen Interactions and Plant Health Management Session II
Chair: James T. Tambong; Champa Wijekoon

- 3:15 55001 Chatterton, Syama - Harding, Michael* - Bowness, Robyne
Identification of pathogens associated with root rot of field pea in Alberta
- 3:30 55002 Reich, Jonathan* - Alexander, Trevor - Chatterton, Syama
Development of a multiplex qPCR TaqMan assay for the quantification of airborne spores of *Botrytis cinerea* and *Sclerotinia sclerotiorum*

3:45	55003	Tambong, James T.* - Renlin, Xu - Stéphane, Brière - Guillaume, Bilodeau - Len, Ward - Umadatt, Singh - Xiang, Li Invasive and Quarantine bacterial pathogens of corn: Genome analyses and the development of subspecies-specific detection assays
4:00	55004	Wijekoon, Champa* - Pageni, Binod - Kawchuk, Lawrence Rapid molecular characterization of the late blight pathogen <i>Phytophthora infestans</i>
4:15	55005	Salgado-Salazar, Catalina* - Rivera, Yazmín - Crouch, Jo Anne Emergence of the impatiens downy mildew pathogen in the U.S. corresponded with a shift in population structure
4:30	55006	Annis, Seanna L.* - Case, Tyler Factors affecting the germination of pseudosclerotia of <i>Monilinia vaccinii-corymbosi</i>
4:45	55007	Healy, Sarah - Hsiang, Tom* Biology, survival and mating genes of <i>Cylindrocladium buxicola</i>

3:15 PM - 3:45 PM	Coffee Break	Hall D
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3:45 PM - 5:45 PM	D4	Discussion Session	Salon 9
PlantingScience: Inspiring Students through Online Mentoring			
Chair: Catrina Adams			

4:00 PM - 4:30 PM	Historical Section Annual Meeting		Salon 14
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4:00 PM - 5:00 PM	S08	Kaplan Memorial Lecture	Salon 12
Who dares to call oneself a plant morphologist?			
Juerg Schoenenberger			

4:00 PM - 5:00 PM	S09	CD Nelson Lecture	Salon 11
Type III Effectors and the Plant Immune Response			
Darrell Desveaux			

4:45 PM - 5:30 PM	BSA Members Meeting		Salon 17/18
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5:00 PM - 6:00 PM	Kaplan Reception		Riverview Room
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5:30 PM - 6:15 PM	ASPT/Systematics Section Business Meeting		Salon 3
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5:30 PM - 6:30 PM	Ecological Section Business Meeting	Salon 6
5:30 PM - 7:30 PM	ABLS Dinner	Unspecified/Off Site
6:00 PM - 7:30 PM	Development and Structure Mixer and Business Meeting	Hall B
6:00 PM - 10:00 PM	CPS Banquet at Fort Edmonton	Ft. Edmonton/Off Site
6:30 PM - 7:30 PM	ASPT Mixer	Salon 11
7:30 PM - 11:59 PM	CSPB - Mixer (members only)	Riverview Room
7:30 PM - 8:30 PM	MSA hosted Volunteer Reception	Hall C
7:30 PM - 10:00 PM	ASPT Banquet	Salon 12

TUESDAY

WEDNESDAY, JULY 29TH

6:00 AM - 11:59 PM	Botany 2015 Conference Office	D-2 Office
6:00 AM - 11:00 PM	Video Taping Room	D-1 Office
7:00 AM - 8:30 AM	Continental Breakfast	Hall D Foyer
7:00 AM - 8:00 AM	CPS Incoming Board meeting	SCC Board Room
7:00 AM - 8:00 AM	Genetics Section Business Meeting	Salon 12
7:00 AM - 12:00 PM	Registration	Hall D Foyer
7:00 AM - 8:00 AM	University of Wisconsin Breakfast	Riverview Room
7:00 AM - 8:00 AM	Miami of Ohio Breakfast	Riverview Room

8:00 AM - 11:00 AM	30	Contributed Papers	Salon 13
Phytochemical Section: chemistry, biochemistry and environmental interactions -			
Chair: Unknown			

8:00		Introduction	
8:15	30002	Busta, Lucas* - Budke, Jessica M. - Jetter, Reinhard Cuticular waxes from the leafy gametophyte, sporophyte, and calyptra of the moss <i>Funaria hygrometrica</i>	
8:30	30003	Dawson, James* - Bors, Bob - Waterer, Doug Post-harvest UVC irradiation increases secondary metabolites in fruit of Haskap (<i>Lonicera caerulea</i> L.)	
8:45	30004	De Luca, Vincenzo Completion of the 7 step pathway from tabersonine to the anticancer drug precursor vindoline and its assembly in yeast	
9:00	30005	Turi, Christina* - Murch, Susan Metabolomics Analysis as a Tool to Understand Plant Growth and Development	
9:15	30006	Gashua, Ibrahim Babale* - Williams, Peter A. - Baldwin, Timothy C. Characterisation of gum exudates of <i>Acacia senegal</i> (gum Arabic) and <i>Prosopis africana</i> (Mesquite gum) sourced from two Nigerian tree species	
9:30	30007	Ade-Ademilua, Omobolanle Elizabeth* - Craker, Lyle Does sex matter in the use of <i>Carica papaya</i> ?	
9:45		Break	

- 10:15 30009 Berardi, Andrea* - Smith, Stacey
The influence of pleiotropy on the correlated evolution of plant pigment production
- 10:30 30010 Stanton, Kimmy - Karoly, Keith*
The Genetic Basis of Flower Color Divergence in the PNW larkspurs, *Delphinium leucophaeum* and *D. nuttallii*
- 10:45 30011 Westley, Rebecca M.* - Hawkins, Barbara J. - Constabel, C. Peter
Ecological and physiological functions of poplar root condensed tannins - can they influence nutrient uptake?

8:00 AM - 9:45 AM **56** **Contributed Papers** **Salon 1**
Mycology V
Chair: Jennifer Doering

- 8:00 56001 Kijpornyongpan, Teeratas* - Grigoriev, Igor - Mondo, Stephen - Barry, Kerrie - Spatafora, Joseph W. - Aime, M. Catherine
Exploring patterns of smut fungi evolution through phylogenomics
- 8:15 56002 Justo, Alfredo* - Floudas, Dimitrios - Ortiz-Santana, Beatriz - Miettinen, Otto - Hibbett, David
A revised family-level classification of the Polyporales (Basidiomycota)
- 8:30 56003 Bazzicalupo, Anna L.* - Buyck, Bart - Berbee, Mary
Ben Woo's *Russula* herbarium: Detecting new species and confirming known species using databasing and DNA sequencing
- 8:45 56004 Zhang, Rui* - Shi, Xiaofei - Liu, Pei-gui - Gregory, Mueller
Twelve New Species of *Suillus* from China and a Multigene Phylogeny of the genus based on representatives from North America, Eastern Asia and Europe
- 9:00 56005 Powers, Rob* - James, Timothy
Sexual Selection and The Buller Phenomenon in the Bipolar Basidiomycete, *Coprinellus disseminatus*
- 9:15 56006 Doering, Jennifer - Toni, Sydney - Lewis, Chris - Bazin, Ron - Piercey-Normore, Michele D.*
The rare lichen, *Leptogium rivulare*, from rock and tree bark is a single species and the mycobiont has a low level of photobiont selectivity
- 9:30 56007 Stajich, Jason* - Aime, M. Catherine - Berbee, Mary - Binder, Manfred - Crous, Pedro W. - Grigoriev, Igor - Hibbett, David - James, Timothy - Martin, Sara - Nagy, Laszlo - Spatafora, Joey - Consortium, 1000 Fungal Genomes
Evolutionary genomics of early branches of the fungal tree

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- 8:00 57001 Joly, David L.* - Cullis, Jeffrey - Lewis, Christopher T. - Smith, Donna S. -Gagnon, Marie-Claude - van Gent-Pelzer, Marga P. E. - van de Geest, Henri - Bilodeau, Guillaume J. - van der Lee, Theo A. J. - Li, Xiang (Sean) - Bonants, Peter J. M. - Lévesque, C. André
What's in a wart? Insights from the genome of the potato wart pathogen *Synchytrium endobioticum*
- 8:15 57002 Girard, Jan J.* - Becker, Michael G. - Fernando, Dilantha - De Kievit, Teresa - Belmonte, Mark F.
Using Big Data to probe the plant defense response: RNA sequencing of the canola - Sclerotinia pathosystem
- 8:30 57003 Goulet, Kristi* - Saville, Barry
Altered antisense RNA expression reduces *Ustilago maydis* pathogenesis through a xylitol dehydrogenase
- 8:45 57004 Bakkeren, Guus* - Linning, Rob - Joly, David - Khalil, Hala - Wang, Xiben - Panwar, Vinay - Fellers, John - Szabo, Les - Hulbert, Scot - Chen, Xianming - Hamelin, Richard C. - McCallum, Brent - Cuomo, Christina - Saville, Barry
Comparative genomics of rust fungi to probe wheat interactions; the road to crop protection
- 9:00 57005 Saville, Barry* - Ostrowski, Lauren - Donaldson, Michael - Goulet, Kristi Cheung, Hoi Yee Kitty
Functional and transcriptome analysis of antisense RNA in *Ustilago maydis*
- 9:15 57006 Cheung, Hoi Yee Kitty - Doyle, Colleen - Donaldson, Michael - Spence, Kelsey - Saville, Barry*
Plant pathogenesis, sex, and smut fungi
- 9:30 57007 Seto, Amanda* - Donaldson, Michael - Saville, Barry
Transcript level assessment in *Ustilago maydis* teliospores at distinct stages of germination
-
- 9:45 Break
-

Cell Biology Oral Papers

Chair: Carl J. Douglas

-
- 8:00 58001 Liu, Yuanyuan - Das, Orpita - Douglas, Carl J.*
The secondary cell wall regulatory network in *Arabidopsis thaliana*: role of a negative regulatory loop in maintaining metabolic homeostasis
- 8:15 58002 Yamaguchi, Masatoshi* - Nagahage, Isura - Misato, Ohtani - Toshiki, Ishikawa - Hirofumi, Uchimiya - Hiroo, Fukuda - Maki, Kawai-Yamada Taku, Demura
NAC domain transcription factors interacting with VND7, a key regulator of xylem vessel differentiation
- 8:30 58003 Fujita, Miki - Wark, Krystal - Wang, James - Wasteneys, Geoffrey O.*
Live-cell imaging of fluorescently-tagged COBRA GPI-anchored protein in elongating cells of *Arabidopsis thaliana*
- 8:45 58004 Ambrose, Chris
Plant cell shape and the microtubule cytoskeleton
- 9:00 58005 Eng, Ryan* - Wasteneys, Geoffrey
Dissecting the interaction between NEK6 and ARK1 in regulating microtubule dynamics and cell elongation in *Arabidopsis thaliana*
- 9:15 58006 Yan, Xiaodong - Bai, Mei - Ning, Xiping - Ouyang, Haibo - Zhang, Shouzhou - Yang, Ming* - Wu, Hong
Spatiotemporal features of microsporogenesis in the cycad species *Macrozamia communis* L. A. S. Johnson (Zamiaceae)
- 9:30 58007 McVey, Sarah* - Liu, Hongxia - Ravichandran, Sridhar - Stone, Sophia
Role of RING-type E3 ligase, XBAT35.2, in regulating cell death
-
- 9:45 Break
-
- 10:15 58009 Guo, Hongyan - Zhang, Wei - Liu, Bao - Wang, Shuai*
OsCLE48, an auxin responsive *CLE* gene regulates shoot apical meristem development in *Arabidopsis*
- 10:30 58010 Selvaraj, Kumarakurubaran* - Bonham-Smith, Peta
Role of ribosome assembly factor HRR25 in *Arabidopsis* growth and development
- 10:45 58011 Strychar, Kevin B.
Developing new techniques to better understand *Microcystis* sp. blooms in freshwater lakes

