

ISA Annual International Conference & Trade Show

5–8 August 2018

Columbus, Ohio (US)

with ITCC
3–5 August

ONSITE GUIDE

www.isa-arbor.com/2018conference



#ISAcolumbus, #ITCCcolumbus



So much to discover

Welcome to Columbus!



On behalf of the Ohio Chapter ISA, let me be among the first to welcome you to the ISA Annual International Conference and Trade Show. We hope you will feel at home in the Buckeye State's capital—Columbus—the center for cultural activity, parks, performances, eateries, and so much more.

While you are in Columbus, I hope that you can make time to discover the city. Columbus is full of fascinating and fun neighborhoods all within a short walk of downtown. Walk a couple blocks west and you will find the Scioto River. Now known as the Scioto Mile, this 33-acre project turned downtown Columbus into a riverfront parkland featuring a 15,000-square-foot fountain, a free outdoor climbing wall, and a stage that hosts dance, music, and theater performances throughout the year. If you need to stretch your legs, several hiking trails skirt the Scioto River.

On the other side of the Scioto River is the Center of Science and Industry (COSI). This state-of-the-art science museum and research center operates the largest outreach education program of any science museum in the United States.

Shoppers will want to plan their time in Columbus carefully, as there are several distinct cultural districts that qualify as must-see souvenir stops. For example, the Short North Arts District on the north end of the convention center is an artsy downtown enclave with a reputation as a gallery hub.

Walk out the front entrance of the convention center and across the street to find this hidden gem on the edge of the Arena District known as the North Market. This authentic public market is home to dozens of unique, independent merchants and farmers who deliver personable service every day of the week.

You can't get very far in this town without running into evidence of Columbus's original German population, who (like other Bavarian settlers in the Midwest) happened to have a penchant for beer making. The Columbus Ale Trail showcases 37 of the city's best taprooms and most enjoyable rooftop patios.

Located just south of downtown, German Village is one of the most atmospheric neighborhoods in the Midwest. Originally built by German settlers in the mid-1800s, the restored brick houses, shops, streets, and sidewalks are full of historic charm and modern swank. Accessible via the Scioto Trail from downtown, the Scioto Audubon Center is a 120-acre respite for birds and people alike, with a stellar view of Columbus' skyline from the German Village angle. Immediately west of German Village is the Brewery District. Originally built by the same German settlers, this was an industrial hub of the city's historic beer scene and is now full of lively entertainment and dining options.

Although downtown Columbus is very walkable, this city is lucky to be home to numerous transportation options. The bus system, Central Ohio Transit Authority (COTA), will get you wherever you want to go. Best of all, take advantage of the free downtown circulator, CBUS, that runs every 10–15 minutes from the Short North Arts District to the Brewery District.

Most importantly, I personally invite you to Toast with the Host, the party for everyone on Tuesday evening. Preceded by the TREE Fund's Buckeye Bash, both parties will be held at the Park Street Cantina located directly behind the North Market. Dress casual and bring your FREE drink tickets to this exciting and laid-back atmosphere featuring an outdoor patio, sports bar, music, and prizes.

There is so much to see and do that I cannot begin to cover it all. We have many pleasant surprises around every corner, and I hope you can stay to look around. If you have any questions or need ideas, ask an Ohio Chapter volunteer; they will be happy to direct you.

Enjoy your stay, and I look forward to meeting you Tuesday night at the party, if not before.

Shirley Vaughn

Shirley Vaughn
2018 ISA Local Committee Chair



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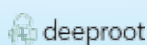
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Things to Know

- Please wear your name badge during all ISA conference events.
- Continue the conversation at the Meet the Presenters area located just outside of Exhibit Hall A.
- Provide feedback on presentations in the ISA Conference App.
- Schedule changes will be posted on the large session grids and through alerts in the ISA Conference App.
- Additional tickets for ISA events will be available for purchase during the registration hours.
- Refreshments are available to all attendees in the following locations:

Monday, 6 August	Coffee and networking	7:30 am–8:00 am	Union Station Ballroom Foyer
	Breaks	11:00 am–1:00 pm 3:00 pm–4:00 pm	Trade Show Floor
Tuesday, 7 August	Breakfast	7:30 am–9:00 am	Trade Show Floor
	Breaks	11:00 am–12:00 pm 2:00 pm–3:00 pm	Trade Show Floor
Wednesday, 8 August	Coffee and networking	7:30 am–8:00 am	Union Station Ballroom Foyer
	Break	11:00 am–12:00 pm	Union Station Ballroom Foyer

- Lunch is available for purchase at the Greater Columbus Convention Center on the Trade Show Floor, Discovery Café, South Café & Marketplace, or local area restaurants.
- Lost and Found is located at the ISA Registration Desk.
- ISA is committed to strict compliance with federal and state antitrust laws. View the ISA Antitrust Compliance Statement at <https://www.isa-arbor.com/Events/Antitrust-Statement> for more detail.
- Photography Notice: This event and event branding are the property of ISA. Images from this event may not be published for commercial purposes without the written consent of the International Society of Arboriculture.
- ISA Privacy Statement: For any questions regarding ISA's collection and use of personal data view our privacy statement online at www.isa-arbor.com/Privacy.
- Transportation will be provided between the Greater Columbus Convention Center and Franklin Park for conference attendees who wish to attend the ITCC and other pre-conference activities held at Franklin Park. Buses will depart from the GCCC West Connector.

Download the 2018 Conference Mobile App

Have conference information at your fingertips and create a customized experience.

- Access a list of exhibitors and a trade show map
- Read presentation descriptions, presenter bios, and handouts
- Create a customized schedule
- Network with fellow attendees
- Provide feedback on presentations
- Peruse conference agenda, meetings, education, and special activities

Download now at:
www.eventmobi.com/isa2018
or via



Registration Hours

Greater Columbus Convention Center • A110

Friday, 3 August	4:00 pm–6:00 pm
Saturday, 4 August	7:00 am–12:00 pm
Sunday, 5 August	7:00 am–8:30 pm
Monday, 6 August	6:30 am–5:00 pm
Tuesday, 7 August	7:30 am–3:00 pm
Wednesday, 8 August	7:00 am–1:30 pm

Franklin Park • Wells Barn

Friday, 3 August	7:00 am–8:30 am 12:30 pm–1:30 pm
Saturday, 4 August	7:30 am–8:30 am 12:30 pm–1:30 pm



Agenda at a Glance

*Events, times, and locations are subject to change

Check large session boards and/or the conference app for notification of any changes.

Friday, 3 August

7:00 am–8:30 am	Registration Open for Pre-Conference Workshops at Franklin Park (Franklin Park – Wells Barn)
8:00 am–12:00 pm	Street Tree Master Planting Design Workshop (Franklin Park – Wells Barn, Main Floor) <i>Ticket Required</i>
8:00 am–12:00 pm	Executive Committee Meeting (Hilton Columbus Downtown)
8:00 am–5:00 pm	Tree Anatomy Workshop (Day 1) (Franklin Park – Wells Barn, Breakout 1–2) <i>Ticket Required</i>
10:00 am–4:00 pm	Arbor Fair and Expo (Franklin Park)
11:00 am–12:00 pm	Franklin Park Conservatory Tree Walk (Franklin Park)
12:30 pm–1:30 pm	Registration Open for Pre-Conference Workshops at Franklin Park (Franklin Park – Wells Barn)
1:00 pm–2:00 pm	Explore the Franklin Park Conservatory's Tropical Plant Collection (Franklin Park)
1:00 pm–5:00 pm	Soil Quality Assessment and Management for Urban Trees Workshop (Franklin Park – Wells Barn, Main Floor) <i>Ticket Required</i>
1:00 pm–5:00 pm	ISA Board of Directors Meeting (Hilton Columbus Downtown – Robert King)
1:00 pm–5:15 pm	ITCC Masters' Qualifying Events (Franklin Park)
3:00 pm–4:00 pm	Historical Tour of the Franklin Park Conservatory Property (Franklin Park)
4:00 pm–6:00 pm	Registration Open (GCCC – A110)
6:00 pm–9:30 pm	ISA Certification Exam (GCCC – A111–112)

Saturday, 4 August

7:00 am–12:00 pm	Registration Open (GCCC – A110)
7:30 am–8:30 am	Registration Open for Pre-Conference Workshops at Franklin Park (Franklin Park – Wells Barn)
8:00 am–12:00 pm	ISA Board of Directors Meeting (Franklin Park – Education Pavilion)
8:00 am–12:00 pm	Top Knots Workshop (Franklin Park – Wells Barn) <i>Ticket Required</i>
8:00 am–5:00 pm	Tree Anatomy Workshop (Day 2) (Franklin Park – Wells Barn, Breakout 1–2) <i>Ticket Required</i>
8:00 am–5:00 pm	Law and Order Workshop (GCCC A114–115) <i>Ticket Required</i>
8:30 am–3:00 pm	ITCC Masters' Qualifying Events (Franklin Park)
9:00 am–4:00 pm	Arbor Fair and Expo (Franklin Park)
11:00 am	Arrival of 2018 TREE Fund Tour des Trees (Franklin Park)
11:00 am–12:00 pm	Franklin Park Conservatory Tree Walk (Franklin Park)
12:30 pm–1:30 pm	Registration Open for Pre-Conference Workshops at Franklin Park (Franklin Park – Wells Barn)
1:00 pm–2:00 pm	Explore the Franklin Park Conservatory's Tropical Plant Collection (Franklin Park)
1:00 pm–5:00 pm	ASTI Workshop: Z133, the New Standard–What You Need to Know and Why You Need to Know It (Franklin Park – Wells Barn, Main Floor) <i>Ticket Required</i>
3:00 pm–4:00 pm	Historical Tour of the Franklin Park Conservatory Property (Franklin Park)
3:30 pm–4:30 pm	SCA RakeMaster Challenge (Franklin Park)
5:00 pm–6:00 pm	ITCC Recognition and Awards Ceremony (Franklin Park)

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International Society of Arboriculture



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#ITCCcolumbus



Agenda at a Glance

*Events, times, and locations are subject to change

Check large session boards and/or the conference app for notification of any changes.

Sunday, 5 August

7:00 am–8:30 pm	Registration Open (GCCC – A110)
7:00 am–9:00 am	ISA Board of Directors Meeting (Hilton Columbus Downtown – Robert King)
8:00 am–3:00 pm	Tree Anatomy Workshop (Day 3) (Franklin Park – Wells Barn, Breakout 1–2) <i>Ticket Required</i>
8:00 am–5:00 pm	Using the 10th Edition of the Guide for Plant Appraisal Workshop (GCCC A114–115) <i>Ticket Required</i>
8:30 am–2:30 pm	ITCC Masters' Challenge (Franklin Park)
9:00 am–10:00 am	Franklin Park Conservatory Tree Walk (Franklin Park)
9:00 am–10:20 am	Branch Out Session – A to Z: A300 (GCCC A111–113)
9:00 am–12:00 pm	Tree Tour of Green Lawn Cemetery (Tour Departs GCCC West Connector) <i>Ticket Required</i>
9:00 am–2:00 pm	Arbor Fair and Expo (Franklin Park)
9:30 am–12:00 pm	Science & Research Committee Meeting (Hilton Columbus Downtown – Edward Parker Harden)
10:30 am–12:00 pm	Branch Out Session – A to Z: Z133 (GCCC – A111–113)
11:00 am–12:00 pm	Explore the Franklin Park Conservatory's Tropical Plant Collection (Franklin Park)
1:00 pm–2:00 pm	Historical Tour of the Franklin Park Conservatory Property (Franklin Park)
1:00 pm–2:20 pm	Branch Out Session – AUF Special Edition: Citizen Science for Tree Monitoring (GCCC A111–113)
1:00 pm–4:00 pm	Diagnostic Discovery Walk-About: Sharpen Your Scouting and Tree Problem-Solving Skills (Tour Departs GCCC, West Entrance) <i>Ticket Required</i>
2:30 pm–4:00 pm	Branch Out Session – Transforming Chaos and Conflict (GCCC – A111–113)
5:00 pm–6:00 pm	Student Kickoff Meeting (GCCC A120)
6:00 pm–7:30 pm	Arboriculture Celebration with Keynote Presentation – Angelou Ezeilo (GCCC – Union Station Ballroom B)
7:30 pm–9:30 pm	Welcome Reception on the Trade Show Floor – ITCC Scores will be posted at ISA Central (GCCC – Exhibit Hall A)

Monday, 6 August

6:30 am–5:00 pm	Registration Open (GCCC – A110)
7:00 am–8:00 am	BCMA VIP Breakfast (Hilton Columbus Downtown – Edna Boies Hopkins) <i>Invitation Only</i>
7:00 am–8:00 am	Women in Arboriculture Breakfast (GCCC A120–121) <i>Ticket Required</i>
7:00 am–8:30 am	ISA Past Presidents Board of Directors Breakfast (Hilton Columbus Downtown–Burkhart B) <i>Invitation Only</i>
7:00 am–8:30 am	Finance and Audit Committee Meeting (Hilton Columbus Downtown–Burkhart A)
7:30 am–8:00 am	Coffee and Networking (GCCC – Union Station Ballroom Foyer)
8:00 am–8:30 am	President and Local Chapter Welcome (GCCC – Union Station Ballroom B)
8:30 am–9:20 am	Featured Presentation – Mark Bays (GCCC – Union Station Ballroom B)
9:30 am–11:00 am	General Education Sessions (GCCC – Union Station Ballroom A, B, C, & A111–115)
9:30 am–11:00 am	Evolution of Modern Tree Climbing Workshop (GCCC – Exhibit Hall A) <i>Ticket Required</i>
11:00 am–1:00 pm	Break on the Trade Show Floor (GCCC – Exhibit Hall A)
11:00 am–4:30 pm	Trade Show Open (GCCC – Exhibit Hall A)
11:00 am–4:30 pm	ISA Presents including Poster Displays (GCCC – Exhibit Hall A)
11:10 am–4:15 pm	Climbers' Corner (GCCC – Exhibit Hall A)
11:30 am–1:00 pm	Association Leadership Luncheon (Hilton Columbus Downtown – Edna Boies Hopkins)
12:00 pm–12:30 pm	Town Hall – Greening Youth for a Better Tomorrow (GCCC – Exhibit Hall A)
12:30 pm–1:00 pm	Town Hall – Arborist Apprenticeship: Attracting and Retaining a Well-Qualified Workforce (GCCC – Exhibit Hall A)
1:00 pm–3:00 pm	General Education Sessions (GCCC – Union Station Ballroom A, B, C, & A111–115)
3:00 pm–4:00 pm	Break on the Trade Show Floor (GCCC – Exhibit Hall A)
3:00 pm–4:00 pm	Educational/Research Poster Presentations (GCCC – Exhibit Hall A)
4:00 pm–5:00 pm	General Education Sessions (GCCC – Union Station Ballroom A, B, C, & A111–115)
4:30 pm–5:30 pm	ITCC Annual Meeting (GCCC – A224)
5:30 pm–8:00 pm	AREA Meeting and Student Social (Barley's Brewing Company Ale House No. 1) <i>Ticket Required</i>

Tuesday, 7 August

7:30 am–3:00 pm	Registration Open (GCCC – A110)
7:30 am–9:00 am	Complimentary Breakfast on Trade Show Floor (GCCC – Exhibit Hall A)
7:30 am–3:00 pm	Trade Show Open (GCCC – Exhibit Hall A)
7:30 am–3:00 pm	ISA Presents Including Poster Displays (GCCC – Exhibit Hall A)
8:00 am–8:25 am	ISA Annual Business Meeting (GCCC – Exhibit Hall A)
8:30 am–10:30 am	International Safety Committee Meeting (Hilton Columbus Downtown – Edward Parker Hayden)
8:30 am–2:45 pm	Climbers' Corner (GCCC – Exhibit Hall A)
9:00 am–11:00 am	General Education Sessions (GCCC – Union Station Ballroom A, B, C, & A111–115)
11:00 am–12:00 pm	Break on the Trade Show Floor (GCCC – Exhibit Hall A)
11:00 am–12:00 pm	Educational Products and Services Committee Luncheon (GCCC – A120)
12:00 pm–2:00 pm	General Education Sessions (GCCC – Union Station Ballroom A, B, C, & A111–115)
2:00 pm–3:00 pm	Break on Trade Show Floor (GCCC – Exhibit Hall A)
2:00 pm–3:00 pm	Urban Tree Growth and Longevity Annual Meeting (GCCC – A121)
3:00 pm–3:40 pm	General Education Sessions (GCCC – Union Station Ballroom A, B, C, & A111–115)
3:45 pm–5:00 pm	Featured Presentation – Matt Melis (GCCC – Union Station Ballroom B)
5:00 pm–6:00 pm	ISA Board of Directors Meeting (Hilton Columbus Downtown – Private Dining Room)
6:00 pm–7:00 pm	TREE Fund After Hours Buckeye Bash (Park Street Cantina)
7:00 pm–9:00 pm	Toast with the Host (Park Street Cantina)

Wednesday, 8 August

7:00 am–1:30 pm	Registration Open (GCCC – A110)
7:30 am–8:00 am	Coffee and Networking (GCCC – Union Station Ballroom Foyer)
8:00 am–8:40 am	L.C. Chadwick Award Winner Presentation (GCCC – Union Station Ballroom A)
8:00 am–3:00 pm	ISA Presents Including Posters Displays (GCCC – Union Station Ballroom Foyer)
8:00 am–5:00 pm	Credentialing Council Meeting (Hilton Columbus Downtown – Edward Parker Hayden)
8:40 am–8:50 am	Knoxville/Tennessee Presenter - Sharon Jean Philippe (GCCC – Union Station Ballroom A)
9:00 am–11:00 am	AREA and General Education Sessions (GCCC – Union Station Ballroom A & C)
9:00 am–11:30 am	The Ohio State University Campus Tour (Tour Departs GCCC West Connector) <i>Ticket Required</i>
9:15 am–3:30 pm	SCA Field Day: A Three Destination Tour (Tour Departs GCCC West Connector) <i>Ticket Required</i>
9:15 am–4:15 pm	SMA: A Walking Tour of Downtown Columbus Trees (Tour Departs GCCC – West Entrance) <i>Ticket Required</i>
11:00 am–12:00 pm	Break (GCCC Union Station Ballroom Foyer)
12:00 pm–3:00 pm	AREA and General Education Sessions (GCCC – Union Station Ballroom A & C)
1:00 pm–7:30 pm	Council of Representatives (Hilton Columbus Downtown – Robert King)

Thursday, 9 August

8:00 am–12:00 pm	Credentialing Council Meeting (Hilton Columbus Downtown – Edward Parker Hayden)
8:00 am–5:00 pm	Tree Risk Assessment Qualification Renewal Course (GCCC – A120)
8:00 am–5:00 pm	Crew Leader Qualification Workshop (GCCC – A110-111)



Stop by the Davey Tree Expert Booth
(#601 and #701) on the Trade Show Floor
to charge your laptop, phone, or tablet.

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Conference Highlights

Sunday Arboriculture Celebration Keynote



5 August, 6:00 pm–7:30 pm

Angelou Ezeilo, CEO and Founder, Greening Youth Foundation

Workforce Diversity: Preparing for the Next Generation of Arborists

After a brief stint of practicing law, it was through her work as a legal specialist

for the New Jersey State Agriculture and Development Committee that Angelou Ezeilo embarked upon a career as an environmentalist. Angelou further honed her skills as a project manager for the Trust for Public Land (TPL) in both its New Jersey and Georgia offices. In her position, Angelou acquired land for preservation and worked on the New York/New Jersey Highlands Program, Parks for People-Newark, the New York/New Jersey Harbor Program in New Jersey, the Atlanta Beltline, and the 20-County Regional Greenspace Initiative in Georgia. While at TPL, Angelou realized the disconnect between the land that was being preserved and the education of people about that preservation—particularly as it related to our next generation. This was the impetus for the Greening Youth Foundation (GYF).

GYF's mission is to engage underrepresented youth and young adults while connecting them to nature and conservation and believes that youth and young adults from diverse backgrounds can greatly benefit from the career opportunities presented within the state and federal land management sectors. GYF provides hands-on environmental and wellness education programming to students K–12 and access to paid internships and service crew opportunities to young adults. The foundation provides its services throughout North America and West Africa (Nigeria, Ghana, and Liberia).

Learn more about the Greening Youth Foundation at www.gyfoundation.org/

Monday Featured Presenter



6 August, 8:30 am–9:20 am

Mark Bays, Urban Forestry Coordinator, Oklahoma Forestry Services

The Survivor Tree: Witness to Tragedy, Symbol of Strength

Since Spring 1996, Mark Bays and others within Forestry Services and the tree care industry have been directly involved with the Oklahoma City Memorial Foundation and the recovery efforts centering on improving the health of the Survivor Tree. This native American elm is less than 100 yards (91 meters) from where the bomb was detonated on 19 April 1995 at the Federal Building in Oklahoma City. The elm is the closest living tree that took the full force of the bomb and is a centerpiece of the Oklahoma City National Memorial, which was dedicated on 19 April 2000.

Mark Bays has been with Oklahoma Forestry Services for the past 27 years helping communities and individuals across the state appreciate the value, benefits, and services trees provide. He helps Oklahoma solve tough environmental issues through proper tree planting and maintenance programs. He administers grant programs that provide funding to communities and nonprofits for tree planting, educational opportunities, and local program development.