Biogeography I

Chair: Andrew Thornhill

-
- 8:00 59001 Appelhans, Marc* - Wagner, Warren - Wen, Jun
Historical biogeography of *Melicope* (Rutaceae): Diversification rates and Pacific dispersal routes
- 8:15 59002 Lee, Joon Seon* - Kim, Seung-Chul
A Deep Divergence of Intercontinental Disjunct Genus *Symplocarpus* (Araceae) Corresponding to the Two Different Ploidy Levels
- 8:30 59003 Konrade, Lauren* - Shaw, Joey - Beck, James
Evaluating range genetics in black cherry (*Prunus serotina* Ehrh.) with an expansive set of herbarium specimens
- 8:45 59004 Mennes, Constantijn B.* - Lam, Vivienne K.Y. - Rudall, Paula J. - Lyon, Stephanie P. - Graham, Sean W. - Smets, Erik F. - Merckx, Vincent S.E.T.
The “odd man out” in mycoheterotrophic angiosperms: a Gondwanan origin of Corsiaceae
- 9:00 59005 Thornhill, Andrew* - Ho, Simon - Külheim, Carsten - Crisp, Michael
Interpreting the biogeographic history of Myrtaceae using a fossil-calibrated dated molecular phylogeny
- 9:15 59006 Hooker, Marcus* - Hufford, Larry
Topographic and glacial influences on the phylogeography of *Synthyris rubra* (Plantaginaceae)
-
- 9:30 Break
-
- 10:15 59008 Berger, Brent - Kriebel, Ricardo - Spalink, Daniel - Sytsma, Kenneth J.*
Divergence times, historical biogeography, and shifts in speciation rates of Myrtales
- 10:30 59009 Moore, Michael J.* - Douglas, Norman - Hernández Ledesma, Patricia - Flores Olvera, Hilda - Ochoterena, Helga - Bruenn, Riva - Brunner, Anna - Drummond, Chloe - Last, Noah - Leatherman, Lila S.T. - Mandala, Venkata Shiva - Mostow, Rebecca
Rare plastome structural changes illuminate demography and dispersal across a gypsum archipelago
- 10:45 59010 Hall, Jocelyn C.* - Cardinal-McTeague, Warren - Sytsma, Kenneth J.
Biogeographical analyses of the core Brassicales reveal a lineage driven by long distance dispersal

- 11:00 59011 Federman, Sarah B.* - Dornburg, Alex - Downie, Alexander - Daly, Douglas - Richard, Alison - Donoghue, Michael
The biogeographic origin of a radiation of trees in Madagascar: Implications for the assembly of a tropical forest biome
- 11:15 59012 Manos, Paul* - Meireles, Jose Eduardo
Biogeographic analysis of the woody plants of the Southern Appalachians: implications for the origins of a regional flora
- 11:30 59013 Ellwood, Elizabeth* - Bart, Henry - Krings, Michael - Jue, Dean - Mann, Justin - Nelson, Gil - Rios, Nelson - Mast, Austin R.
Citizen science as a tool for expanding our capacity to georeference biodiversity specimens

8:00 AM - 11:45 AM 60 Contributed Papers Salon 2
Asterids III
Chair: Saša Stefanović,

- 8:00 60001 Zacarias-Correa, Ana Gabriela - Wenzel, Aaron J. - Blischak, Paul - Wolfe, Andrea* - Calix, Emmanuel Perez - Samain, Marie-Stéphanie
Molecular phylogeny of *Penstemon* section *Fasciculus* (Plantaginaceae) based on single copy orthologous genes (COSII)
- 8:15 60002 López-Sepúlveda, P. - Takayama, K. - Crawford, Daniel J.* - Greimler, J. - Peñailillo, P. - Baeza, Carlos M. - Ruiz, E. - Kohl, G. - Tremetsberger, K. - Gatica, A. - Letelier, L. - Novoa, P. - Novak, J. - Stuessy, Tod F.
Speciation and biogeography of *Rhaphithamnus venustus* (Verbenaceae) in the Juan Fernández archipelago, Chile: a perspective from simple sequence repeat and AFLP markers
- 8:30 60003 Costea, Mihai - García, Miguel - Baute, Kurtis - Stefanović, Saša*
A complicated evolutionary history of *Cuscuta pentagona* clade (Convolvulaceae) and consequences of ignoring systematics
- 8:45 60004 Costea, Mihai - García, Miguel - Stefanović, Saša*
First phylogenetic classification of parasitic genus *Cuscuta* (dodders, Convolvulaceae)
- 9:00 60005 Martine, Chris* - Jordon-Thaden, Ingrid - Roche, Morgan - Hayes, Daniel - Tank, David
Transcriptome-mined introns offer new understandings of phylogenetic relationships among Australian bush tomatoes (*Solanum*) within the context of the Old World spiny solanums
- 9:15 60006 Stuessy, Tod F.* - Urtubey, Estrella - Tremetsberger, Karin - Baeza, Carlos M. - Lopez-Sepulveda, Patricio - Samuel, Mary Rosabelle - Schneeweiss, Hanna - Ortiz, Maria Angeles - Talavera, Salvador
Revision of the South American species of *Hypochaeris* (Compositae, Cichorieae)

- 9:30 60007 Martino, Maria* - Beck, James
Are cytotypes non-randomly distributed in the giant goldenrod
(*Solidago gigantea* Ait.)?
-
- 9:45 Break
-
- 10:15 60009 Fenneman, Jamie
The systematics of *Antennaria* in western Canada revisited: recognition of two neglected agamospecies clarifies the taxonomy of a notoriously challenging agamic complex
- 10:30 60010 Baldwin, Bruce G.* - Kyhos, Donald W.
Revisiting evolutionary shifts in habitat, habit, and chromosomal structure and number in the pincushions (*Chaenactis*; Compositae–Chaenactideae)
- 10:45 60011 Tippery, Nicholas
Low-copy nuclear genes support allopolyploid diversification in *Nymphoides* (Menyanthaceae)
- 11:00 60012 Knox, Eric
Cladogenesis and Reticulation in *Downingia* (Lobeliaceae)
- 11:15 60013 Clement, Wendy* - Cohen, Alanna - Donoghue, Michael
A comparison of nuclear and chloroplast gene trees for *Viburnum* (Adoxaceae)
- 11:30 60014 Manchester, Steven* - Collinson, Margaret - Herrera, Fabiany - Soriano Hoyuelo, Carmen - Andrew, Mary J.
Fruit morphology and anatomy of modern and fossil Torricelliaceae (Apiales)

8:00 AM - 12:00 PM 61 Contributed Papers Salon 15/16
Molecular Ecology and Evolution
Chair: Unknown

- 8:00 61001 Turner, Barbara - Duangjai, Sutee - Paun, Ovidiu - Munzinger, Jerome - Chase, Mark - Samuel, Mary Rosabelle*
Evolution and diversity of the New Caledonian *Diospyros* (Ebenaceae)
- 8:15 61002 Jo, Sang-Jin - Kim, Ki-Joong*
Multiple independent plastid gene losses in the *Burmmania* (Burmanniaceae)
- 8:30 61003 Nitta, Joel* - Meyer, Jean-Yves - Taputuarai, Ravahere - Davis, Charles
Life Cycle Matters: Divergent Patterns of Community Structure Between Fern Sporophytes and Gametophytes

- 8:45 61004 Slot, Jason* - Greene, George - Rokas, Antonis - Vijayakumar, Vinod - Gluck-Thaler, Emile
Investigating adaptation to plant phenolic compounds through fungal evolutionary genomics
- 9:00 61005 Lu-Irving, Patricia* - Salimena, Fátima - Silva, Tânia - Bitencourt, Cássia Viccini, Lyderson - Olmstead, Richard
Fruit evolution and diversification rate in *Lantana* and *Lippia* (Verbenaceae)
- 9:15 61006 Qiu, Yichun* - Liu, Shao-Lun - Adams, Keith
Concerted divergence of duplicated gene products in the Brassicaceae PRC2 complexes
-
- 9:30 Break
-
- 10:00 61008 Reynolds, Hannah* - Barton, Hazel - Slot, Jason
Re-duplication of nitrate reductase (*NRT2*) and dual nitrate response and in *Pseudogymnoascus destructans*, the White-nose Syndrome bat pathogen
- 10:15 61009 McAssey, Edward* - Burke, John
Differential expression and molecular evolution of genes expressed in an adaptive trait: Developing wild sunflower seeds
- 10:30 61010 Neubig, Kurt M.* - Abbott, Richard - Majure, Lucas - Allen, Julie M. - Whitten, M. Mark - García, Nicolas - Germain-Aubrey, Charlotte - Soltis, Pamela S. - Soltis, Douglas
BarFF: towards a complete set of DNA barcode data for the vascular plants of Florida
- 10:45 61011 Hawkins, Angela K.* - Pepper, Alan E.
Adaptation to extreme environments: Transcriptome comparisons of the serpentine endemic *Caulanthus amplexicaulis* var. *barbarae* and its non-serpentine sister species, *C. amplexicaulis*
- 11:00 61012 Cruzan, Mitchell B.* - Jered, Thompson
Autogamy depression and the production of high-fitness selfed offspring in *Mimulus guttatus*
- 11:15 61013 Edger, Patrick - Smith, Ron - Vallejo-Marin, mario - Cooley, Arielle - Platts, Adrian - Childs, Kevin - Pires, J. Chris - Smith, Greg - Puzey, Joshua*
Genomic consequences of hybridization and allopolyploidization in British monkeyflower
- 11:30 61014 Green, Adam - Husband, Brian*
Genic x Genomic Interactions and the Phenotypic Effects of Whole Genome Duplication

8:00 AM - 12:00 PM C5 Colloquium Salon 10
Lab Bench to Boardroom: Developing Plant Science Ideas
Chair: R. Glen Uhrig

8:00 AM - 12:00 PM SY13 Symposium Hall A
Forest Tree Responses to a Changing Climate
Chair: Rachel Spicer

8:00 Introduction

8:15 SY13002 Hogg, Edward H. (Ted)
Multi-year impacts of drought on stand dynamics of aspen forests in western Canada

8:45 SY13003 Hacke, Uwe G.* - Schreiber, Stefan G. - Thomas, Barb R.
Hydraulic and wood anatomical traits of hybrid poplar plantation trees - leaf size emerges as a key trait

9:15 SY13004 Sala, Anna* - Martínez-Vilalta, Jordi - Asencio, M. Dolores - Lloret, Francisco - Palacio, Sara - Galiano, Lucía - Hoch, Guenter - Piper, Frida
Concentration and dynamics of non-structural carbohydrates in plants: implications under global change

9:45 Break

10:15 SY13006 Guy, Robert* - McKown, Athena - Soolanayakanahally, Raju
To everything there is a season, and a time to set bud under heaven

10:45 SY13007 Sinervo, Barry - Pittermann, Jarmila* - Santos, Juan - Miles, Donald - Sites, Jack - Bauer, Aaron - Ammon, Corl - Raymond, Huey
Plant mortality and beyond: Quantifying climate-forced extinction risks for lizards, amphibians, and plants

11:15 SY13008 O'Neill, Greg
Assisted migration: the new normal

11:45 Discussion

Mesozoic and Cenozoic plant evolution and biotic change: A symposium in honour of Ruth Stockey

Chair: Ashley A. Klymiuk; Selena Y. Smith; Stefan A. Little

-
- 8:00 Introduction
- 8:15 SY14002 Nishida, Harufumi
From Hokkaido to Patagonia, hunting plant remains in calcite nodules
- 8:45 SY14003 Pigg, Kathleen B.* - Devore, Melanie L.
Permineralized plants of the Princeton chert (middle Eocene BC, Canada) and their relationship to the compression/impression floras of the Okanogan (Okanagan) Highland(s) floras of British Columbia and Republic, Washington
- 9:15 SY14004 Collinson, Margaret Elizabeth* - Adams, Neil - Manchester, Steven - Stull, Gregory - Herrera, Fabiany - Smith, Selena Y. - Andrew, Mary J. - Kenrick, Paul - Sykes, Dan
Re-examining the Early Eocene flora of the London Clay Formation, UK: micro-CT scanning of holotypes
-
- 9:45 Break
-
- 10:15 SY14006 Cevallos Ferriz, Sergio Rafael Silvestre* - Huerta-Vergara, Alma Rosa - Hernández Damián, Ana Lilia
Reproductive structures from the Middle Cretaceous of El Chango quarry, Chiapas, Mexico
- 10:45 SY14007 Manchester, Steven R.* - Kappate, Dasrath - Smith, Selena Y. - Pigg, Kathleen B. - Graham, Shirley
Systematic affinities of the *Enigmocarpon* plant (Myrtales) from the late Cretaceous of India
- 11:15 SY14008 Stevenson, Dennis
Paleobotany (aka Palaeobotany) is Botany Plus