Tuesday Featured Presenter



7 August, 3:45 pm–5:00 pm

Matt Melis, Aerospace Engineer, NASA Glenn Research Center

NASA and the Arborist: An Accidental Collaboration (The Application of Stereo Imaging Technology to Advance the Understanding of Biomechanical Behavior of Trees)

When Space Shuttle Columbia was damaged on its return home in February 2003, National Aeronautics and Space Administration (NASA) researchers conducted an extensive impact test program for two and a half years to ensure the shuttle could be flown as safely as possible. Stereo imaging technology was employed to gather data that measured the deformation of test articles subjected to these impact tests. Nearly 10 years later, the NASA Glenn Research Center and the Morton Arboretum collaborated to use this same technology to capture the biomechanical deformation response of trees subjected to adverse loading. Matt Melis will provide an overview of how stereo imaging supported the Columbia accident investigation and returned the shuttle to flight, followed by details of the NASA/Morton effort.

Matt has worked at the NASA Glenn Research Center for 29 years where his primary focus is in advanced finite element modeling and analysis methods including nonlinear and dynamic impact loading. Following the Columbia accident, Matt was assigned full time to the Investigation and the Shuttle Return to Flight Program with the NASA Glenn Ballistic Impact Team. Currently, Matt is serving as technical lead conducting impact analysis and testing efforts for NASA's Advanced Composites Program.

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Congratulations to the 2018 ISA Award Winners

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2018 ISA Awards of Distinction



Award of Merit

Bruce Fraedrich, Ph.D.

Vice President, Bartlett Tree Research Lab
Charlotte, North Carolina, United States



R.W. Harris Author's Citation

A. James Downer, Ph.D.

Interim County Director/Advisor
University of California Cooperative Extension
Ventura, California, United States



Alex L. Shigo Award for Excellence in Arboricultural Education

Ken Palmer

Co-Founder, ArborMaster®
Willington, Connecticut, United States
and



L.C. Chadwick Award for Arboricultural Research

Richard Hauer, Ph.D.

Professor of Urban Forestry, College of
Natural Resources, University of Wisconsin
Stevens Point, Wisconsin, United States



Rip Tompkins

Co-Founder, ArborMaster®
Little Compton, Rhode Island, United States



Millard F. Blair Award for Exceptional Contribution to Practical Arboriculture

Samuel Ma

Arborist/Climber Specialist,
Kassod Arbor Tre Consultancy & Services Ltd.
Kwun Tong, Hong Kong



Sharon J. Lilly Award of Achievement

Melinda Jones

Co-Founder, ReLeaf Michigan
Ann Arbor, Michigan, United States



Early-Career Scientist Award

Jessica Vogt, Ph.D.

Assistant Professor, Department of
Environmental Science and Studies,
College of Science and Health, DePaul University
Chicago, Illinois, United States



Honorary Life Membership

Scott Baker

President, Tree Solutions, Inc.
Seattle, Washington, United States

2018 ISA True Professionals of Arboriculture



Nate Faris

President, Faris Tree Consulting,
LLC/Director of Community Forestry,
Keep Indianapolis Beautiful, Inc.
Indianapolis, Indiana, United States



Linden Lampman

Urban and Community Forestry
Program Manager, Washington State
Department of Natural Resources,
Olympia, Washington, United States



Angela Margarita Villademoros

General Coordinator of Environmental
Management, Secretaria de
Planeamiento, Municipalidad de Rosario,
Rosario, Argentina



Bob Redman

Owner, Urban Forestry and Tree Care
New York, New York, United States



Frances Reidy

Owner, Dryad Tree & Shrub Diagnostics, LLC,
East Islip, New York, United States

Optional Conference Activities

Friday, 3 August–Sunday, 5 August

International Tree Climbing Championship with Arbor Fair & Expo

(See page 11 for schedule of event times)

Franklin Park

Presented by



Cheer on your favorite competitors at the ITCC, and support industry education and public awareness. Don't forget to browse the Arbor Fair & Expo for industry equipment, educational displays, and crafts. Other activities include musical and children's entertainment, including TREE Circus, Professor Pricklethorn, and of course the Fun Tree Climb and Limb Walk.

(Transportation to and from Franklin Park will be provided for conference attendees. Buses will pick up outside the Greater Columbus Convention Center West Connector.)

Sunday, 5 August

Arboriculture Celebration and Welcome Reception

6:00 pm–7:30 pm

Opening Ceremony

Greater Columbus Convention Center, Union Station Ballroom B

The ISA Board invites attendees to join them in celebrating the opening of the ISA Annual International Conference and Trade Show along with recognizing industry accomplishments, volunteers, champions, and the 2018 ISA award recipients.

Featured Keynote: Workplace Diversity: Preparing for the Next Generation of Arborists

Angelou Ezeilo, CEO and Founder, Greening Youth Foundation

7:30 pm–9:30 pm

Welcome Reception on the Trade Show Floor

(Name badge required)

Greater Columbus Convention Center, Trade Show Floor

Continue the celebration on the Trade Show Floor. Enjoy drinks and hors d'oeuvres while you network with fellow professionals and exhibitors from around the world.

Monday, 6 August

Women in Arboriculture Breakfast

7:00 am–8:00 am

Greater Columbus Convention Center, A120–121

Ticket required: \$30 onsite

(Check for availability and purchase tickets at ISA Registration.)

Network with women from around the world who share a passion for trees! Every year, the Women in Arboriculture Breakfast brings together arborists with diverse backgrounds to share their experiences in working with trees. This is a unique opportunity for networking at an event that celebrates diversity. All conference attendees—women and men—are welcome to join us!

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Monday, 6 August

AREA Meeting and Student Social



5:30 pm–8:00 pm

Barley's Brewing Company and Ale House No. 1

Ticket Required: \$20 onsite (\$10 for ISA student members)

(Check for availability and purchase tickets at ISA Registration.)

Students, conference speakers, and attendees are encouraged to take advantage of this opportunity to meet with Arbicultural Research and Education Academy (AREA) colleagues. The event will begin with the annual AREA meeting at 5:30 pm followed by a networking social at Barley's Brewing Company Ale House No. 1 (0.2 miles from the Greater Columbus Convention Center). Some drinks and appetizers will be provided with your ticket. Special recognition will be given to the 2018 AREA student travel grant recipients and ISA Student Ambassadors. Everyone is welcome and encouraged to attend.

(A ticket will be required for entry to the meeting and networking social.)

Tuesday, 7 August

TREE Fund After Hours Buckeye Bash

6:00 pm–7:00 pm

Park Street Cantina *(walking distance from convention center)*

Free to ISA conference registrants

You're invited! Join us for fun, food, and fundraising as we celebrate TREE Fund successes and those who make it all possible.

Bring your friends and join the fun:

- **Mini-Auction**—Trips and treasures for every budget
- **Golden Ticket Raffle**—\$100 buys a chance to win the auction package of your choice (Tickets available at the TREE Fund booth #707- only 75 available)
- **Ken Ottman Outstanding Volunteer Award** recipient announcement
- **Appetizers and drink tickets**



TREE Fund After Hours proceeds benefit TREE Fund, supporting tree research and education

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Toast with the Host

7:00 pm–9:00 pm

Park Street Cantina *(walking distance from convention center)*

Free to ISA conference registrants

Network with conference attendees, and take this time to toast the ISA Ohio Chapter for hosting us in Columbus.

(Note: Free drink tickets for this event can be found in your conference registration folder.)

International Tree Climbing Championship with Arbor Fair & Expo



Franklin Park

Friday, 3 August

10:00 am–4:00 pm
1:00 pm–5:15 pm

Arbor Fair & Expo
ITCC Masters' Qualifying Events

Presented by



Saturday, 4 August

8:30 am–3:00 pm
9:00 am–4:00 pm
11:00 am
3:30 pm–4:30 pm
5:00 pm–6:00 pm

ITCC Masters' Qualifying Events
Arbor Fair & Expo
Arrival of 2018 TREE Fund Tour des Trees
SCA RakeMaster Challenge
ITCC Recognition and Awards Ceremony

Sunday, 5 August

8:30 am–2:30 pm
9:00 am–2:00 pm

ITCC Masters' Challenge
Arbor Fair & Expo

Sponsored by
 Husqvarna



* The ITCC and Arbor Fair & Expo will be at Franklin Park, which is also home to the Franklin Park Conservatory and Botanical Gardens. If you would like to explore the conservatory or botanical gardens, attendees will receive a discounted admission during the event.

Photo credit: Amy Kelley

Transportation to and from Franklin Park will be provided for conference attendees. Buses will pick up outside the Greater Columbus Convention Center West Connector.

Free Educational Opportunities

(Organized by Franklin Park Conservatory)

Experience Franklin Park

Friday, 3 August

11:00 am–12:00 pm
1:00 pm–2:00 pm
3:00 pm–4:00 pm

Franklin Park Conservatory Tree Walk
Explore the Franklin Park Conservatory's Tropical Plant Collection
Historical Tour of the Franklin Park Conservatory Property

Saturday, 4 August

11:00 am–12:00 pm
1:00 pm–2:00 pm
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Franklin Park Conservatory Tree Walk
Explore the Franklin Park Conservatory's Tropical Plant Collection
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Stay connected

#ISAColumbus
#ITCCColumbus



PRE-CONFERENCE WORKSHOPS AND TOURS

(As of 29 June 2018)

GCCC =
Greater Columbus
Convention Center

Sessions, times, and locations are subject to change. Workshops and tours are separately ticketed unless otherwise noted.

* Free with conference registration. No additional ticket required.



Indicates research
funded by TREE Fund.

FRIDAY, 3 AUGUST

Franklin Park Wells Barn Breakout 1–2	Franklin Park Wells Barn Main Floor	Franklin Park
8:00 am – 5:00 pm Tree Anatomy Workshop (Day 1) Mark Hartley 24 A, M, T, L, Bs <i>(Lunch included)</i>	8:00 am – 12:00 pm Street Tree Master Planting Design Workshop Stephanie Foster-Miller, Alan Siewert, Wendi Van Buren 3.5 A, M; 0.5 Bs; 3.0 Bm	11:00 am – 12:00 pm Franklin Park Conservatory Tree Walk * 0.5 A, Bm
	1:00 pm – 5:00 pm Soil Quality Assessment and Management for Urban Trees Bryant Scharenbroch, Les Werner, Luke Scheberl 3.5 A, M, T, L, Bp	1:00 pm – 2:00 pm Explore the Franklin Park Conservatory's Tropical Plant Collection * 1.0 A, Bs
		3:00 pm – 4:00 pm Historical Tour of the Franklin Park Conservatory Property * No CEUs

SATURDAY, 4 AUGUST

Franklin Park Wells Barn Breakout 1–2	Franklin Park Wells Barn Main Floor	Franklin Park	GCCC A114–115
8:00 am – 5:00 pm Tree Anatomy Workshop (Day 2) Mark Hartley <i>(Lunch included)</i>	8:00 am – 12:00 pm Top Knots Bear LeVangie 3.5 A, T, L, Bp 3.75 CTSP	11:00 am – 12:00 pm Franklin Park Conservatory Tree Walk * 0.5 A, Bm	8:00 am – 5:00 pm Law & Order Workshop Part One: Basic and Advanced Concepts of Tree Law Victor Merullo <i>(Lunch included)</i> Part Two: Mock Trial: What to Expect as a Professional Witness Craig Schaar, Robin Kennedy 6.5 A, T, L 3.5 M, U 2.0 Bp 4.5 Bm
	1:00 pm – 5:00 pm ASTI Workshop: Z133, the New Standard—What You Need to Know and Why You Need to Know It! John Ball, Tim Walsh 3.5 A, T, L, M, U 2.0 Bp; 1.5 Bm 3.75 CTSP <i>Sponsored by</i> 	1:00 pm – 2:00 pm Explore the Franklin Park Conservatory's Tropical Plant Collection * 1.0 A, Bs	
		3:00 pm – 4:00 pm Historical Tour of the Franklin Park Conservatory Property * No CEUs	

SUNDAY, 5 AUGUST

Check the conference app for schedule changes or updates.