Ecological diversification and niche evolution in the temperate zone\'s largestgenus: *Carex*

Chair: Andrew L. Hipp

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- 8:00 Introduction
- 8:15 SY15002 Global Carex Group, . - Jimenez-Mejias, Pedro* - Starr, Julian - Naczi, Robert F. C. - Roalson, Eric H. - Waterway, Marcia J. - Hahn, Marlene - Hipp, Andrew L.
A global phylogeny of *Carex*
- 8:45 SY15003 Pender, Jocelyn* - Starr, Julian - Naczi, Robert F. C. - Hahn, Marlene - Hipp, Andrew L.
Ecological niche diversification and trait evolution in North American *Carex*
- 9:15 SY15004 Escudero, Marcial* - Hahn, Marlene - Brown, Bethany - Lueders, Kate - Arroyo, Juan M. - Jordano, Pedro - Hipp, Andrew L.
Is chromosome differentiation a driver of ecological diversification at microevolutionary scale?
-
- 9:45 Break
-
- 10:15 SY15006 Waterway, Marcia J.* - Lechowicz, Martin J. - Dabros, Anna - Guillet, Joelle - Martins, Kyle
Ecological and evolutionary diversification within the genus *Carex*: consequences for community assembly
- 10:45 SY15007 Hoffmann, Matthias H.* - Gebauer, Sebastian
Convergence in sedges of the high arctic
- 11:15 SY15008 Global Carex Group, The - Hahn, Marlene* - Budaitis, Breane - Grant, Jeff - Wetta, Donna - Murphy, Patrick - Cotton, Alexa - Pham, Kasey - Hipp, Andrew L.
Training the next generation of sedge taxonomists: school kids tackle sedge morphological and ecological diversification
- 11:45 Discussion

The negotiated surveillance of parts and wholes: a symbioses-centered perspective on plant biology researchChair: Steven Leavitt

8:00 Introduction

8:15 SY16002 Clay, Keith* - Beaulieu, Wesley - Panaccione, Daniel - Cook, Daniel
Hereditary Fungal Symbiosis in Plants8:45 SY16003 Nelsen, Matthew P.* - Lucking, Robert - Lumbsch, Thorsten - Ree, Richard
Tracing the evolution and diversification of lichen associations9:15 SY16004 Bogar, Laura M.* - Peay, Kabir G.
What stabilizes the ectomycorrhizal mutualism? An experimental test of partner choice by *Pinus muricata* in association with *Suillus brevipes*

9:45 Break

10:15 SY16006 Fernando, Fernandez-Mendoza* - Christian, Printzen
Coevolution in an open association system. Ecological and evolutionary insights into the patterns of photobiont association in the lichen *Cetraria aculeata*10:45 SY16007 Nelson, Jessica Marie
Interactions of the Liverwort *Marchantia polymorpha* with its Fungal Endophytes11:15 SY16008 Leavitt, Steven* - Kirika, Paul - Lumbsch, Thorsten
Fungal specificity and selectivity for algae play a major role in determining lichen partnerships across diverse ecogeographic regions

11:45 Discussion

Sustainable Production and Cropping Systems

Chair: Robyne Bowness

-
- 8:10 Introduction
- 8:15 62002 Geddes, Charles M.* - Gulden, Robert H.
Weed management via targeted soil seedbank disturbance: *Brassica napus* L. in western Canada
- 8:45 62003 Sanders, Don* - Lawley, Yvonne - Gulden, Robert H. - Tenuta, Mario
Moving beyond the wheat canola rotation: The effect of crop sequence on soybean grain yield, mycorrhizal colonization, and N fixation by *bradyrhizobium*. D. Sanders, Y. Lawley, R. Gulden, M. Tenuta
- 9:00 62004 Beres, Brian* - Pageau, Denis - Dion, Yves - Turkington, T. Kelly - Lupwayi, Newton - Larney, Frank - Ellert, Benjamin - Smith, Elwin
Rotational Diversity Effects in a Cereal-Based Cropping System
- 9:15 62005 Xie, Jing* - Schoenau, Jeff - Warkentin, Tom
Yield, nutrient uptake, and N fixation in soybean in comparison to pea and lentil in Saskatchewan
- 9:30 62006 Cox, Bill
Field-Scale Studies Indicate that Seed-Applied Insecticide (Neonicotinoids)/Fungicides on Soybean Consistently Increase Plant Populations but not Yield or Partial Returns
-
- 9:45 Break
-
- 10:15 62008 Juskiw, Patricia* - Swift, Mary Lou - Baron, Vern - Doce, Raquel - Nyachiro, Joseph - Heckman, Lindsay
Rolling up the data . . . forage barley
- 10:30 62009 Sahota, Dr. Tarlok Singh
Effect of urea, ESN and ammonium sulphate on barley for grain and silage production in northwestern Ontario
- 10:45 62010 Cheema, Mumtaz* - Hussain, Babar - Saleem, Muhammad - Wahid, Muhammad - Farooq, Muhammad
Thiourea improves drought resistance in maize by modulating water relations, nutrients and proline accumulation
- 11:00 62011 Thomas, Julian* - Graf, Robert
Rates of yield gain of hard red spring wheat in western Canada

Conservation Biology I

Chair: S. Ellen Macdonald; Mitchell McGlaughlin

-
- 8:15 63001 Macdonald, S. Ellen* - Fenn, Mark - Davies, Mervyn
Forest vegetation responses to atmospheric deposition associated with oil sands mining operations
- 8:30 63002 Ali, Kishwar* - Khan, Nasrullah - Rehman, Inayat U. R. - Jury, Stephen - Ahmad, Habib
Is there any future for ethno-botanical knowledge? Climate change and its impact: a case study from Hindu-Kush Himalayas
- 8:45 63003 Jan, Dr. Gul
Quantitative ethno-botanical analysis and conservation issues of medicinal flora from Alpine and Sub-alpine, Hindukush region of Pakistan
- 9:00 63004 Dorey, Jenna* - Lendemer, James - Naczi, Robert F. C.
The lichen in the room: do patterns of biodiverse, understudied groups really mirror those of the plants and animals that often set conservation priorities?
- 9:15 63005 Lendemer, James* - Allen, Jessica
Lichens in the Mid-Atlantic Coastal Plain: patterns and trends from four years of intensive biodiversity inventory
- 9:30 63006 Lendemer, James* - Allen, Jessica - McMullin, R. Troy
Not So Different After All: Results from the First IUCN Red List Assessment for North American Lichens Dispel the Myth that Fungi Cannot be Conserved
-
- 9:45 Break
-
- 10:15 63008 McGlaughlin, Mitchell* - Riley, Lynn - Helenurm, Kaius
How much is enough? Minimum sampling intensity required to capture extant genetic diversity in ex situ seed collections: examples from the endangered plant *Sibara filifolia* (Brassicaceae)
- 10:30 63009 Krauss, Siegy
An ecological genetic assessment of non-local provenance seed for restoration
- 10:45 63010 Dong, Jingjing - Zhang, Minggang - Wang, Yinghao - Wei, Wei* - Ma, Keping
GIS assessment of gene flow risk from *Brassica napus* to its wild relatives in China

- 11:00 63011 Griffith, M. Patrick* - Meerow, Alan W. - Calonje, Michael - Sanchez, Vanessa - Hird, Abby - Magellan, Tracy M. - Knowles, Lindy - Francisco-Ortega, Javier
Botanic garden genetics: comparison of two cycad conservation collections
- 11:15 63012 Pandey, Sandeep
Assessment and management of forest biodiversity in environmentally sensitive areas in Kashmir valley
- 11:30 63013 Pedersen, Jennine* - Macdonald, Ellen - Nielsen, Scott
Assisted Migration to Mitigate the Effects of Climate Change for Rare and Range-Restricted Plants

9:00 AM - 11:00 AM D5 Discussion Session Salon 14
Discussion Session - Rhizobium and Humans
Chair: Meenakshi Sharma

9:45 AM - 10:15 AM Coffee Break Hall D

10:15 AM - 12:00 PM 64 Contributed Papers Salon 1
Mycology VI
Chair: Sarah Hambleton

- 10:15 64001 Stricker, Sara Marie* - Hsiang, Tom
Management of bentgrass cultivars for improved resistance to Fusarium patch under climate change
- 10:30 64002 Díaz-Valderrama, Jorge R.* - Aime, M. Catherine
Conidiogenesis in the cacao pathogen *Moniliophthora roreri* (Marasmiaceae)
- 10:45 64003 Ibrahim, Dr. Muhammad
An alternative approach by using Chinese medicinal plants for management of Verticillium wilt of cotton
- 11:00 64004 Anderson Dos Santos Vieira, Willie* - Guerreiro Lima, Waleria - De Souza Nascimento, Eduardo - Jorge Michereff, Sami - Reis, Ailton - Paz Saraiva Camara, Marcos - Doyle, Vinson
Colletotrichum species associated with banana anthracnose in Brazil
- 11:15 64005 Hambleton, Sarah* - Eggertson, Quinn - Liu, Miao
The rust pathogens of *Rubus* in Canada – identification, nomenclature and DNA-barcoding

- 11:30 64006 Sakalidis, Monique* - Feau, Nicolas - Dhillon, Braham - Hamelin, Richard C.
A tree pathogen- presence, persistence and expansion in a domesticated world
- 11:45 64007 Barasubiye, Tharcisse* - Mack, Jonathan - Seifert, Keith A. - Patrick, Susan - Sivagnanam, Kumaran - Gräfenhan, Tom
Canadian taxa of the *Alternaria* species complex identified by multilocus DNA sequence analysis

10:15 AM - 12:00 PM 65 Contributed Papers Salon 9
Host/Plant Pathogen Interactions and Plant Health Management Session IV -
Chair: Cheryl Trueman; Justin Robson

- 10:15 65001 Dalton, Jill* - Gossen, Bruce - Al-Daoud, Fadi - McDonald, Mary Ruth Pageau, Denis
Decline in the concentration of resting spores of *Plasmiodiophora brassicae* and the effect of crop rotation following a susceptible crop
- 10:30 65002 Robson, Justin* - Gossen, Bruce D. - McDonald, Mary Ruth
Opportunities for use of fumigation / solarisation to manage clubroot in Canada
- 10:45 65003 Thangam, Nimlash
Evaluation of optimum temperature and moisture requirements for *Ascochyta pisi* and *Didymella pinodes*. NT SIVACHANDRA KUMAR, S BANNIZA, Crop Development Centre/Department of Plant Sciences, University of Saskatchewan
- 11:00 65004 Pandey, Sandeep
New approaches to design pathosystem-climate change model for sustainable environment
- 11:15 65005 Trueman, Cheryl* - Loewen, Steve - Goodwin, Paul H.
Acibenzolar-S-methyl and uniconazole effects on bacterial spot and bacterial speck and processing tomato yield
- 11:30 65006 Stephenson, Andrew G.* - Harth, Jacquelyn - Weakland, Danelle - Nowak, Kayla - Ferrari, Matthew
Viral infection negatively impacts the establishment and spread of a powdery mildew in populations of *Cucurbita pepo* ssp. *texana*, mitigating the fitness benefits of a virus-resistant transgene
- 11:45 65007 Tedford, Sherri* - Burlakoti, Rishi - Trueman, Cheryl
Aerobiology and epidemiology of *Cercospora beticola* in Southwestern Ontario

11:00 AM - 12:00 PM S10 *Annals of Botany* Special Lecture The "invisible hand" of floral scent in plant-pollinator interactions
Robert Andrew Raguso Salon

12:00 PM - 1:30 PM PLANTS Luncheon Riverview Room

12:00 PM - 1:30 PM CSA - Annual General Meeting Hall C

12:00 PM - 1:30 PM CSPB - Annual General Meeting Hall B

12:00 PM - 1:30 PM NSF Brown Bag Information Session Salon 12

12:00 PM - 1:30 PM CBA - Annual General Meeting Hall A

1:00 PM - 2:00 PM Exhibitor Luncheon Hall D

1:00 PM - 5:00 PM Mycologia Editorial Meeting Salon 18

1:30 PM - 3:00 PM 66 Contributed Papers Salon 19/20
Conservation Biology II
Chair: Laurie Hamilton

1:30 66001 Walsh, Seana* - Fant, Jeremie - Kramer, Andrea - Cheng, Kevin - Morden, Clifford - Lorence, David
Investigating *ex situ* genetic diversity of a functionally extinct Hawaiian species, *Brighamia insignis* A. Gray (Campanulaceae), to inform future conservation actions

1:45 66002 NegronOrtiz, Vivian
Reproductive ecology of the threatened Miccosukee gooseberry (*Ribes echinellum*): Where have all the seedlings gone?