Franklin Park Wells Barn Breakout 1–2	Franklin Park	GCCC A114–115	Tours depart from GCCC	GCCC A111–113
8:00 am – 3:00 pm Tree Anatomy Workshop (Day 3) Mark Hartley <i>(Lunch included)</i>	9:00 am – 10:00 am Franklin Park Conservatory Tree Walk * 0.5 A, Bm	8:00 am – 5:00 pm Using the 10th Edition of the Guide for Plant Appraisal Jim Clark, Tom Smiley, Mark Duntemann 6.5 A, M 1.0 Bs, Bp 4.5 Bm <i>(Lunch included)</i>	9:00 am – 12:00 pm Tree Tour of Green Lawn Cemetery Rick Frantz, Doreen Uhas-Sauer 1.5 A, M, Bm	9:00 am – 10:20 am Branch Out 1 * A to Z: A300 1.25 A, T, L, M, U 0.25 Bs; 0.5 Bp, Bm
	11:00 am – 12:00 pm Explore the Franklin Park Conservatory's Tropical Plant Collection * 1.0 A, Bs		1:00 pm – 4:00 pm Diagnostic Discovery Walk-About: Sharpen Your Scouting and Tree Problem-Solving Skills Joe Boggs, Amy Stone, Jim Chatfield, Erik Draper, Dave Shetlar, Curtis Young 3.0 A, T, L, M 2.0 Bs; 0.5 Bp, Bm	10:30 am – 12:00 pm Branch Out 2 * A to Z: Z133 1.5 A, T, L, M, U 0.75 Bp, Bm 1.5 CTSP
	1:00 pm – 2:00 pm Historical Tour of the Franklin Park Conservatory Property * No CEUs			1:00 pm – 2:20 pm Branch Out 3 * Citizen Science in Urban Forestry: Presenting a Journal Special Issue Lara Roman, Eric North 1.0 A, M, Bm
				2:30 pm – 4:00 pm Branch Out 4 * Transforming Chaos and Conflict Kaizad Irani 1.5 A, M, Bm

MONDAY–WEDNESDAY EDUCATIONAL SESSIONS

(As of 29 June 2018)

USB =
Union Station
Ballroom

MONDAY, 6 AUGUST

Greater Columbus Convention Center			
Coffee and Networking 7:30 am – 8:00 am			
ISA Board President's Welcome Address — Paul Ries / Welcome from the Ohio Chapter (USB B) 8:00 am – 8:30 am			
8:30 am – 9:20 am The Survivor Tree: Witness to Tragedy, Symbol of Strength — Mark Bays (USB B) 1.25 A; 0.75 T, L, M; 0.75 Bs; 0.5 Bm			
USB A	USB B	USB C	A111–115
Utility	Trees & People	Tree Biology	Urban Forestry/Municipal
9:30 am – 10:15 am EAB by the Numbers: A FirstEnergy Perspective Marvin Mantos 0.75 A, T, L, M, U 0.25 Bs, Bp, Bm	9:30 am – 10:15 am Trees as Nature-Based Solutions for Grand Challenges Cecil Konijnendijk 0.75 A, M, Bm	9:30 am – 10:15 am Assessment of Six Practical Indicators of Street Tree Establishment Gregory M. Moore 0.75 A, T, L, M 0.25 Bs, Bp, Bm	9:30 am – 10:15 am Status of Municipal Forestry in the Republic of Moldova David Gamstetter 0.75 A, M, Bm
10:20 am – 11:00 am Utility Tree Management Anand Persad 0.75 A, T, L, M, U, Bp	10:20 am – 11:00 am To Be Determined Check the conference app for update	10:20 am – 11:00 am Morphophysiology and Management of Veteran Trees: Two Case Studies Stefania Gasperini, Giovanni Morelli 0.75 A, T, L, M 0.25 Bs; 0.5 Bp	10:20 am – 11:00 am Data and Dollars: Impacts of a Tree Inventory in Detroit Todd Mistor 0.75 A, M, U, Bm
Break on the Trade Show Floor/ Lunch Break 11:00 am – 1:00 pm			
Utility	Urban Forestry	Mixing it Up	Symposium
1:00 pm – 1:30 pm Full-Scale Testing on Trees' Contact with the 25k Volt Feeders Duc Hai Nguyen 0.5 A, T, L, M, Bm	1:00 pm – 1:30 pm Sustainable Urban Forest Management: Turning Rhetoric into Reality Matthew Wells 0.5 A, M; 0.25 Bs, Bm	1:00 pm – 1:55 pm Tiny Talk — Big Ideas (See details on page 19) 1.0 A, M, Bm	WOMEN IN ARBORICULTURE 1:00 pm – 1:30 pm Enhancing Women's Roles and Participation in Arboriculture and Urban Forestry Adrina C. Bardekjian 0.5 A, T, L, M, Bm 1:30 pm – 3:00 pm Panel Discussion Facilitator: Dana Karcher 1.5 A, T, L, M, U 0.75 Bp, Bm
1:30 pm – 1:55 pm Drones in Urban and Utility Forestry Dan Staley 0.5 A, T, L, M, U, Bm	1:30 pm – 1:55 pm Urban Sites and Tree Architecture as Indicators of Tree Performance Eric North 0.5 A, T, L, M; 0.25 Bs, Bm		
Business	Municipal	Practical Arboriculture	
2:00 pm – 3:00 pm Grow to Sell—Sell to Grow: Achieving a Successful and Profitable Balance Kaizad Irani 1.0 A, M, Bm	2:00 pm – 2:30 pm In a Transforming Neighborhood, Partnering to Grow the Urban Forest James D. Kaechele 0.5 A, M, Bm 2:30 pm – 3:00 pm Creating Funding Options for Urban Forestry William (Bill) H. Hahn, Jonathan M. Malish 0.5 A, M, U, Bm	2:00 pm – 2:30 pm Bounce Back! The Importance of Resilience in Tree Work Mark Bridge 0.5 A, T, L, M, U, Bp; 0.5 CTSP 2:30 pm – 3:00 pm How Much Can the Ground Take Travis Vickerson 0.5 A, T, L, M, U 0.25 Bp, Bm	
Break on the Trade Show Floor 3:00 pm – 4:00 pm Poster Presentations (Question and Answer Hour)			
Pests and Diseases	Tree and Cities	Student Presenters	Symposium
4:00 pm – 4:30 pm Developing DED-Tolerant American Elm and Restoration of the Urban-Rural Landscape Charles E. Flower, Cornelia C. Pinchot 0.5 A, M; 0.25 Bs, Bm	4:00 pm – 4:30 pm Engaging Citizen Scientists in Monitoring and Stewardship of Young Trees Dana Dentice, Lara Roman 0.5 A, M, Bm	4:00 pm – 5:00 pm Make No Small Plans: Ohio State's Goal to Double Tree Canopy Ryan Vogel Residential Urban Forest Management in Malmö, Sweden Blaz Klobucar Arboricultural Literature: Technology Transfer Solutions Anna DeToro 1.0 A, M, Bm	4:00 pm – 5:00 pm The Ohio Tree Commission: What Makes us Tick Ohio Chapter ISA 1.0 A, M, Bm
4:30 pm – 5:00 pm Which Fungi Matter and What Are They Telling Us? Curtis E. Young 0.5 A, T, L, M, U, Bs	4:30 pm – 5:00 pm Street Tree Longevity: Tree Growth and Response Over Forty Years Richard Hauer 0.5 A, M; 0.25 Bs, Bm		

Climbers' Corner

Sponsored by



GCCC
On the Trade Show Floor
Climbers' Corner
9:30 am – 11:00 am Evolution of Modern Tree Climbing Phil Kelley 1.5 A, T, L, M, U 0.75 Bp, Bm 1.5 CTSP (Ticket Required)
11:10 am – 11:50 am The Silent Future Christian Johnsson 0.75 A, T, L, M 0.5 Bp; 0.25 Bm
Town Hall
12:00 pm – 12:30 pm Greening Youth For a Better Tomorrow Discussion Discussion led by James C. Ezeilo and Angelou Ezeilo 0.5 A, M, Bm
12:30 pm – 1:00 pm Workforce Development: Recruiting and Training to Meet the Needs of the Tree Care Industry Discussion led by Tree Care Industry Association 0.5 A, T, L, M, Bm
Climbers' Corner
1:15 pm – 2:15 pm Cut Above The Rest: Two Hands are Better Than One! Alex Laver 1.0 A, T, L, M, U 0.5 Bp, Bm 1.0 CTSP
2:30 pm – 3:15 pm Rope Construction Adam Moser 0.75 A, T, L, Bp
3:30 pm – 4:15 pm Bounce Back! Mark Bridge 0.75 A, T, L, M, U, Bp; 0.75 CTSP
Trade Show closes at 4:30