2:00 66003 Sen, Sandeep - Shivaprakash, Nagaraju* - Aravind, Nilavara A. - Ravikanth, Gudasalamani - Dayanandan, Selvadurai
Ecological niche modeling predicts invasion risks of endemic land snail (*Indrella ampulla*) into Cardamom (*Elettaria cardamomum*) plantations in the Western Ghats biodiversity hotspot in India

2:15 66004 Chandler, Brad James
Innovation vs. Invasion: Innovative Techniques to Assist the Eradication of Weed Populations

WEDNESDAY

- 2:30 66005 Mammides, Christos - Chen, Jin - Corlett, Richard T. - Ewing, Harry T.- Goodale, Uromi Manage - Hariya, Hetal - Xia, Xue - Goodale, Eben Bowditch*
Changes in publication rates and the research productivity of tropical countries in conservation science: implications for inclusive conservation
- 2:45 66006 Hamilton, Laurie
Rare Plant Distribution Modelling: Exploring Environmental Predictor Datasets - A Case Study in Southeast Alberta

1:30 PM - 3:15 PM **67** **Contributed Papers** **Salon 1**
Mycology VII
Chair: Thomas Jenkinson

- 1:30 67001 Jenkinson, Thomas* - Toledo, Felipe - Zamudio, Kelly - Longcore, Joyce - James, Timothy
Population structure of the amphibian-killing chytrid in Brazil is composed of both stable endemic and recently expanded lineages
- 1:45 67002 Lopez-Carrasco, Rosa Angelina* - Gonzalez-Davis, Oscar - Clark-Ordoñez, Isadora
Candida yeast distribution in oral cavity isolates and their sensitivity to Fluconazole and Amphotericin B
- 2:00 67003 Clark-Ordoñez, Isadora* - Mouriño-Pérez, Rosa Reina - Lopez-Carrasco, Rosa Angelina - Gonzalez-Davis, Oscar
Candida spp. molecular epidemiology and antifungal resistance of *Candida* spp. isolated from HIV/AIDS patients
- 2:15 67004 Porras-Alfaro, Andrea* - Sandona, Katrina - Tobias, Terri
Thermophilic fungi in corn grain: Potential implications on grain quality and human health
- 2:30 67005 Reynolds, Nicole* - Tretter, Eric D. - Guardia-Valle, Laia - Cafaro, Matias J. - White, Merlin
Trichomycetes in transition: Phylogenetics and evolutionary trends within the protist order Ichthyophonae
- 2:45 67006 Deaver, Noland* - Hesse, Cedar Nelson - Kuske, Cheryl R. - Porras-Alfaro, Andrea
Entomopathogenic Fungal Communities in Different Horizons of a Temperate Pine Forest Soil
- 3:00 67007 Kielsmeier-Cook, Joshua* - Toapanta, Cristina E. - Ordonez, Maria E. - Blanchette, Robert A.
Amazonian Xylariaceous fungi: exploring the diversity of an important group of tropical decomposers

- 1:30 68001 Devall, Margaret S.* - Berri, Paulo Victor - Spiazzi, Fabio Rodrigues - Hamel, Paul B. - Smith, Carl - Hughes, Steven
 Ecology of the Yazoo National Wildlife Refuge – Mississippi
- 1:45 68002 Beauregard, Frieda* - deBlois, Sylvie
 Decreases in habitat availability at cold edge help explain range limits of temperate forest plants
- 2:00 68003 Stoll, Emily
 Correlation of Quercus species regeneration to edge effects and light availability in Oak-dominated forests
- 2:15 68004 Jones, Jennifer Marie* - Katie, Heineman - James, Dalling
 Variation in bark physical and chemical traits in a wet lower montane tropical forest
- 2:30 68005 Hoffman, Elizabeth* - Landhäuser, Simon M. - Macdonald, Ellen
 Temporal and spatial development of vegetation community patterns on boreal forest surface mine sites reclaimed using salvaged forest floor material
- 2:45 68006 Oyedeji, Ayodele Adelusi* - Kayode, Joshua - Besenyei, Lynn - Fullen, Michael A.
 Phytoremediation potential of selected Nigerian indigenous leguminous tree species on crude oil-contaminated soils: 1. Early growth response and vegetative establishment
- 3:00 68007 Berkov, Amy* - Barrios, Héctor - Pinzon-Navarro, Sara
 Crepuscular wood-borers favor trees with moist wood

- 1:30 69001 Losada, Juan M.* - Bachelier, Julien - Friedman, William
 Seed development in *Austrobaileya scandens*, an angiosperm liana endemic to the Australian tropical rainforest
- 1:45 69002 Srivastava, Renu - Deng, Yan - Quilichini, Teagen - Dong, Haili - Horner, Harry T.* - Howell, Stephen
 Temperature stress protection of pollen formation by the unfolded protein response
- 2:00 69003 Williams, Joseph H.
 Economy, efficiency and the evolution of pollen tube growth rates

- 2:15 69004 Kreisberger, Thomas - Pamperl, Susanne - Chartier, Marion - Manafzadeh, Sara - Handschuh, Stephan - Sontag, Susanne - Paulus, Hannes - Schoenenberger, Juerg - Staedler, Yannick Marc*
X-Rays vision for uncovering reproductive investment in plants as a function of breeding system
- 2:30 69005 Freudenstein, John* - Broe, Michael
Perianth structure in leafless Ericaceae – sepals or bracts?
- 2:45 69006 Hearn, David - Krosnick, Shawn*
Comparative transcriptomics of extrafloral nectaries: a search for homology

1:30 PM - 4:30 PM 70 Contributed Papers Salon 10
 ABLs III
 Chair: Susan Will-Wolf

- 1:30 70001 Mezaka, Anna* - Priede, Agnese - Dobkevica, Linda
Vegetation response to physical and chemical environmental variables in raised bog ecosystems: case study from Latvia
- 1:45 70002 Shaw, Jonathan* - Kyrkjeeide, Magni - Stenøien, Hans - Flatberg, Kjell Ivar - Hassel, Kristian
Biogeography of northern peatmosses (*Sphagnum*)
- 2:00 70003 Bisang, Irene* - Hedenas, Lars
Intraspecific sex ratio variation and its predictors in mosses – the case of the wetland moss *Drepanocladus lycopodioides*
- 2:15 70004 Rose, Jeff* - Kriebel, Ricardo - Sytsma, Kenneth J.
From the Ground Up: Evolution of Shape in the Moss Sporophyte (Bryophyta) and its Implications for Land Plant Diversification
- 2:30 70005 Dal-Forno, Manuela* - Lawrey, James D. - Lucking, Robert
Mycobiont cladogenesis triggered by photobiont speciation: A case study of the *Rhizonema-Cora* lichen symbiosis
- 2:45 70006 D'Artenay, Tamrya Dawn* - Renzaglia, Karen S.
Architecture of the Mature Spermatozoid of *Porella platyphylla* (Porellaceae)
- 3:00 70007 Trest, Marie - Will-Wolf, Susan* - Keuler, Rachel - Shay, Nathaniel - Hill, Karen - Studer, Alyssa - Muench, Andy - Alexander, Zachary Adams, Axel - Dittberner, Leah - Feehan, Martin - Lee, Hannah - Galleguillos-Katz, Nicholas - Zedler, Joy - Graham, Linda - Arancibia-Avila, Patricia
Potential impacts of the southern ozone hole in Chile on lichen communities of *Nothofagus dombeyi* trunks: A pilot study

3:15		Break
3:45	70009	Weerakoon, Gothamie* - Wolseley, Patricia - Aptroot, André - Lucking, Robert - Lumbsch, Thorsten Sri Lanka; Hotspot for the lichen family Graphidaceae
4:00	70010	Howe, Natalie* - Baumgarten, Joni - Dighton, John Influence of lichen mats on forest soils and vegetation patterns
4:15	70011	Schneider, Kevin* - Resl, Philipp - Mayrhofer, Helmut - Spribille, Toby Did cyanobacteria drive early thallus size increases in lichens? Evidence from the origins of <i>Placopsis</i> (Trapeliaceae)

1:30 PM - 5:00 PM **71** **Contributed Papers** **Salon 6**
Population Genetics
Chair: Eric Von Wettberg

1:30	71001	Mardonovich, Sandra* - Tepe, Eric J. - Moore, Richard C. Population structure in <i>Carica papaya</i> in Panamá
1:45	71002	Adal, Ayelign Mengesha* - Demissie, Zerihun A. - Mahmoud, Soheil S. Identification, validation and cross-species transferability of novel <i>Lavandula</i> EST-SSRs
2:00	71003	Jordon-Thaden, Ingrid* - Hayes, Daniel - Boni, Alexandra - Roche, Morgan - Stoughton, Thomas - Martine, Chris Population genetics of an alpine, polyploid, apomict, <i>Draba oligosperma</i> Hook. (Brassicaceae)
2:15	71004	Oleas, Nora H.* - Peñafiel, Nicolás - Minga, Danilo - Francisco-Ortega, Javier - Meerow, Alan W. Population genetics of <i>Phaedranassa cuencana</i> Minga, C. Ulloa & Oleas (Amaryllidaceae), an endemic species of Southern Ecuador
2:30	71005	Martine, Chris* - Roche, Morgan - Boni, Alexandra - Jordon-Thaden, Ingrid Australian <i>Solanum</i> : A model system for evaluating genetic variability in populations of dioecious taxa compared to potentially selfing congeners in sympatry
2:45	71006	Dias, Elisabete Furtado* - Moura, Monica - Schaefer, Hanno - Kilian, Norbert - Silva, Luis Conservation of the highly endangered <i>Lactuca watsoniana</i> : new advances from microsatellite data
3:00	71007	Andrew, Wilson* - Elizabeth, Sheedy - Tom, May - Gregory, Mueller Population genetics of <i>Laccaria</i> sp. A: comparison of microsatellite and SNP data

3:15		Break
3:45	71009	Blischak, Paul* - Kubatko, Laura - Wolfe, Andrea Estimating allele frequencies in non-model polyploids using high throughput sequencing data
4:00	71010	Taerum, Stephen Joshua* - Duong, Tuan A. - de Beer, Z. Wilhelm - Wingfield, Michael J. The worldwide movement of the fungus <i>Leptographium procerum</i> , symbiont of the red turpentine beetle
4:15	71011	Fuller, Ryan Scott* - McGlaughlin, Mitchell E. The Role Of Glacial Oscillatory Demographic Changes In The Central And Southern Rocky Mountains In Shaping The Genetic Structure Of Gunnison's Mariposa Lily
4:30	71012	Brewer, Marin* - Stewart, Jane - Glenn, Travis Extreme genetic diversity in populations of <i>Exobasidium maculosum</i> , an emerging blueberry pathogen
4:45	71013	Mendes-Rodrigues, Clesnan - Marinho, Rafaela - Balao, Francisco - Ortiz, Pedro Luis - Yamagishi, Júlia - Bonetti, Ana Maria - Oliveira, Paulo Eugenio* Ploidy, genome size and breeding mosaics of <i>Eriotheca</i> (Malvaceae-Bombacoideae) in the Brazilian Cerrados

1:30 PM - 5:00 PM **72** **Contributed Papers** **Salon 3**
Biogeography II
Chair: Travis D. Marsico

1:30	72001	Frost, Laura* - Olmstead, Richard Effect of niche conservation versus niche evolution on diversification in the Neotropical plant genus <i>Citharexylum</i> (Verbenaceae)
1:45	72002	Willis, Charles* - Franzone, Brian - Xi, Zhenxiang - Davis, Charles Community assembly meets biogeography: Malpighiaceae and the origin of seasonally dry tropical forests of Mexico
2:00	72003	Tripp, Erin A.* - Lendemer, James - Albert, Barberán - Robert, Dunn - Noah, Fierer Correlates of Lichen Biogeography: Continental-Scale Exploration of Taxon and Trait Distributions Across the United States
2:15	72004	Marsico, Travis D.* - Caron, Jeremy - Carter, Richard - Gillespie, Emily - Krimmel, Erica R. - Lowe, Phillip D. - McCauley, Ross A. - Morris, Ashley - Nelson, Gil - Smith, Michelle - Monfils, Anna The role of small herbaria in contributing to the understanding of biodiversity patterns

- 2:30 72005 Morales-Briones, Diego Fernando* - Tank, David
Divergence time estimates and historical biogeography of the
neotropical genus *Lachemilla* (Rosaceae)
- 2:45 72006 Mathews, Katherine Gould* - Ruigrok, Michelle S. - Mansion, Guilhem
Biogeographical Study of Diversification of Eastern North American
Rose Gentians (*Sabatia*, Gentianaceae) on the U.S. Coastal Plain
-
- 3:00 Break
-
- 3:45 72008 Prather, L. Alan - VanTill, Alex - Chansler, Matt* - Fehlberg, Shannon D.
Ferguson, Carolyn J.
Preliminary analysis of local cytotypic, morphological and ecological
variation in *Phlox amabilis* plants at Table Top Mountain, Arizona
- 4:00 72009 Särkinen, Tiina - Baden, Maria - Gonzáles, Paul J. - Cueva, Marco -
Giacomin, Leandro L. - Spooner, David M. - Simon, Reinhard - Juarez,
Henry - Nina, Pamela - Molina, Johanny - Knapp, Sandra*
A mega-diverse genus in a mega-diverse country: *Solanum* L.
(Solanaceae) in Peru
- 4:15 72010 Allen, Geraldine A.
Phylogeography of arctic-alpine species in western North America: is
there a common pattern?
- 4:30 72011 Edwards, Robert D.* - Crisp, Michael - Cook, Lyn
Species limits in a widespread Australasian monsoon-tropics tree
complex (*Melaleuca leucadendra* group - Myrtaceae) and the role of
multiple biogeographic barriers in differentiation

1:30 PM - 5:00 PM

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Contributed Papers

Salon 9

Phylogenomics II

Chairs: Sarah Mathews and Mark Fishbein

- 1:30 73001 Robert Eaton, Deren Alexander* - Spriggs, Beth - Park, Brian -
Donoghue, Michael
Optimizing RADseq data for deep-scale phylogenomics: an example
from *Viburnum* (Adoxaceae)
- 1:45 73002 Lam, Vivienne K.Y. - Soto Gomez, Marybel - Graham, Sean W.*
The highly reduced plastid genome of mycoheterotrophic *Sciaphila
densiflora* (Triuridaceae) is colinear with its close green relatives and
under strong purifying selection
- 2:00 73003 McLay, Todd* - Doyle, Stephen - Tibbits, Josquin - Bayly, Mike
Resolving the evolutionary history of the Australian grass trees,
Xanthorrhoea, using multiple next-generation sequencing techniques

WEDNESDAY

- 2:15 73004 Villegas-Ramirez, Berenice - Yant, Levi - Xi, Zhenxiang - Webb, Campbell - Mathews, Sarah*
High quality sequence data from poor quality herbarium DNAs through hybridization-based target enrichment
- 2:30 73005 Spies, Christoffel F. J. - Morisson, Hannah - Rintoul, Tara L. - Lévesque, C. André*
Phylogenomic approach to resolve the genus *Pythium* and the order Pythiales
- 2:45 73006 Darby, Hayley* - Merckx, Vincent S.F.T. - Graham, Sean W.
Plastid genome degradation in fully and partially mycoheterotrophic eudicots
-
- 3:00 Break
-
- 3:45 73008 Scott, Alison* - Stenz, Noah - Baum, David A.
Trees on trees: Resolving the hexaploid origin of coast redwood (*Sequoia sempervirens*) with phylotranscriptomics
- 4:00 73009 Gerelle, Wesley* - Lam, Vivienne K.Y. - Wulff, Adrien - Leebens-Mack, James H. - dePamphilis, Claude D. - Wong, Gan Ka-Shu - Graham, Sean W.
Genome evolution in *Parasitaxus usta*, a podocarp conifer with a unique form of heterotrophy
- 4:15 73010 Fishbein, Mark* - Straub, Shannon - Hansen, Kimberley - Cronn, Richard C. - Liston, Aaron
How Many Plastomes Does it Take to Estimate the Matrilineal Phylogeny of *Asclepias*?
- 4:30 73011 Carlsen, Monica Maria
How much plastome data is enough to resolve the backbone of a phylogeny in a rapid radiation of species? The genus *Anthurium* (Araceae) as a case study
- 4:45 73012 Hipp, Andrew L.* - Manos, Paul - McVay, John D. - Cavender-Bares, Jeannine - Gonzalez Rodriguez, Antonio - Romero-Severson, Jeanne - Hahn, Marlene - Brown, Bethany H. - Budaitis, Breane - Deng, Min - Grimm, Guido - Fitzek, Elisabeth - Cronn, Richard C. - Jennings, Tara L. - Avishai, Michael - Simeone, Marco C.
A phylogeny of the world's oaks

Mesozoic and Cenozoic plant evolution and biotic change: A colloquium in honour of Ruth Stockey

Chair: Ashley A. Klymiuk; Selena Y. Smith; Stefan A. Little

-
- 1:30 C6001 Rothwell, Gar W.
Mesozoic and Cenozoic plant evolution and biotic change:
Introduction to a symposium in honor of Ruth Stockey
- 1:45 C6002 Atkinson, Brian A.
Early diverging asterids: Paleontological evidence supporting the
Late Cretaceous diversification of Cornales
- 2:00 C6003 Stull, Gregory* - Adams, Neil - Manchester, Steven - Sykes, Dan -
Collinson, Margaret
Revision of Icacinaceae from the Early Eocene London Clay flora
based on X-ray micro-CT
- 2:15 C6004 Wilf, Peter* - Carvalho, Monica R. - Gandolfo, Maria A. - Cuneo, N.
Ruben
Early Eocene *Physalis* fruits from Patagonia turn back the clock on
evolution of Solanaceae and inflated calyx syndrome
- 2:30 C6005 Herendeen, Patrick* - Doyle, James - Endress, Peter K. - Takahashi,
Masamichi
Fossil magnoliid flower from the mid-Cretaceous Rocky Point
locality, Maryland
- 2:45 C6006 Doyle, James* - Kvaček, Jiří - Daviero-Gomez, Véronique - Gomez,
Bernard - Endress, Peter K.
Pseudoasterophyllites from the mid-Cretaceous of Europe: a link
between *Ceratophyllum* and Chloranthaceae?
- 3:00 C6007 Crepet, William Louis* - Nixon, Kevin - Grimaldi, David - Riccio, Mark
A Mosaic Lauralean flower from the Early Cretaceous of Myanmar
-
- 3:15 Break
-
- 3:45 C6009 Tomescu, Alexandru M.F.
Looking behind the tracheophyte curtain: a renewed focus on the
bryophyte fossil record
- 4:00 C6010 Klymiuk, Ashley A.* - Stockey, Ruth A. - Rothwell, Gar W.
Enclosed seeds from Apple Bay provide insights to Early Cretaceous
gymnosperm diversity

- 4:15 C6011 Herrera, Fabiany* - Shi, Gongle - Leslie, Andrew B. - Knopf, Patrick - Ichinnorov, Niiden - Takahashi, Masamichi - Crane, Peter - Herendeen, Patrick
A Swamp from the Early Cretaceous of Mongolia: Revealing a Conifer-Dominated Forest During the Rise of the Angiosperms
- 4:30 C6012 Smith, Selena Y.* - Little, Stefan A.
A permineralized, conifer-dominated coastal plant assemblage from the Late Cretaceous Western Interior Seaway of Colorado
- 4:45 C6013 Escapa, Ignacio Hernan* - Gandolfo, Maria A. - Nixon, Kevin - Crepet, William Louis
New Cupressaceae sensu lato from the Cretaceous of Raritan Formation (New Jersey, USA): morphology and anatomy of conifer mesofossils in the digital era
- 5:00 C6014 Stockey, Ruth A.* - Atkinson, Brian A. - Rothwell, Gar W. - Buczkowski, Emma - Beard, Graham
A cunninghamioid pollen cone cluster from the Appian Way (Eocene) of Vancouver Island
- 5:15 Discussion

1:30 PM - 3:30 PM D6 Discussion Session Salon 14
Effects Of Environmental Factors On Air-Borne Fungi In Relation To Deterioration Of Museum Specimens
Chair: Shika Noor Munshi

1:30 PM - 2:00 PM D1 Discussion Session Salon 12
Are you being served? What makes you choose journals to read and publish in? A conversation with AJB Editor-in-Chief, Dr. Pamela Diggle and Dr. Theresa Culley

2:30 PM - 3:30 PM S11 Emerging Leader Lecture Hall C
Mechanisms of flower color convergence above and below the species level
Stacey Smith

1:30 PM - 5:30 PM SY17 Symposium Salon 15/16
Phylogenetic approaches to understanding biodiversity and endemism
Chair: P. Roxanne Kellar

1:30 Introduction

1:45 SY17002 Kellar, P. Roxanne* - Ahrendsen, Dakota L. - Aust, Shelly K.
Phylogenetic diversity metrics using high-throughput sequencing: a comparison between Nebraska prairies

2:15	SY17003	Scherson, Rosa Amelia* - Urbina-Casanova, Rafael - Carvallo, Gastón O. - Pinochet, Constanza - Pliscoff, Patricio - Arroyo, Mary T.K. Phylogeny-based biodiversity assessment in the Chilean flora
2:45	SY17004	Miller, Joseph* - Varghese, Temi - Pirzl, Rebecca Integrating phylogenies with biodiversity databases
3:15		Break
3:45	SY17006	Mishler, Brent D.* - Thornhill, Andrew - Knerr, Nunzio - Gonzalez-Orozco, Carlos - Laffan, Shawn - Miller, Joseph Spatial phylogenetics: methods for exploring phylogenetic diversity and phylogenetic endemism on the landscape, with examples from <i>Acacia</i>
4:15	SY17007	Thornhill, Andrew* - Knerr, Nunzio - Gonzalez-Orozco, Carlos - Laffan, Shawn - Mishler, Brent - Miller, Joseph Patterns of diversity and endemism at different phylogenetic scales using examples from the Australian flora
4:45	SY17008	Germain-Aubrey, Charlotte* - Allen, Julie M. - Neubig, Kurt M. - Laffan, Shawn - Guralnick, Robert - Lamy, Thomas - Majure, Lucas - Mishler, Brent - Soltis, Douglas - Ponciano, Jose-Miguel - Abbott, Richard - Soltis, Pamela Using herbarium data for niche modeling to study phylogenetic diversity and endemism of Florida plants
5:15		Discussion

1:30 PM - 5:30 PM **SY18** **Symposium** **Hall A**
Plant Resilience to Climate Challenges
Chair: Geoff Wasteneys

1:30		Introduction
1:45	SY18002	Polle, Andrea* - Wildhagen, Henning - Paul, Shanty - Smith, Hazel - Taylor, Gail - Triboulot, Marie-Beatrice - Nguyen, Ngoc Quynh - Janz, Dennis Wood production under drought stress
2:15	SY18003	Way, Danielle Will climate change exacerbate or mitigate plant drought stress?
2:45	SY18004	Waller, Jeffrey Oceanic resilience: Discovering how marine algae make an "all-in-one" molecule to combat stress
3:15		Break

- 3:45 SY18006 Rosado, Abel
Membrane Contact Sites Plants: Maintaining cellular stability against environmental stresses
- 4:15 SY18007 Roy Choudhury, Swarup - Pandey, Sona*
PLD α 1 is a key component and regulator of G-protein mediated ABA signaling
- 4:45 SY18008 Cutler, Sean
Chemical Control of Plant Water Consumption
- 5:15 Discussion

1:30 PM - 5:45 PM SY19 Symposium Salon 4
The evolutionary importance of polyploidy