TUESDAY, 7 AUGUST

Greater Columbus Convention Center			
Networking and Breakfast on Trade Show Floor 7:30 am – 9:00 am			
ISA Annual Business Meeting (Climbers' Corner Area) 8:00 am – 8:25 am			
USB A	USB B	USB C	GCCC A111–115
Sustainability & Diversity	Soils Panel	Practical Arboriculture	Symposium
9:00 am – 9:40 am Arborist Role in Disaster Planning: Recovery with Urban Forest Strike Teams Dudley Hartel, John Parry 0.75 A, M, Bm	9:00 am – 11:00 am Urban Tree Space Design: Myths, Case Studies, Best Practices Tyler Stevenson, James Urban The What, Why, & How of High-Performance Urban Trees Jeremy Bailey Root Growth Under Pavement: Two Urban Plaza Studies Tom Smiley, James Urban Ohio Urban Site Index Stephanie Foster-Miller A Rapid Urban Site Index for Street Tree Planting Sites Bryant Scharenbroch Panel Discussion 1.25 A, M 0.25 U, Bs 0.5 T, L, Bp, Bm	9:00 am – 9:40 am Pruning to Death: Topping Can Also Affect Microclimate Conditions Francesco Ferrini 0.75 A, T, L, M, U 0.25 Bs; 0.5 Bp 9:40 am – 10:20 am American Chestnut Restoration: An Icon Returns Carolyn S. Keiffer 0.75 A, M 0.25 Bs; 0.5 Bm 10:20 am – 11:00 am Basic Field Diagnostics Jennie D. Mazzone 0.75 A, T, L, M, Bs	9:00 am – 11:00 am Creating a Sustainable Urban Forests Science and Practice Network Scott Maco, Paul Ries, Owen Croy Panelists: Dave Gamstetter, Rich Hauer, Cecil Konijnendijk, Dave Nowak, Jessica Sanders, Matt Wells, Jess Vogt 2.0 A, M, U 1.0 Bs 0.5 Bp, Bm
Break on the Trade Show Floor/ Lunch Break 11:00 pm – 12:00 pm			
Business and Workforce Development	Soils and Fertilization	Practical Arboriculture	Symposium
12:00 pm – 12:40 pm Good Leadership: The Key Ingredient Jay Maier 0.75 A, M, Bm; 0.5 CTSP	12:00 pm – 12:40 pm Fertilizers and Fertilization: Much To Discover! Joe R. Samnik 0.75 A, T, L, M 0.5 Bs; 0.25 Bm	12:00 pm – 12:40 pm Ornamental Trees Gone Bad: How the Callery Pear Became Invasive Theresa Culley 0.75 A, M, U 0.25 Bs, Bp, Bm	12:00 pm – 2:00 pm Tree Biomechanics Introduction with Ward Peterson Root and Stem Cutting and the Impact on Tree Stability Tom Smiley Assessment of Uprooting Strength and Recovery after Root Failure for Platanus Occidentalis Philip van Wassenaeer Will Standard Reduction Pruning Regenerate Smaller, Safer Trees? Guy Meilleur Crown Restoration Pruning of Damaged Trees Jake Miesbauer Radial Secondary Root Growth Patterning in Maple Jason Grabosky Tree-top Perspectives from Biomechanics Technicians Chad Clink, Jim Funai 2.0 A, T, L, M, U; 1.0 Bs, Bp
12:40 pm – 1:20 pm How To Get The Most Out of Your New Hires Brad Hughes 0.75 A, M, Bm	12:40 pm – 1:20 pm Fertilizers: The Good, The Bad, and The Generally Unnecessary Linda Chalker-Scott 0.75 A, T, L, M 0.5 Bs; 0.25 Bp	12:40 pm – 1:20 pm New Understandings of Lightning & Tree Damage Kim D. Coder 0.75 A, T, L, M 0.5 Bs; 0.25 Bp	
1:20 pm – 2:00 pm The Crumbling Foundation of Modern Arboriculture: Finding Climbers? Austin Wienecke 0.75 A, M, Bm	1:20 pm – 2:00 pm Creating Healthy Soil in the Residential Setting Sylvia McNeill 0.75 A, T, L, M, U 0.5 Bs; 0.25 Bm	1:20 pm – 2:00 pm Mature Tree Transplanting: Science Supporting Best Management Practice Gary Watson 0.75 A, M 0.25 Bs, Bp, Bm	
Break on Trade Show Floor 2:00 pm – 3:00 pm			
Arborist Workforce	Climate Change	Tree Risk Assessment	Symposium
3:00 pm – 3:40 pm Training the Next Generation of Arborists John Ball 0.75 A, Bm 0.50 CTSP	3:00 pm – 3:40 pm Tree Atlas, Forest Health and Future Tree Risk Assessment Anantha M. Prasad, Louis R. Iverson 0.5 A, M; 0.25 Bs, Bm	3:00 pm – 3:40 pm White Hat Hacking the TRAQ Methodology James Komen 0.75 A, T, L, M, Bm	3:00 pm – 3:40 pm Facilitating Destructive Biomechanics Tree Research Mark J. Hoenigman Testing Cabled and Braced Canopies in Mature Tree Canopies AND Stories from Biomechanics Week: Past, Present, and Future Greg Dahle 0.75 A, T, L, M, U; 0.5 Bs; 0.25 Bp
NASA and the Arborist: An Accidental Collaboration — Matt Melis (USB B) 3:45 pm – 5:00 pm			
1.25 A, T, L, M; 0.75 Bs; 0.25 Bm			

Climbers' Corner

Sponsored by



GCCC
On the Trade Show Floor
Climbers' Corner
8:30 am – 9:15 am Preventative Chainsaw Maintenance: Pre-Inspection for ChainSaws: 5 Part Plan Cary Shepherd 0.75 A, T, L, M, U, Bm; 0.75 CTSP
9:30 am – 10:30 am Felling the Tree: Working the Plan Rip Tompkins 1.0 A, T, L, M, U, Bp; 1.0 CTSP
10:45 am – 11:30 pm Work Safety: The Importance of Performing Aerial Inspection Samuel Ma 0.75 A, T, L, M, U 0.25 Bs, Bp, Bm; 0.75 CTSP
12:00 pm – 1:00 pm Climbing Around Powerlines: Am I Qualified? Kevin Myers, Erick Navarro Palacios, Craig Murk 1.0 A, T, L, M, U 0.5 Bp, Bm; 1.0 CTSP
1:15 am – 2:45 pm EAB Scenario: Tree Removal with Green Initiative Eduardo Medina, Don Roppolo, Tim Walsh, Travis Vickerson 1.5 A, M, Bm
Trade Show closes at 3:00



Indicates research funded by TREE Fund

WEDNESDAY, 8 AUGUST

Greater Columbus Convention Center

Coffee and Networking 7:30 am – 8:00 am

Featured Presenter: L.C. Chadwick Award Winner Richard Hauer (USB A)
8:00 am – 8:40 am
0.75 A, M, Bp

Good Ole Rocky Top: Knoxville, Tennessee 2019! Sharon Jean-Philippe (USB A)
8:40 am – 8:50 am

USB A

USB C

AREA

Risky Behaviors

9:00 am – 9:30 am

Urban Tree Canopy Cover Change in Philadelphia

Lara Roman

0.5 A, M, Bm

9:30 am – 10:00 am

Selecting and Field Testing Climate-Ready Trees in California

Janet Hartin

0.5 A, M; 0.25 Bs, Bm

10:00 am – 11:00 am

AREA Student Presentation

(Travel Grant Winners)
moderated by Jason Grabosky

1.0 A, M, U, Bm

9:00 am – 9:40 am

A Review of Deaths in Australia from Accidental Tree Failures

Mark A. Hartley

0.75 A, T, L, M, U
0.25 Bs, Bp, Bm; 0.50 CTSP

9:40 am – 10:20 am

Introducing the Haddon Matrix: Only You Can Prevent Injuries

Alex Julius

0.75 A, T, L, M, U, Bm; 0.50 CTSP

10:20 am – 11:00 am

Chipper Use and Safety: What's New, What's Old

Tim Walsh

0.75 A, T, L, M, U
0.25 Bp; 0.5 Bm; 0.50 CTSP

Lunch Break 11:00 pm – 12:00 pm

AREA

Utility

12:00 pm – 12:30 pm

Dismantling in Trees Observed After Natural Loading Events

Anand Persad

0.5 A, T, L, Bp

12:00 pm – 12:30 pm

Practical Uses of Integrated Vegetation Management (IVM) in North America

Geoff Kempter

0.5 A, T, L, M, U, Bm

12:30 pm – 1:00 pm

Ecosystem Disservices — A Way Towards Acceptance for Urban Forestry

Johan Östberg

0.5 A, M, Bm

12:30 pm – 1:00 pm

UVM Program Management

Randy Miller

0.5 A, T, L, M, U, Bm

AREA

A Holistic Approach to Tree Lives

1:00 pm – 1:30 pm

Managing Large and Old Urban Roadside Trees in Penang, Malaysia

Fariza Firdaus Mohd Salleh

0.5 A, M, Bm

1:00 pm – 1:40 pm

Managing the Politics of EAB Through Replacement

Ralph C. Sievert

Philip J. Potyondy

0.75 A, M, Bm

1:30 pm – 2:00 pm

Emerald Ash Borer Management Approaches: Ten-year Canopy Retention Case Study

Rich Hauer, David Sivyer

0.5 A, T, L, M, Bm

1:40 pm – 2:20 pm

The Economic Value of Tree Preservation During Development

Robert J. Laverne

Wendy A. Kellogg

0.75 A, M, Bm

2:00 pm – 2:30 pm

Six Years of Research about Trees Growing in Pervious and Impermeable Sidewalks

Alessio Fini

0.5 A, T, L, M; 0.25 Bs, Bp

2:30 pm – 3:00 pm

Root Position and Growth on Asphalt Tensile Crack Failure

Jason Grabosky

0.5 A, M; 0.25 Bs, Bp

2:20 pm – 3:00 pm

A New Method to Compensate for Tree Loss

David J. Nowak

0.75 A, T, L, M, U
0.25 Bs; 0.5 Bm

Turn in your CEUs!

CHOOSE YOUR OWN ADVENTURE

Separately-Ticketed Events

ISA Tour

9:00 am – 11:30 am

The Ohio State University Campus Tour

Steve Volkmann, Kim Moss,
Mary Maloney

1.5 A, T, L, M
0.5 Bs, Bp, Bm

***Load buses at 8:50 am from GCCC West Connector**

SCA Field Day

9:15 am – 3:30 pm

A Three Destination Tour: Franklin Park Conservatory, Ahlum & Arbor Tree Preservation, and Land Grant Brewery

Chris Ahlum

4.75 A, T, L, M
2.5 Bp; 2.25 Bm

***Load buses at 9:00 am from GCCC West Connector (Lunch included)**

SMA Tour

9:15 am – 4:15 pm

A Walking Tour of Downtown Columbus Trees

Steve Cothrel, Lisa Bowers

4.75 A, T, L, M
2.5 Bp; 2.25 Bm

Tour meets at 9:00 am to depart from GCCC West Entrance (Lunch included)

Check the conference app for schedule changes or updates.



Scan to download the app;
online at
<http://eventmobi.com/isa2018>;
or download from your app store



A

T

L

M

U

B

CTSP

Number of CEUs determined by length of session

s = Science m = Management p = Practice

Color Key

Beginner	General	Advanced	Climbers' Corner	Meeting
			On the Trade Show Floor	Open to Attendees

EDUCATIONAL DESCRIPTIONS



PRE-CONFERENCE

Friday, 3 August

8:00 am–12:00 pm

Street Tree Master Planting Design Workshop

Stephanie Foster-Miller, Ohio Department of Natural Resources, Findlay, Ohio, United States

Alan Siewert, Ohio Department of Natural Resources, Newbury, Ohio, United States

Wendi Van Buren, Ohio Department of Natural Resources, Waynesville, Ohio, United States

Join the Ohio Master Planting Design team for a workshop on how to design a plan for street trees. This process was developed in 2009 in an effort to help Ohio communities plan for a diverse street tree population after emerald ash borer. This cost-effective, quick, and simple strategy has become a common tool, from Ohio's smallest villages to its largest cities.

Use the Ohio Urban Site Index to gauge site quality and to learn the tricks Ohio's State Urban Foresters have learned along the way, so that you're effective and efficient in your community.

8:00 am–5:00 pm

Tree Anatomy Workshop — Day 1

Mark Hartley, The Arborist Network, Shanes Park, NSW, Australia

This three-day workshop will teach you to read trees from the inside-out, helping you more accurately diagnose tree health and vitality issues. Learn about the differences between woody and absorbing roots, assess the structure of woody plant parts from three different planes, better understand how large woody monocots grow, and discover the tree health and function implications of good and bad pruning cuts. Dozens of hands-on activities and practical demonstrations are sure to keep you engaged. You will leave this workshop with a new understanding of the complexity and inner-workings of the trees you manage every day.

11:00 am–12:00 pm

Franklin Park Conservatory Tree Walk

Franklin Park Staff

Explore the Franklin Park Conservatory grounds on this tree walk with a horticulturist. The Paige and Mike Crane Conifer and Ornamental Grass collection will be highlighted. (Open to public and attendees.) Free—No ticket required.

1:00 pm–2:00 pm

Explore the Franklin Park Conservatory's Tropical Plant Collection

Franklin Park Staff

Explore the Franklin Park Conservatory's tropical plant collection with a horticulturist. See the oldest living fiddle leaf fig tree under glass, as well as many palm specimens and the diverse bonsai collection. Tour will be for attendees only as it is inside the park's paid experience. Free—No ticket required.

1:00 pm–5:00 pm



Soil Quality Assessment and Management for Urban Trees

Bryant Scharenbroch, University of Wisconsin, Stevens Point, Wisconsin, United States

Les Werner, University of Wisconsin, Stevens Point, Wisconsin, United States

Luke Scheberl, University of Wisconsin, Stevens Point, Wisconsin, United States

This workshop will teach participants about soil quality, why soil quality is important for trees, and how to assess and interpret soil quality for urban trees. Participants will gain skills and knowledge related to in-field assessment and management of urban soils for trees. Specifically, participants will learn how to quickly assess soil health in the field and relate this information to tree management and care.

The four-hour workshop will include a hands-on activity, demonstration and discussion on soil quality assessment in the field, and a hands-on demonstration and discussion on soil management for urban trees. The field activities will be conducted in close proximity to the classroom within the Franklin Park Conservatory.

Participants are not required to have any previous knowledge of soils, but must be willing to get dirty.

3:00 pm–4:00 pm

Historical Tour of the Franklin Park Conservatory Property

Franklin Park Staff

Learn from a Conservatory horticulturist about the rich history of the Franklin Park Conservatory property. Highlights include a tour of the brand new Scotts Miracle Gro Foundation Children's Garden and Grand Mallway. Tour will be for attendees only, as it is inside the park's paid experience. Free—No ticket required.

Saturday, 4 August

8:00 am–12:00 pm

Top Knots

Bear LeVangie, BioForest, Petersham, Massachusetts, United States

Learn how to tie friction hitches, install friction savers, and discover other tricks and tips in this interactive workshop with Bear LeVangie. A great introductory workshop for climbers! Friction hitches, false crotches, and fun!

8:00 am–5:00 pm

Tree Anatomy Workshop—Day 2

See details under Friday schedule.

8:00 am–5:00 pm

Law & Order

Victor Merullo, Merullo, Reister & Swinford Do., LPA, Columbus, Ohio, United States

Craig Schaar, Ohio ISA, Columbus, Ohio, United States
Robin Kennedy, University of Toledo, Toledo, Ohio, United States

Part One: Basic and Advanced Concepts of Tree Law. Common law concepts including negligence, trespass, and nuisance—legal concepts that every arborist must know. Victor Merullo will acquaint you with basic and advanced concepts of tree law and tree law liability.

Part Two: Mock Trial—What to Expect as a Professional Witness. This will be a uniquely fun learning experience with law professor Robin Kennedy and Toledo-area attorney Terry Green, who will lead a team of real-life attorneys, expert witnesses, plaintiffs, and a room full of jurors (the audience) through proceedings from one of Ohio's most infamous tree-failure cases.

11:00 am–12:00 pm

Franklin Park Conservatory Tree Walk

Franklin Park Staff

Explore the Franklin Park Conservatory grounds on this tree walk with a horticulturist. The Paige and Mike Crane Conifer and Ornamental Grass collection will be highlighted. (Open to public and attendees) Free—No ticket required.

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1:00 pm–5:00 pm

ASTI Workshop: Z133, the New Standard—What You Need to Know and Why You Need to Know It!

John Ball, South Dakota University, Brookings, South Dakota, United States

Timothy Walsh, The Davey Tree Expert Company, Kent, Ohio, United States

From planning the work to working the plan, the Z133 *American National Standard for Arboriculture Operations—Safety Requirements* can guide you and your crew in safely navigating the many hazards of our daily work. The ANSI Z133 just completed its most recent revision, and there are numerous fundamental changes to how we conduct arboricultural operations, from working within electrical hazards to operating a chain saw. This information-packed indoor/outdoor workshop will provide attendees with an interpretation of key parts of the Standard and the risks they can eliminate or reduce. It will be led by Dr. John Ball and Tim Walsh, who will share their experience on the committee to help workshop participants come to view the Standard not as a set of rules that must be followed, but as the key to conducting safe, productive, and efficient arboricultural operations.

3:00 pm–4:00 pm

Historical Tour of the Franklin Park Conservatory Property

Franklin Park Staff

Learn from a Conservatory horticulturist about the rich history of the Franklin Park Conservatory property. Highlights include a tour of the brand new Scotts Miracle Gro Foundation Children's Garden and Grand Mallway. Tour will be for attendees only, as it is inside the park's paid experience. Free—No ticket required.

Sunday, 5 August

8:00 am–3:00 pm

Tree Anatomy Workshop—Day 3

See details under Friday schedule.

8:00 am–5:00 pm

Using the 10th Edition of the Guide for Plant Appraisal

Jim Clark, HortScience, Inc., Simi Valley, California, United States

Tom Smiley, Bartlett Tree Expert Co., Charlotte, North Carolina, United States

Mark Duntemann, Natural Path Forestry, South Royalton, Vermont, United States

This daylong workshop will present the new 10th edition of the *Guide for Plant Appraisal* and provide hands-on activities to illustrate the use of the new procedures.

We will start with appraisal concepts and the appraisal process, but the main focus will be on the cost approach. The income and sales comparison approaches and methods will also be discussed.

9:00 am–10:00 am

Franklin Park Conservatory Tree Walk

Franklin Park Staff

Explore the Franklin Park Conservatory grounds on this tree walk with a horticulturist. The Paige and Mike Crane Conifer and Ornamental Grass collection will be highlighted. (Open to public and attendees) Free—No ticket required.

9:00 am–10:20 am

Branch Out 1: A to Z: A300

Panel

An open forum discussion regarding the A300 series.

9:00 am–12:00 pm

Tree Tour of Green Lawn Cemetery

Rick Frantz, GIS Analyst, Dublin, Ohio, United States

Doreen Uhas-Sauer, Green Lawn Cemetery Association Board, Columbus, Ohio, United States

Green Lawn Cemetery was established in 1848 as part of the rural cemetery movement. As such, it preserves both a remnant of Columbus's native, mixed oak forest and a legacy of traditional cemetery tree plantings. At 360 acres, it is the second largest cemetery in Ohio, and it is recognized as an arboretum. It also features many founding and historical residents of Columbus and beautiful examples of cemetery art. The cemetery has been using ARCGIS technology to study its treescape and initiated a seven-year program to restore the native, mixed oak canopy, understory, and urban wildlife habitat. We will use a combination of bus and walking tours to provide an overview of the treescape, visiting four state champion trees and many others. This is a unique opportunity to tour a large urban tract of remnant native trees and one of the most beautiful cemeteries in Ohio.

10:30 am–12:00 pm

Branch Out 2: A to Z: Z133

Panel

A discussion forum regarding the Z133 *American National Standard for Arboricultural Operations—Safety Requirements*.

11:00 am–12:00 pm

Explore the Franklin Park Conservatory's Tropical Plant Collection

Franklin Park Staff

Explore the Franklin Park Conservatory grounds on this tree walk with a horticulturist. The Paige and Mike Crane Conifer and Ornamental Grass collection will be highlighted. (Open to public and attendees) Free—No ticket required.

1:00 pm–2:00 pm

Historical Tour of the Franklin Park Conservatory Property

Franklin Park Staff

Learn from a Conservatory horticulturist about the rich history of the Franklin Park Conservatory property. Highlights will include a tour of the brand new Scotts Miracle Gro Foundation Children's Garden and Grand Mallway. Tour will be for attendees only as it is inside the park's paid experience. Free—No ticket required.

1:00 pm–4:00 pm

Diagnostic Discovery Walkabout: Sharpen Your Scouting and Tree Problem-Solving Skills

Joe Boggs, Ohio State University Extension, Columbus, Ohio, United States

Amy Stone, Ohio State University Extension, Columbus, Ohio, United States

Jim Chatfield, Ohio State University Extension, Columbus, Ohio, United States

Erik Draper, Ohio State University Extension, Columbus, Ohio, United States

Dave Shetlar, Ohio State University Extension, Columbus, Ohio, United States

Curtis Young, Ohio State University Extension, Columbus, Ohio, United States

The walkabout will be led by a seasoned group of Buckeye instructors with years of experience in diagnosing tree problems and conducting diagnostic training for the green industry. Discussions will cover tree diagnostics, as well as management options and recommendations, with an eye towards supporting sustainable urban trees. Participants will be encouraged to share their own experiences and perspectives to draw upon the collective knowledge of the entire group. This two-way training session will teach participants the value of taking a collective approach to tree problem diagnostics.

1:00 pm–2:20 pm

Branch Out 3: Citizen Science in Urban Forestry: Presenting a Journal Special Issue

Lara Roman, US Forest Service, Philadelphia, Pennsylvania, United States

Eric North, University of Nebraska, Lincoln, Nebraska, United States

How does citizen science fit into urban forestry? Citizen science has been gaining prominence among municipal foresters and not-for-profit organizations, with volunteers engaged in data collection for tree inventories and monitoring. Such projects have included: recording all street trees in a neighborhood or city, developing park tree inventories, finding trees at risk from pest threats, and tracking recently planted trees. Urban forest managers must balance promoting public awareness and learning with data quality needs. Our panelists will share perspectives from varied research and management projects in citizen science. This Branch Out session builds on a new, special issue of the journal *Arboriculture & Urban Forestry* on civic science, and is presented in partnership with the Urban Tree Growth & Longevity working group.