Chair: Michael Shane Barker

- 1:30 Introduction
- 1:45 SY19002 Otto, Sarah
The evolutionary consequences of polyploidy
- 2:15 SY19003 Scarpino, Samuel V.* - Levin, Donald A. - Meyers, Lauren Ancel
Polyploid Formation Shapes Flowering Plant Diversity
- 2:45 SY19004 McKain, Michael* - Layton, Daniel J. - Pasquet, Rémy - Schnable, James C. - Estep, Matt C. - Malcomber, Simon T. - Vela Diaz, Dilys - Zhong, Jinshun - Brutnell, Thomas P. - Kellogg, Elizabeth
Dissecting the Shared Allopolyploid History of *Zea* and *Tripsacum*
- 3:15 Break
- 3:45 SY19006 Soltis, Douglas E.* - Soltis, Pamela S. - Pennell, Matthew W. - Harmon, Luke J. - Tank, David
Polyploidy, shifts in diversification and associated changes in characters in angiosperm evolution
- 4:15 SY19007 Barker, Michael Shane
Exploring the Divergent Fates of Polyploid Species
- 4:45 Discussion

3:15 PM - 3:45 PM Coffee Break Hall D

Mycology VIII

Chair: Charles E. Beard

- 3:45 74001 Gaziz, Romina* - Smith, Stephen - Cranston, Karen - Brown, Joseph - Rees, Jonathan - Hibbett, David
Fungi in the Open Tree of Life
- 4:00 74002 Lim, Young Woon* - Lee, Hyun - Park, Myung Soo - Oh, Seung-Yoon - Kim, Jae-Jin - Jang, Yeongseon - Fong, Jonathan J.
Taxonomic re-evaluation of Korean Fungi through Korean Fungal Tree of Life and Barcode projects
- 4:15 74003 Beard, Charles E.* - Adler, Peter H.
Does trichomycete symbiosis with flies (Diptera) follow host phylogeny?
- 4:30 74004 Nguyen, Hai D.T.* - McMullin, David - Ponomareva, Ekaterina - Miller, J. David - Seifert, Keith A.
Ochratoxin A production in *Penicillium thymicola* revealed by mass spectrometry and genomics
- 4:45 74005 Yu, Zhihe* - Hsiang, Tom - Wang, Long - Zeng, Zhaoqing - Yu, Yun - Cheng, Yunfang
Screening molecular markers for *Aspergillus fumigatus* based on comparative analyses of *Aspergillus* genomes
- 5:00 74006 Li, Xiujie Susie* - Yang, Jian - Lange, Ralph
Evaluation of the toxicity of the secondary metabolites produced by *Leptosphaeria maculans* and its levels in Alberta canola

Biological control of diseases and weeds (CFBC)

Chair: Andrew C. Wylie; Gary Peng; Deena Errampalli

- 3:45 75001 Saville, Barry
Biological control and genomics: discussion points for integrating technologies
- 4:00 75002 Chu, Mingguang - Song, Tao* - Yu, Fengqunq - Gossen, Bruce D. - Peng, Gary
The effect of sethoxydim on transcriptome of green foxtail and its potential role in synergizing *Pyricularia setariae* for improved weed control
- 4:15 75003 Wylie, Andrew C.* - Nasir, Atta-ul - Punja, Zamir K.
Assaying the efficacies of a fungal and a bacterial biocontrol agent in the presence of a microbial background

- 4:30 75004 Boyetchko, Susan* - Svircev, Antonet - Zhou, Ting - Audy, Patrice - Hynes, Russell - Cote, Jean-Charles
Promising bacterial antagonists as biopesticides for control of post-harvest diseases of fruits and vegetables
- 4:45 75005 Hannan, Abdul* - Mukhtar, Irum - Riaz, Kashif
Diversity in *Trichoderma harzianum* strains for antagonistic potential against major soil-borne plant pathogens and its mass culturing
- 5:00 75006 Audy, Patrice* - Boyetchko, Susan - Foran, Nicholas - Gravel, Valérie
Can bacterial antagonists be used to complement synthetic fungicides as a control measure against potato late blight?
- 5:15 75007 Xue, Allen* - Chen, Yuanhong - Voldeng, Harvey - Fedak, George - Laenge, Tobias - Zhang, Jinxiu
Effect of ACM941 biofungicide on prevention and control of fusarium head blight in wheat

3:45 PM - 5:30 PM **76** **Contributed Papers** **Salon 11**
Development and Structure III - Vegetative
Chair: John Z. Kiss

- 3:45 76001 Budke, Jessica M.
Comparative cuticle development in morphologically divergent mosses of the Funariaceae
- 4:00 76002 Magellan, Tracy M. - Griffith, M. Patrick* - Tomlinson, P. Barry
Systematic distribution of gelatinous fibers in seedling roots of living cycads
- 4:15 76003 Bachelier, Julien* - Razik, Imran - Sanchez, Fior - Seago, James L.
The root of *Austrobaileya scandens* (Austrobaileyaceae) and its implications for the evolution of root structure and development in seed plants
- 4:30 76004 Doust, Andrew Nicholas* - Mauro-Herrera, Margarita
Phenotypic plasticity and its genetic regulation in the weedy grass *Setaria viridis* (Panicoideae, Poaceae)
- 4:45 76005 Kiss, John Z.* - Vandenbrink, Joshua P. - Edelman, Richard E.
Novel insights into phototropism from experiments on the International Space Station
- 5:00 76006 Granados Mendoza, Carolina* - Isnard, Sandrine - Charles-Dominique, Tristan - Van den Bulcke, Jan - Rowe, Nick P. - Van Acker, Joris - Goetghebeur, Paul - Samain, Marie-Stéphanie
Bouldering: an alternative strategy to long-vertical climbing in root-climbing horticenias

5:15 76007 Mathieu, Millan* - Edelin, Claude
Is architectural analysis efficient for the analysis of all growth forms?

4:00 PM - 5:00 PM	CSHS Incoming Executive meeting	Hall B
4:00 PM - 5:30 PM	CBA - Incoming Executive meeting	Salon 13
4:00 PM - 5:30 PM	CSA - Incoming Executive meeting	Salon 14
4:00 PM - 5:30 PM	CSPB - Incoming Executive meeting	Salon 17
4:00 PM - 5:30 PM	Legacy Society Reception	Riverview Room
5:00 PM - 6:00 PM	ABLS Business meeting	Salon 10
5:30 PM - 6:15 PM	CFBC AGM	Salon 6
5:30 PM - 6:30 PM	Paleobotanical Section Business Meeting	Salon 1
5:30 PM - 7:00 PM	Plant Canada Incoming Board Meeting	Riverview Room

6:00 PM - 6:30 PM S12 Address of the BSA President-Elect
The International Botanist
Richard Olmstead

6:00 PM - 10:00 PM	MSA Awards Ceremony, Banquet and Auction	Salon 8
7:00 PM - 8:00 PM	Plant Canada - Reception	Salon 12
7:00 PM - 10:00 PM	Celebrate! All Society Awards Reception	Hall D

THURSDAY, JULY 30TH

6:00 AM - 12:00 PM

Botany 2015 Conference Office

D-2 Office

7:00 AM - 9:00 AM

Field Trip Continental Breakfast

Hall D Foyer

8:00 AM - 12:00 PM

BSA Board Meeting

Riverview Room

- A**
- Abbott, J. Richard 18005
 Abbott, Richard 50009, 61010, PSY030, SY17008
 Abdel-Wahab, M.A. 40004
 Abdul, Suleiman Dangana PPA021, PPA032
 Abdulmajeed, Awatif PBA004
 Abdusalam, Aysajan 13004
 Abel, Josh PEC015
 Abeywickrama, Gihan PHO007
 Abouelsaad, Ibrahim PBA011
 Aboukhaddour, Reem 46003
 Achicanoy, Harold C. 4014
 Acosta, Johnsua PPG007
 Adal, Ayelign Mengesha 71002
 Adams, Axel 70007
 Adams, Catharine PMY022, PPA022
 Adams, Catrina D4001
 Adams, Gretchen TE13001
 Adams, Keith 6007, 61006
 Adams, Neil C6003, SY14004
 Ade-Ademilua, Omobolanle Elizabeth 30007
 Adenegan-Alakinde, Taiwo A. PSY020
 Adhikary, Dinesh 48011
 Adler, Peter H. 74003
 Adolf, Jason 19010
 Adongbede, Erute PEN004
 Aga, Amsalu Ayana 37011
 Aguirre-Santoro, Julian 31004
 Aghedor, Adjoa R. 47012
 Ahmad, Habib 63002
 Ahmed Wahocho, Dr. Niaz 6006
 Ahmed, Hafiz U. PPA001, PPA025
 Ahmed, Hasan 37004
 Ahmed, Zaheer 43001
 Ahn, Yul Kyun PPY005
 Aho, Ken PSB006
 Ahrendsen, Dakota L. SY17002
 Ai, Xunru C3004
 Aime, M. Catherine 36002, 56001, 56007, 64002, PMY011, PMY030
 Akhavan, Alireza 46004
 Akinloye, Akinwumi Johnson 4004
 Akinnubi, Funmilola Mabel 4004
 Al-Daoud, Fadi 65001, PPA002
 Al-Mughrabi, Khalil PPA029
 Al-Shehbaz, Ihsan C2002, C2003
 Al-Tobasci, Rafet Faeq PGP010
 Alam, Zobayer PHO003
 Alber, Nicole 20007
 Albert, Barberán 72003
 Alexander, Trevor 55002
 Alexander, Zachary 70007
 Alford, Betsy 4009
 Ali, Kishwar 63002
 Ali, Shawkat PPA019
 Alicia, Magedman 25006
 Alkhnajari, Aisha PGP005
 Allen, Geraldine A. 72010
 Allen, Jessica 63005, 63006, PBR011
 Allen, Julie M. 61010, SY17008
 Allen, R. PHO006
 Allen, Sarah 15001
 Allen, W. Cavan PMY032
 Almasi, Eva PMY004
 Almatruk, Maa PMY054
 Almada, Frank 19009
 Almeida, Ana 42002
 Almonte, Jesus PEC028
 Alsahame, Mona PEP005
 Altartouri, Bara SY10003
 Althoff, David C4004
 Alvarenga, Lisi 38009
 Alves, Cecilia Ventura PBG002
 Amaya-Marquez, Marisol 47002
 Ambrose, Barbara SY02004
 Ambrose, Chris 58004, PCL010
 Ameida, Wanessa Rejane PEC019
 Amend, Anthony Stuart 35014
 Ament Velásquez, Sandra Lorena 38004
 Ames, Mercedes 33014
 Ames, Nancy SY01006
 Amma, Sarasa PME002
 Ammon, Corl SY13007
 Amyot, Lisa 48003, PGP011
 An, Nan 26007
 Anbarchian, Teni 51013
 Anctil, Félícia PPA016
 Andersen, Ethan PGP008, PGP012
 Anderson Dos Santos Vieira, Willie 64004
 Anderson, Kurt 7004
 Andrade, Janete PEC019
 Andrew, Mary J. 60014, SY14004
 Andrew, Sharpe PGN018
 Andrew, Wilson 71007
 Ane, Cecile PGP006
 Anguraj Vadivel, Arun Kumaran 48002, PCL006
 Annis, Jenna 13001, 52008
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 Anstett, Daniel 16003
 Anttila-Suarez, Carina SY04SUM
 Anyia, Anthony 7003
 Aoki, S. 35015
 Appelhans, Marc 59001
 Aptroot, André 70009
 Arancibia-Avila, Patricia 70007
 Arango-Velez, Adriana PGN008
 Araujo, Francis PGP013
 Araujo, Nayara PDS002, PEC019
 Aravind, Nilavara A. 66003
 Arbizu, Carlos 49005
 Archangelsky, Ana 28002
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 Arif, Muhammad PBC008
 Arigundam, Usha 14004, PHO004
 Ariyo, Olusesan Ayodele PBR001
 Arlinghaus, Kellen R. PPG007
 Armbruster, W. Scott C4009
 Armstrong, Joseph E. 9004
 Arnason, John Thor SY01008
 Arnold, A. Elizabeth 40005, 51011, PMY014
 Arnstadt, Tobias PMY043
 Arroya, Mary T. K. 33014
 Arroyo, Juan M. SY15004
 Arroyo, Mary T.K. SY17003
 Arshad, Muhammad 7013
 Arthur, Peter SY04004
 Asahl, Derick PEC024
 Asemaninejad, Asma 35013
 Asencio, M. Dolores SY13004
 Ashman, Tia-Lynn 3009, PEC020, PEC036
 Askarian, Homa 46004
 Asrar, Mudassir 4002
 Asselman, Pieter PSY014
 Atkinson, Brian A. C6002, C6014
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 Attigala, Lakshmi 50013
 Audi, Auwalu H. 53009
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 Aung, Banyar 48003
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 Auxier, Benjamin 12005, PMY063
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 Axsmith, Brian J. 24001
 Aydogan, Abdulkadir 4009
 Ayele, Belay T. PPS003, PPS006
 Ayers, Tina 6011
 Aygoren Uluer, Deniz 5007
 Ayyampalayam, Raj C1002, C1015
 Azad, Kumkum 51010
 Ågren, Jon 8012