2:30 pm–4:00pm

Branch Out 4: Transforming Chaos & Conflict

Kaizad Irani, Parkland Community College, Champaign, Illinois, United States

Chaos and Conflict—as we all know, is pretty much everywhere human beings gather to live and work, from the battlefield to the conference room, from the boardroom to the class room, and even in the “quiet” of our homes.

This session presents the core insights form several ancient wisdom traditions such as Sun Tzu's Art of War and Musashi's Book of Five Rings, making them relevant and valuable to anyone who seeks more successful and creative approaches to dealing with chaos and conflict, whether at home, in the workplace, or in the midst of any challenging project or situation.

As we learn to perceive the underlying dynamics of these situations, we can learn how to work with them to transform potential conflict into victory.

What's more, when we master these skills, we attain our goals without engendering further conflict and destruction.

EDUCATIONAL SESSIONS

Monday, 6 August

8:30 am–9:20 am

FEATURED PRESENTATION

The Survivor Tree: Witness to Tragedy, Symbol of Strength

Mark Bays, Oklahoma Forestry Services, Oklahoma City, Oklahoma, United States

At the highest point on the grounds of the Oklahoma City National Memorial stands a very special tree. It is special because it resides in the hearts of everyone impacted by the act of violence that struck the Alfred P. Murrah Building and the heart of Oklahoma City, Oklahoma, 23 years ago. This American elm has come to represent hope and healing, and it stands strong, commemorating those who lost their lives, as well as those who survived that tragic day. Come learn the about the recovery of The Survivor Tree and its ongoing care.

9:30 am–10:15 am

Status of Municipal Forestry in the Republic of Moldova

David Gamstetter, Cincinnati Park Board, Cincinnati, Ohio, United States

The Republic of Moldova was formed as a representative republic in 1994, following the breakup of the Soviet Union. The country is small and is one of the most economically disadvantaged countries in eastern Europe, lacking a port and natural resources.

The Moldovan government requires communities to maintain an inventory of public trees, but municipalities view tree inventories and forest management plans as a low priority. Technical resources (e.g., ANSI A300, Z133) are not available, and cultural practices such as cavity-filling and applying trunk paint are widely used. USAID is the lead U.S. government agency working to end extreme global poverty and to enable resilient, democratic societies to realize their potential. We will discuss our travel to Moldova to work with a local government support project, funded by USAID.

Trees as Nature-Based Solutions for Grand Challenges

Cecil Konijnendijk, University of British Columbia, Vancouver, BC, Canada

Cities across the world face an array of challenges, from climate change to population change. Decision-makers have recognized the importance of developing resilient, healthy, and livable habitats for an ever-increasing urban population. Recent years have seen the emergence of a set of concepts and approaches focused on using trees and greenspace to meet urban challenges. Nature-based solutions (NBS) provide sustainable, cost-effective, multi-purpose and flexible alternatives for various objectives. This presentation takes a critical look at the concept of NBS and its current implementation, identifying both opportunities and threats. The current role and contributions of urban forestry are highlighted, for example, in new national greening campaigns, as well as in ‘green city’ campaigns in Europe and North America.

EAB by the Numbers: A FirstEnergy Perspective

Marvin Mantos, FirstEnergy, Akron, Ohio, United States

Presentation of a historical review, by the numbers, of the experiences of FirstEnergy Corporation with EAB. Discussion topics include: the original identification of EAB; recognition of the effect of EAB infestation on the structural integrity of ash trees; management of mitigation activities; management of costs and procurement of budget dollars; effects on reliability, accidents, and incidents; changes to safety rules; expanded use of mechanized equipment; EAB infestation footprint; and looking out for the next pest.

Assessment of Six Practical Indicators of Street Tree Establishment

Gregory M. Moore, University of Melbourne, Parkville, VIC, Australia

A number of factors can influence successful street tree establishment, including inappropriate selection of stock, poor-quality stock, poor planting technique, insufficient irrigation, and more. Urban tree managers need reliable, accurate, and practical indicators of whether street trees have successfully established to inform management decisions. The establishment of street trees planted as large-format stock was investigated using a survey of 510 trees from 21 species managed by three municipalities in Greater Melbourne, Australia. The survey assessed multiple factors indicative of successful or poor establishment.

10:20 am–11:00 am

Morphophysiology and Management of Veteran Trees—Two Case Studies

Stefania Gasperini, Studio Progetto Verde, Ferrara, FE, Italy

Giovanni Morelli, Studio Progetto Verde, Ferrara, FE, Italy

Morphophysiological analysis is based on the predictability of the evolution of a tree. Observations of a tree's present state allows one to reconstruct its past and to predict its future development. In this way, the most appropriate diagnostic or arboricultural interventions can be designed to positively affect long-term structure. In trees, vegetative vigor and mechanical capabilities are not necessarily related. Morphophysiological study permits us to understand when, even with serious stability problems, a veteran tree could have a long aesthetic and functional life. The diagnostic and management programs of these specimens must be revised, enabling them to react to new or changing situations. Case studies will be presented on the application of these concepts to two veteran trees in Italy.

Data and Dollars: Impacts of a Tree Inventory in Detroit

Todd Mistor, City of Detroit, Detroit, Michigan, United States

The City of Detroit, Michigan, has been experiencing intense disinvestment for decades: population loss, diminished resources, and ever-shrinking budgets and programs, resulting in one of the largest municipal bankruptcies in the country. In an effort to offer quantifiable justification for operational resources in the ensuing pledge for accountability, the city forestry division amassed a complete street tree inventory. The data was used to justify budgetary expenditures and led to a rebuilding of program goals. This presentation explores the need to understand resource management history, map out an inventory strategy, and use the data to build momentum for program growth.

Utility Tree Management

Anand Persad, The Davey Tree Expert Company, Kent, Ohio, United States

Trees are ubiquitous in right-of-way (ROW) and electrical corridors and are managed primarily for safe access to lines and hardware. They are proactively pruned cyclically to reduce the risk of outages caused by branch and tree failures and accidental contact with power lines. As utility tree management systems continue to advance, improving utility arboriculture along with addressing environmental concerns become increasingly important objectives. Pruning strategies, for example, are evolving to include more sustainable approaches. What we are leaving behind resonates today in the minds of utility foresters and others who are now guardians of the tree/power line complex. As the health of the urban forest grows in importance and a sense of the benefits of trees continues to rise in communities across North America, what were once secondary objectives, such as aesthetics and wildlife value, are now often forefront considerations. This presentation evaluates emerging concepts in utility tree management such as ROW tree restoration (right tree in the right place); an expanded look at pruning

revisited from the point of view of growth rates and variability with trees species; pruning methods and differentiation of ROW forest canopy with tree type; value of ROW corridor trees as habitat value; and greater consideration of off-corridor trees that may impact system reliability. The rise of secondary objectives to more prominence in utility tree management provides an opportunity for us to reboot our overall assessment of utility trees as a resource worthy of management for generations to come.

1:00 pm–3:00 pm

SYMPOSIUM

Women in Arboriculture: Enhancing Women's Roles and Participation in Arboriculture and Urban Forestry

Dr. Adrina C. Bardekjian, University of British Columbia, Vancouver, BC, Canada

Followed by panel discussion facilitated by Dana Karcher

Arboriculture and urban forestry are viewed as male-dominated professions. Historically, this was the case, because operations were physical and labor-intensive. Despite the challenges that women have faced in these professions, we are seeing more young women embrace new opportunities and pursue careers in these fields. Arboriculture and urban forestry are growing fields of research and practice where women's contributions can be represented, communicated, and celebrated more broadly. More research is focusing on gender balance and the diverse communities that comprise both traditional and urban forest sectors. The speaker will present her research on the subject, followed by a dynamic panel of presenters.

1:00 pm–1:30 pm

Sustainable Urban Forest Management: Turning Rhetoric into Reality

Matthew Wells, City of Santa Monica, Santa Monica, California, United States

Climate change threatens terrestrial ecosystems and the populations that depend on them. Five years of severe drought in California has caused significant damage to the state's urban forests and has impaired their ability to deliver ecosystem services.

This presentation will explore how urban forest sustainability is being approached by the City of Santa Monica, California. It will describe how tree diversity, both in species and age range, is being planned for at a street and park level. The presentation will also describe how GIS mapping and data analytics have been used to create a five-year street-tree planting prioritization model. This model uses eight metrics that consider the condition of the urban forest, environmental concerns, and human needs.

Full-Scale Testing on Tree Contact with the 25-kilovolt Feeders

Duc Hai Nguyen, Hydro-Quebec Research Institute, Varennes, QC, Canada

Experimental testing on tree contact with 25 kV feeders was performed to evaluate the impact of accidental contact and to establish intervention priorities for vegetation management planning. Tests were performed with tree branches with different physical characteristics. This presentation details the results, describing the specific tree contact situation and the associated intervention necessary to ensure public safety and network reliability.

1:00 pm–1:55 pm

TINY TALKS—BIG IDEAS

Just Say No! When You Shouldn't Meet Impossible Client Expectations

Joe Boggs, The Ohio State, Columbus, Ohio, United States

You're looking at a mature "see through" spruce with more stems than needles and the potential client pleads, "can you save my tree?" You don't want to disappoint, you want to be helpful, and you don't want to lose the client's business. But you know you can't bring back the dead. What do you say? Real-life examples, case studies, and audience input will be used in this presentation to help you hone your decision and communication skills to avoid over-promising to meet impossible client expectation.

Hurricane Response: Tropical Tree Care and Landscape Restoration

Guy Meilleur, Historic Tree Care, New Hill, North Carolina, United States

Two hurricanes in two weeks blasted the peaceful island of Puerto Rico in September, 2017. The stunned staff at the Dona Ines Arboretum at the Luis Munoz Marin Foundation in San Juan called for reinforcements, and arborists answered the call. This restoration work on Puerto Rico's primary collection of Caribbean trees will be presented with images and video. Checklists will be provided for listeners to consider when they are confronted with storm damage. Interpreting these strategies with signage, video, and other media is underway, so visitors can appreciate not only the devastation from nature, but the renewal that happens when arborists work with nature.

Tree Watering—You've Been Doing It All Wrong

Darrell Downey, PQ Partners, LLC, Canton, Georgia, United States

Year after year, according to ISA, the number one reason that new tree plantings fail is improper irrigation. We will examine rainfall events and do simple calculations about how much water is provided to both established and newly planted trees. We will venture underground to look at water and soil relations, using a sponge to visualize the effects of soil compaction on both water uptake and oxygen availability.

Storms Over the Urban Forest

Phillip Rodbell, Urban and Community Forestry U.S. Forest Service Northeastern Area State and Private Forestry, Newton Square, Pennsylvania, United States

This session will introduce the revised edition of Storms Over the Urban Forest, a handbook targeting municipal and tree board leaders, public works and parks directors, and local arborists and urban forest managers with a ready reference of updated guidance in planning for, responding to, and recovering from natural disasters.