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- Babalola, Sadat 21011, 52009
Babel, Cherylun PGN019
Bachelier, Julien 69001, 76003,
C3004
Backer, Rachel PEP003
Baden, Maria 72009
Baeza, Carlos M. 60002, 60006
Baghai-Riding, Nina Lucille
PPB002
Bagnell, S. Bruce PBR005
Bahrami, Shirin PEP004
Bai, Mei 58006
Bailes, Emily 3003
Bailey, C. Donovan 39001
Baker, Robert (rob) L. 26007,
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Baker, William 50001
Bakker, Cathy PPA034
Bakkeren, Guus 57004, PPA018,
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Baldwin, Bruce G. 31011, 60010
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Baltrus, David A. 40005
Bamba, M. 35015
Bandala, Victor M. PMY008
Bandara, Ridma PEC026
Baniaga, Anthony Ernest-
Fiorentino 6003
Banik, Pankaj Kumar 7007
Banniza, Sabine 32012
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Barasubiye, Tharcisse 64007,
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Barbé, Marion 38008
Barkay, Tamar PEC013
Barker, Michael 6003, SY19SUM
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Barkworth, Mary E. 4001, 34010,
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Barnes, Charles W. PMY001,
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Baron, Vern 62008
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Barrios, Beyte 52003, PEC018
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Bart, Henry 59013
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Bartz, Cheyenne PHS003
Basham, M. Anne PPB008
Basinger, James 51010
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Basu, Urmila PGP016
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Baum, David A. 32009, 73008,
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Bauters, Kenneth PSY014
Baxter, David WS05001
Bayly, Mike 73003
Bazin, Ron 56006
Bazzicalupo, Anna L. 56003
Beard, Charles E. 74003
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Beattie, Aaron PBA010
Beatty, Perrin 20004
Beaulieu, Jeremy M. 2008
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Beauregard, Frieda 68002
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Bell, Clint PEN005
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Bellino, Alessandro 36005
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Belnap, Jayne PMY015, PMY042
Beltz, Shannon B. PGP001
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Bennert, Jeff PEN005
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Bergmann, Hans 16001
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Bernau, Vivian 4014
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Best, Hannah L. PEC031, PRP004
Bever, James D. 22006
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Bien, Walter F. 31010
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Bilodeau, Guillaume J. 57001
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Bippus, Alexander Cole 1001
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Bishop, Gary A. PHO001
Bisht, Vikram PPA023
Bitencourt, Cássia 61005
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Bjork, Curtis R. PBR012
Blade, Stan 14001
Blair, Charles E. 9011, PEC033
Blake, Jennifer 34013, 35003
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Bode, Gwen PPH002
Boerger, Ellen PEC011
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Bombarely, Aureliano 6002
Bonants, Peter J. M. 57001
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Bornstein, Allan J. 33012
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Bors, Bob 18012, 30003
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Boubakir, Zakia 51007
Bouchard, Hugo SY07007
Boudaoud, Arezki SY10006
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Bousios, Alexandros 39004
 Bouyi, Danius PEN005
 Bowen, Anna 44003
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 Bowness, Robyne 37006, 37008,
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- Villanueva-Amadoz, Uxue 24006
- Villaverde, Tamara PPY002
- Villegas-Ramirez, Berenice 73004
- Villegente, Matthieu C1015
- Vinson, Christina C. PBG005,
PPG004
- Visser, Clayton 39008
- Visser, Natasja PEN002
- Vitt, Dale H. 21001, 21003,
PBC002, PEC015, SY03007,
SY03SUM, SY07002
- Vizelka, Jason 8005
- Vlasák, Josef PMY003
- Vlot-Schuster, Corina SY05002
- Voldeng, Harvey 75007, PGN001
- Volk, Thomas 44002, 51006,
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- Von Balthazar, Maria 3003, 26005,
SY06008
- Von Konrat, Matt 16009
- Von Tiedemann, Andreas PPA007
- Von Wettberg, Eric 4009
- Vos, Rutger 35012
- Vossen, Tessa Eveline PHS001

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27002, PRP009
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Wagner, Nicole SY09006
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Walck, Ji 52011
Walker, Allison PMY058
Walker, Donald M. PMY058
Walker, Jay 47003
Walker, Jay 47004
Walker, Joan PPA030
Walker, Rachel 7004
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Waller, Jeffrey SY18004
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Walsh, Seana 66001
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Wang, Li PBC005
Wang, Long 74005
Wang, Matthew Yu-Wei PGP010
Wang, Meina 3002
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Wang, Song PCB008
Wang, Xiben 57004, PPA018,
PPA020
Wang, Xin 3001, 3002
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Wang, Yinghao 63010
Wang, Zheng 26008
Wang, Zhishuo PGP011
Wark, Krystal 58003
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Warnow, Tandy 40004, C1002,
C1015
Warschelsky, Emily 4009
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Wasteneys, Geoffrey O. 58003,
58005, PCL002, PCL004,
PCL005, PDS010, SY18SUM
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Waterman, Sasha PPA013
Waterway, Marcia J. PSY015,
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SY15SUM
Watkins, James PEP007
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Weekley, Carl W. 52001
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Weiblen, George WS08A001
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Wen, Jun 5002, 5003, 59001,
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Wendel, Jonathan 32009
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Wenzel, Aaron 47006
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Weselake, Randall J. 27004, 27005,
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Note: Author's names appear as they are submitted

Mixers, Meetings and Special Events

Saturday

7:00 AM	9:00 AM	Field Trip Continental Breakfast.....	Hall D Foyer
7:00 AM	9:00 AM	Continental Breakfast.....	Hall D Foyer
7:00 AM	12:00 PM	Field Trips Leave and Return	Hall D Foyer
9:00 AM	2:00 PM	MSA Council meeting.....	SCC Board Room
12:00 PM	1:00 PM	Field Trips Leave and Return	Hall D Foyer
7:00 PM	10:00 PM	BSA Board Meeting and Dinner.....	Salon 2
7:00 PM	10:00 PM	CPS - Financial Advisory Dinner.....	SCC Board Room

Sunday

7:00 AM	9:00 AM	Field Trip Continental Breakfast.....	Hall D Foyer
7:00 AM	9:00 AM	Continental Breakfast.....	Hall D Foyer
8:00 AM	12:00 PM	Botany in Action Service Project	Hall D Foyer
8:30 AM	2:00 PM	ASPT Council Meeting	Salon 2
8:00 AM	9:00 AM	BSA Investment Committee.....	SCC Board Room
9:00 AM	10:00 AM	BSA Financial Advisory	SCC Board Room
9:00 AM	3:00 PM	CPS Outgoing Board Meeting.....	Salon 16
2:00 PM	3:00 PM	BSA Publications Committee.....	Salon 18
10:00 AM	11:00 AM	BSA Public Policy Committee.....	SCC Board Room
11:00 AM	12:00 PM	BSA International Affairs.....	Salon 4
3:15 PM	5:00 PM	BSA Council Meeting.....	Salon 9
3:15 PM	5:15 PM	Non-academic Botanical Career Panel	Salon 12
5:00 PM	6:00 PM	BSA Development Committee.....	SCC Board Room
10:00 AM	12:00 PM	BSA Education Committee.....	Salon 1
11:00 AM	12:00 PM	BSA Technology Committee.....	SCC Board Room
11:00 AM	12:00 PM	Human Diversity in Botany.....	Salon 18
12:00 PM	1:30 PM	Mycologia Executive Editors	Salon 1
4:00 PM	5:00 PM	Student Conference Assistants Orientation	Hall A
4:00 PM	5:00 PM	Plant Canada Outgoing Board meeting.....	Salon 16
4:00 PM	5:00 PM	Plant Canada Outgoing Board meeting.....	Salon 16
5:00 PM	6:00 PM	MSA Student Section Board Meeting	Salon 20
5:30 PM	7:00 PM	PLANTS Student and Mentor Orientation Meeting	Salon 2
5:30 PM	7:00 PM	CBA - Outgoing Executive meeting	Salon 6
5:30 PM	7:00 PM	CSA - Outgoing Executive meeting	Salon 16
5:30 PM	7:00 PM	CSPB - Outgoing Executive meeting.....	Salon 18
8:00 PM	10:00 PM	All Society Mixer	Hall D

Monday

7:00 AM	8:00 AM	Cornell Botanists and Friends Breakfast	Salon 12
7:00 AM	8:00 AM	President's Breakfast Meeting and Discussion.....	SCC Board Room
7:00 AM	8:00 AM	Michigan Consortium of Botanists Breakfast.....	Salon 19/20
7:00 AM	8:30 AM	Continental Breakfast.....	Hall D Foyer
7:00 AM	8:00 AM	Plant Canada Breakfast/Workshop.....	Riverview Room
9:00 AM	10:00 AM	Spouse/Companion Breakfast.....	Riverview Room
10:30 AM	11:30 AM	MSA Business Meeting	Salon 8
12:00 PM	1:30 PM	APPS Editorial Board Meeting -Luncheon ..	SCC Board Room
12:00 PM	1:30 PM	CBA/Teaching Section Luncheon.....	Hall A
2:00 PM	3:00 PM	Southern Eastern Section Business Meeting.....	SCC Board Room
4:00 PM	5:30 PM	Economic Botany Business Meeting	SCC Board Room
6:00 PM	10:00 PM	Paleo Banquet Mixer and Banquet	University of Alberta
7:00 PM	9:00 PM	ABLS Executive Committee Meeting.....	SCC Board Room
7:00 PM	9:00 PM	Herbarium Curators meeting.....	Salon 19/20
8:00 PM	9:00 PM	SHC All-Members Meeting.....	Salon 6
9:00 PM	11:59 PM	Student Social and Networking Event.....	Craft Brewery

Mixers, Meetings and Special Events

Tuesday

7:00 AM	8:00 AM	AJB Editors Breakfast.....Riverview Room
7:00 AM	8:00 AM	University of Connecticut Breakfast Salon 8
7:00 AM	8:30 AM	Continental Breakfast.....Hall D Foyer
7:00 AM	8:00 AM	Program Directors Breakfast.....SCC Board Room
11:30 AM	12:00 PM	Tropical Biology Section business meeting ..SCC Board Room
12:00 PM	1:30 PM	BSA Teaching Section Meeting..... Salon 9
12:00 PM	1:30 PM	Physiological Section Meeting Salon 16
12:00 PM	1:30 PM	CBA/Development Section Meeting.....Hall A
12:00 PM	1:30 PM	CBA/Ecology Section Meeting.....Hall C
12:00 PM	1:30 PM	CBA/Mycology Section MeetingHall A
12:00 PM	1:30 PM	CBA/Systematics Section MeetingHall C
12:00 PM	1:30 PM	CPS - Annual General Meeting Hall B
12:00 PM	1:30 PM	CSSH Annual General Meeting.....Hall B
4:00 PM	4:30 PM	Historical Section Annual Meeting..... Salon 14
4:45 PM	5:30 PM	BSA Members MeetingSalon 17/18
5:30 PM	6:15 PM	ASPT/Systematics Section Business Meeting..... Salon 3
5:30 PM	6:30 PM	Ecological Section Business Meeting Salon 6
6:00 PM	7:30 PM	Development and Structure Mixer and Meeting..... Hall B
6:30 PM	7:30 PM	ASPT Mixer Salon 11
7:30 PM	10:00 PM	ASPT Banquet Salon 12
7:30 PM	11:59 PM	CSPB - Mixer (members only).....Riverview Room

Wednesday

7:00 AM	8:00 AM	Miami of Ohio Breakfast.....Riverview Room
7:00 AM	8:00 AM	University of Wisconsin Breakfast.....Riverview Room
7:00 AM	8:30 AM	Continental Breakfast.....Hall D Foyer
7:00 AM	8:00 AM	CPS Incoming Board meeting.....SCC Board Room
7:00 AM	8:00 AM	Genetics Section Business Meeting Salon 12
12:00 PM	1:30 PM	CBA - Annual General MeetingHall A
12:00 PM	1:30 PM	CSA - Annual General Meeting.....Hall C
4:00 PM	5:30 PM	CSPB - Annual General Meeting.....Hall B
4:00 PM	5:30 PM	CBA - Incoming Executive meeting..... Salon 13
4:00 PM	5:30 PM	CSA - Incoming Executive meeting..... Salon 14
4:00 PM	5:30 PM	CSPB - Incoming Executive meeting..... Salon 17
4:00 PM	5:00 PM	CSSH Incoming Executive meeting Hall B
4:00 PM	5:30 PM	Legacy Society Reception Riverview Room
5:00 PM	6:00 PM	ABLS Business meeting..... Salon 10
5:30 PM	6:30 PM	Paleobotanical Section Business Meeting..... Salon 1
5:30 PM	6:15 PM	CFBC AGM Salon 6
5:30 PM	7:00 PM	Plant Canada Incoming Board meeting..... Riverview Room
6:00 PM	10:00 PM	Plant Canada Reception..... Salon 12
6:00 PM	10:00 PM	MSA Banquet and Auction..... Salon 8
7:30 PM	10:00 PM	Celebrate!.....Hall D

Symposia, Colloquia and Special Lectures

Sunday

7:30 PM 8:30 PM Plenary Lecture Hall C

Monday

8:00 AM 12:00 PM Plant Secondary Chemistry: from Biochemistry to Applications Hall C

8:00 AM 12:00 PM A Broader view for Plant EvoDevo: novel approaches for diverse model systems Salon 11

8:00 AM 12:00 PM Ecological and evolutionary attributes of bryophytes of the boreal and arctic regions: New paradigms from interdisciplinary research.....Salon 10

8:00 AM 12:15 PM Phylogenomics and the 1000 plants (1KP) initiative.....Salon 4

8:00 AM 9:00 AM MSA Presidential Address Salon 8

9:15 AM 10:15 AM Karling Lecture..... Salon 8

11:00 AM 12:00 PM Regional Botany Special Lecture..... Hall A

1:30 PM 5:30 PM Recent advances in phylogeny and systematics of Brassicaceae .Salon 8

1:30 PM 5:30 PM Blended Learning and Educational Technology to enhance Biology Salon 4

1:30 PM 5:45 PM Morphospaces, Morphometrics, and Phylogenetics Salon 10

1:30 PM 5:30 PM Basic and applied approaches to improve disease resistance in plants Salon 2

4:00 PM 4:45 PM Pelton Award Lecture - Hawes Hall A

5 PM 5:30 PM Pelton Award Lecture - Hasebe..... Hall A

8:00 PM 9:00 PM Weresub Special Lecture Hall C

Tuesday

8:00 AM 12:00 PM Ecological impacts and restoration of industrialsites: roles of bryophytes and graminoid vascular plantsHall C

8:00 AM 12:00 PM Underutilized Crops for Secure and Green Futures..... Salon 17/18

8:00 AM 12:00 PM What can Next Generation Fungal Genome Sequencing do for you? Salon 3

8:30 AM 11:15 AM Celebrating More Than Three Decades of Research in Nymphaeales: A Colloquium Honoring Ed SchneiderSalon 12

12:00 PM 1:30 PM Enhancing Scientist Diversity in Plant Biology Luncheon Riverview Room

1:30 PM 5:30 PM Desiccation tolerance in bryophytes: perspectives from early career scientists.....Salon 8

1:30 PM 5:30 PM The rise and fall of photosynthate: Evolution of plant/fungus interactions from paleobotanical and phylogenomic perspectives Hall A

Symposia, Colloquia and Special Lectures

1:30 PM	5:30 PM	Coevolution/Mutualisms	Hall C
1:30 PM	5:00 PM	Advances in Modelling Plant Development.....	Salon 13
4:00 PM	5:00 PM	Kaplan Memorial Lecture	Salon 12
4:00 PM	5:00 PM	CD Nelson Lecture	Salon 11

Wednesday

8:00 AM	12:00 PM	Forest Tree Responses to a Changing Climate.....	Hall A
8:00 AM	12:00 PM	Lab Bench to Boardroom: Developing Plant Science Ideas	Salon 10
8:00 AM	12:00 PM	Mesozoic and Cenozoic plant evolution and biotic change: A symposium in honour of Ruth Stockey	Salon 5
8:00 AM	12:00 PM	Ecological diversification and niche evolution in the temperate zone's largest genus: <i>Carex</i>	Salon 11
8:00 AM	12:00 PM	The negotiated surveillance of parts and wholes: a symbioses-centered perspective on plant biology research	Salon 4
11:00 AM	12:00 PM	Annals of Botany Special Lecture	Salon 12
1:30 PM	5:30 PM	Phylogenetic approaches to understanding biodiversity and endemism.....	Salon 15/16
1:30 PM	5:30 PM	Plant Resilience to Climate Challenges.....	Hall A
1:30 PM	5:45 PM	The evolutionary importance of polyploidy	Salon 4
1:30 PM	5:30 PM	Mesozoic and Cenozoic plant evolution and biotic change: A colloquium in honour of Ruth Stockey.....	Salon 5
2:30 PM	3:30 PM	Emerging Leader Lecture.....	Hall C
6:00 PM	6:30 PM	Address of the BSA President-Elect	Hall A

Contributed Paper Session

Monday

8:00 AM	9:45 AM	1 Cookson Awards I	Salon 5
8:00 AM	11:00 AM	2 Reproductive Biology Oral papers	Salon 1
8:00 AM	11:45 AM	3 Macroevolution.....	Salon 3
8:00 AM	12:00 PM	4 Economic Botany: Contributed Papers	Salon 2
8:00 AM	12:00 PM	5 Basal eudicots, Fabids I.....	Salon 9
8:00 AM	12:15 PM	6 Genetics I.....	Salon 15/16
8:00 AM	1:30 PM	7 Biotic and Abiotic Stress: Morning Session	Salon 13/14
8:15 AM	12:00 PM	8 Pollination Biology I.....	Salon 6
8:30 AM	11:30 AM	9 Ecological Section: Invasion Biology	Salon 17/18
10:15 AM	11:30 AM	10 Pteridological Section/AFS Talks	Salon 20
10:15 AM	12:00 PM	11 Cookson Award II.....	Salon 5
1:30 PM	3:00 PM	12 Mycology I.....	Salon 1
1:30 PM	3:15 PM	13 Pollination Biology II	Salon 6
1:30 PM	3:15 PM	14 Horticulture I	Salon 19/20
1:30 PM	3:15 PM	15 Cookson Awards III.....	Salon 5
1:30 PM	4:15 PM	16 ABLI I	Salon 11
1:30 PM	5:00 PM	17 Genetics II.....	Salon 15/16
1:30 PM	5:00 PM	18 Systematics - Hybrids & Hybridization I.....	Salon 3
1:30 PM	5:15 PM	19 Fabids II, Malvids, Asterids I.....	Salon 9
1:45 PM	4:45 PM	20 Biotic and Abiotic Stress: Afternoon Session	Salon 13/14
1:30 PM	5:00 PM	21 Ecological Section: Functional Trait Responses	Salon 17/18
3:45 PM	5:30 PM	22 Mycology II.....	Salon 1
3:45 PM	5:30 PM	23 Horticulture II	Salon 19/20
3:45 PM	5:30 PM	24 Mesozoic	Salon 5

Tuesday

8:00 AM	9:45 AM	25 Ecophysiology I - Focus on xylem and climate	Salon 16
8:00 AM	10:00 AM	26 Evolution of Development I	Hall B
8:00 AM	9:45 AM	27 Metabolic Biochemistry-I.....	Hall A
8:00 AM	9:45 AM	28 Upper Cretaceous, Cenozoic, and recent	Salon 13
8:00 AM	10:15 AM	29 Mycology III	Salon 1
8:00 AM	11:00 AM	30 Phytochemical Section: chemistry, biochemistry and environmental interactions	Salon 13
8:00 AM	11:30 AM	31 Cooley Awards I.....	Salon 4
8:00 AM	11:45 AM	32 Phylogenomics I.....	Salon 11
8:00 AM	11:45 AM	33 Pteridophytes, Gymnosperms, Basal angiosperms, Monocots I.....	Salon 10
8:00 AM	12:00 PM	34 Teaching Section I.....	Salon 9
8:00 AM	12:00 PM	35 Ecological Section: Population Biology	Salon 6
8:00 AM	12:00 PM	36 Symbioses: Plant, Animal, and Microbe Interactions I	Salon 5
8:10 AM	12:00 PM	37 Production Agronomy and Breeding Advancements.....	Salon 2
8:30 AM	11:30 AM	38 ABLs II.....	Salon 8
9:00 AM	12:00 PM	39 Genomics/Proteomics I	Salon 19/20
10:15 AM	12:00 PM	40 Mycology IV	Salon 1
10:15 AM	12:00 PM	41 Ecophysiology II - Focus on leaves and roots.....	Salon 16
10:15 AM	12:00 PM	42 Evolution of Development II - Esau award talks	Hall B
10:15 AM	12:00 PM	43 Metabolic Biochemistry-II	Hall A
1:30 PM	3:15 PM	44 Teaching Section II	Salon 9
1:30 PM	3:15 PM	45 Development and Structure I - Esau award talks	Salon 11
1:30 PM	3:15 PM	46 Host/Plant Pathogen Interactions and Plant Health Management Session I.....	Salon 2
1:30 PM	4:45 PM	47 Asterids II.....	Salon 3
1:30 PM	5:00 PM	48 Genomics/Proteomics II.....	Salon 19/20
1:30 PM	5:15 PM	49 Cooley Awards II/Hybrids & hybridization II.....	Salon 4
1:30 PM	5:15 PM	50 Monocots II	Salon 10
1:30 PM	5:30 PM	51 Symbioses: Plant, Animal, and Microbe Interactions II.....	Salon 5
1:45 PM	5:00 PM	52 Ecological Section: Reproductive Ecology	Salon 6
2:00 PM	4:30 PM	53 Physiological Section Contributed Papers	Salon 16
3:00 PM	4:00 PM	54 Historical Section.....	Salon 14
3:15 PM	5:30 PM	55 Host/Plant Pathogen Interactions and Plant Health Management Session II	Salon 2

Wednesday

8:00 AM	9:45 AM	56 Mycology V.....	Salon 1
8:00 AM	10:15 AM	57 Host/Plant Pathogen Interactions and Plant Health Management Session III.....	Salon 9
8:00 AM	11:15 AM	58 Cell Biology Oral Papers.....	Salon 17
8:00 AM	11:45 AM	59 Biogeography I.....	Salon 3
8:00 AM	11:45 AM	60 Asterids III.....	Salon 2
8:00 AM	12:00 PM	61 Molecular Ecology and Evolution.....	Salon 15/16
8:10 AM	12:00 PM	62 Sustainable Production and Cropping Systems.....	Salon 8
8:15 AM	11:45 AM	63 Conservation Biology I.....	Salon 19/20
10:15 AM	12:00 PM	64 Mycology VI.....	Salon 1
10:15 AM	12:00 PM	65 Host/Plant Pathogen Interactions and Plant Health Management Session IV.....	Salon 9
1:30 PM	3:00 PM	66 Conservation Biology II.....	Salon 19/20
1:30 PM	3:15 PM	67 Mycology VII.....	Salon 1
1:30 PM	3:15 PM	68 Ecological Section: Forest Ecology.....	Salon 8
1:30 PM	3:15 PM	69 Development and Structure II - Reproductive.....	Salon 11
1:30 PM	4:30 PM	70 ABLs III.....	Salon 10
1:30 PM	5:00 PM	71 Population Genetics.....	Salon 6
1:30 PM	5:00 PM	72 Biogeography II.....	Salon 3
1:30 PM	5:00 PM	73 Phylogenomics II.....	Salon 9
3:45 PM	5:30 PM	74 Mycology VIII.....	Salon 1
3:45 PM	5:30 PM	75 Biological control of diseases and weeds (CFBC).....	Salon 2
3:45 PM	5:30 PM	76 Development and Structure III - vegetative.....	Salon 11

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