The Columbus Scioto Greenways Project: An Arborist Perspective

David Kennedy, Kennedy's Arboriculture LLC, Columbus, Ohio, United States

This Ohio tree installation project required mandatory Certified Arborist participation. As the consulting arborist selected by the landscape installer for the project, I was tasked with inspecting the trees at the nurseries for adherence to the ANSI Z 60.1 Standard for Nursery Stock prior to being shipped to Columbus. I was also required to receive and inspect the trees as they arrived for staging. The final aspect of my participation was instructing the installation crews as to completing the installations in accordance with the ANSI A300 part 6 (Planting and transplanting) standard, as well as confirming and documenting that proper protocols were being adhered to as the project progressed. I was also required to troubleshoot arboricultural issues as they became evident.

This project should serve as a model for the requirement of arborist participation in planting projects, which is rarely required in Ohio and most of the country. Although the primary topic of this project is largely practical arboriculture, several other 2018 ISA conference topics would also be applicable, including industry innovation, municipal, sustainability & diversity, and trees & people.

Reusing Urban Soils

James Urban, Urban Trees + Soils, Annapolis, Maryland, United States

Is good old dirt an alternative to expensive and highly processed manufactured soil? Might dirt be better than sand and compost? Find out the answer in just 10 minutes!

Multi-discipline Research, Planning, and Construction of a Freestanding Tree House

de Gourét Litchfield, Svensk TrädVård & Utbildning AB, Ballingslöv, Sweden

The rural municipality of Hässleholm in S Sweden completed the construction of Scandinavia's largest tree house on September 1st 2006. This was a multi-disciplined, European Union (EU) financed project that involved politicians, planners, architects, builders and an arborist. The arborist insisted that no tree be damaged in the construction of this free standing conference center, built on historic land formerly used as a military firing range, on a high ridge overlooking a lake and 16th century castle. This is the story of convincing politicians, leading a group of municipal officials on a tour of northern England and Scotland to study treehouse construction and explaining basic tree science to a positive group of builders and architects. It involves construction techniques new to northern Europe and the strict control of the building phase to avoid any short and long term damage to the surrounding woodland. The final, completed structure is discussed as is its use over the past 22 years and the condition of the tree house and trees within its immediate vicinity today.

1:30 pm–1:55 pm

Drones in Urban and Utility Forestry

Dan Staley, Arbor Drone, LLC, Aurora, Colorado, United States

Commercial operation of Unmanned Aerial Vehicles (drones) has become much easier with new Federal Aviation Administration rules released in 2016. Drones are already flown commercially in the European Union and elsewhere to inspect wind turbines, cell towers, bridges, utility corridors, and other important infrastructure. Are drones right for your business or operation? This workshop will provide information on the background, uses, benefits, costs, training investments, and hazards of aircraft appropriate for drone and utility arboriculture.

Urban Sites and Tree Architecture as Indicators of Tree Performance

Eric North, University of Nebraska-Lincoln, Lincoln, Nebraska, United States

Urban trees provide many anthropogenic benefits, yet tree performance in the urban forest is difficult to evaluate because there is not a single metric available to determine which trees are the highest performers. This study evaluated 292 municipally-managed street and park trees to assess the performance of four commonly planted urban trees: *Acer platanoides*, *Celtis occidentalis*, *Gleditsia triacanthos*, and *Tilia* spp. Performance was assessed based on the canopy projection area, DBH, growth rate, and a newly-developed tree performance index. The amount of pervious surface area under the canopy had a consistently positive influence on all species regardless of the performance metric investigated. The complexity in assessing urban tree performance highlights the importance of identifying the primary desired benefit or objective as part of the tree selection process.

2:00 pm–3:00 pm

Grow to Sell, Sell to Grow: Achieving a Successful and Profitable Balance

Kaizad Irani, Parkland Community College, Champaign, Illinois, United States

Being able to break away from old, conventional patterns and tread new paths has never been more important than it is today. Against a backdrop of explosive economic, technological and societal change, value added is no longer a quality that's 'nice to have' – it's a 'must have'! Design isn't just a service anymore but an experience.

To succeed in this environment, growers need to have a better understanding of designers and designers need to better understand growers and their products. More importantly, both need to understand what their customers want – and what to sell and how to sell it! Drawing on his diverse background and areas of expertise, moving easily from concept to example, from a descriptive voice to an experiential one, from the professional's viewpoint to the client's standpoint, Kaizad will provide you the tools to accomplish these goals and help you make a little green in the green industry!

2:00 pm–2:30 pm

In a Transforming Neighborhood, Partnering to Grow the Urban Forest

James D. Kaechele, New York City Parks, New York, New York, United States

The Hudson Square district, located in the lower west side of Manhattan, New York City, has rapidly transformed from the city's central printing hub filled with industrial warehouses to a buzzing commercial and residential neighborhood, with more than 40,000 daily commuters. In 2013, the city rezoned the district to accommodate this shift in land use. The Hudson Square Connection (HSC), a not-for-profit organization that oversees the business interests of the district, prioritized urban greening and sustainability. In partnership with the New York Tree Trust and the New York City Parks Department, HSC developed a comprehensive neighborhood-level tree-planting standard to be implemented throughout the whole district. This presentation will provide an overview of the partnership, an assessment of the successes and challenges of implementation, and offer suggestions on how this partnership can serve as a model for other communities.

Bounce back! The Importance of Resilience in Tree Work

Mark Bridge, Treemagicians, Basel, Switzerland

Previously, when considering assemblies of equipment in tree work, the main consideration has been compatibility and configuration. There is, however, a key term missing, which is resilience. This presentation examines the concept of resilience and its relevance when considering the design of equipment and systems, as well as the ability of teams and individual operators to withstand and function in adverse circumstances. The aim is to help attendees understand the interaction between phases of stress/load and the return to a state of relaxation afterward, allowing individuals to incorporate checks and balances and to build more stress-resistant structures—whether the structure is an assembly of climbing equipment or a team.

2:30 pm–3:00 pm

How Much Can the Ground Take?

Travis Vickerson, Vertical Landscapes, Raleigh, North Carolina, United States

This presentation takes an in-depth look at outrigger setup for cranes, lifts, and loaders, using the math of load-bearing capacity and outrigger area and explaining why just placing a pad is not enough. We must understand the science and the math of pressure and exerted force on soils if we want to stop tipping over equipment and causing incidents. This talk will focus on outrigger pad selection, supplemental support, and setback during the equipment set-up phase. The focus will be on the math, with emphasis on understanding the different types of supplemental support systems and how those forces translate to the soil and then outwardly to underground structures and soil types.

Creating Funding Options for Urban Forestry

William (Bill) H Hahn, G. Stephens Inc, Westminster, Maryland, United States

Jonathan M. Malish, City of Akron, Akron, Ohio, United States

Compensation for tree damage is still fairly uncommon. Akron, Ohio, has been systematically collecting tree damage reimbursements for six years. Within the first quarter this year, revenues were expected to exceed USD \$1 million. Creating a spreadsheet of the ISA appraisal formulas and teaming with the police and law departments, as well as developing a plan review process and modifying our construction specifications, Akron began to see a safer and healthier urban forest. For example, given the number of vehicular accidents and construction projects, damage without compensation happened far too often. Why continue to lose money and historical trees when one can improve public safety as well as urban forest health and longevity?

4:00 pm–5:00 pm

STUDENT PRESENTATIONS

Make No Small Plans: OSU's Goal to Double Tree Canopy

Ryan Vogel, The Ohio State University, Columbus, Ohio, United States

Trees have potential for long lives, but in urban environments, these lives are shortened as a result of economic and development pressures. Despite the overwhelming consensus that trees provide a plethora of ecosystem services, they are often neglected in comprehensive planning agendas. We believe bold urban forest plans can be possible with properly aligned legislative, financial, technological, and human resources. As central Ohio experiences rapid development and population growth, Ohio State University has established an ambitious urban forest sustainability plan which entails doubling campus tree canopy between 2015 and 2025. This presentation will describe key strategies and challenges involved with attaining this goal and provide an update on progress to date.

Residential Urban Forest Management in Malmö, Sweden

Blaz Klobucar, Swedish University of Agricultural Sciences, Uppsala, Sweden

Much of the urban forest in Sweden is privately owned. So far, there have been no attempts to sample or monitor the residential urban forest on the individual tree level.

A longitudinal plot-based inventory will provide information on age distribution, crown volume, tree vitality, and species diversity along with other structure data, to be used for calculation of ecosystem services provided by i-Tree Eco. Periodical re-measurements will allow for resource monitoring. Scenarios will be designed to estimate the effects of future environmental, climatic, and organizational changes on a city-scale urban forest. This will lead to formulation

of new management approaches for future provision of ecosystem services by the whole urban forest with the aim of mitigating climate change, densification, and urbanization.

Arboricultural Literature: Technology Transfer Solutions

Anna DeToro, The Ohio State University, Columbus, Ohio, United States

The arboricultural industry needs to move toward a more innovative approach to education. Through education and information retention, we can recruit more children, students, and professionals from all age groups in hope of sparking interest in this field. This study seeks to reformulate arboricultural scientific content into a more palatable format using audio and video technology to better deliver technical information to a mainstream audience. Videos that can be linked to popular social media sites can educate individuals about the field of arboriculture. Fact sheets and scholarly articles may be too long and technical for many people, but a more accessible 3–5 minute video will encourage education. This project is one of many building blocks needed as we move toward a more technologically-advanced green industry.

SYMPOSIUM

The Ohio Tree Commissions: What Makes Us Tick?

Ohio Chapter ISA

Ohio has led the United States in the number of Tree City USA communities since 1978, so our villages and cities have learned many lessons along the way. All communities face a variety of challenges, yet the one thing they all have in common is that they are all different. Local cultures, history, and structure offers communities opportunities to identify novel solutions to address their urban forest management needs.

4:00 pm–4:30 pm

Developing DED-Tolerant American Elm & Restoration of the Urban-Rural Landscape

Charles E Flower, USDA Forest Service, Delaware, Ohio, United States

Cornelia C Pinchot, USDA Forest Service, Delaware, Ohio, United States

Restoration of the American elm (*Ulmus americana* L.) across the landscape necessitates the development of new selections that not only exhibit Dutch elm disease (DED) tolerance, but also increase the genetic variability of commercially available elms. Ongoing efforts at the USDA Forest Service Forest Sciences Laboratory in Delaware, Ohio, have yielded a new cohort of DED-tolerant selections for these endeavors. Recent DED tolerance testing of large survivor American elms, crosses among DED-tolerant American elms, and crosses between large survivor and DED-tolerant elms has revealed several new selections with tolerance levels that meet or exceed commercially available American elm cultivars.

Engaging Citizen Scientists in

Monitoring and Stewardship of Young Trees

Dana Dentice, Pennsylvania Horticultural Society, Philadelphia, Pennsylvania, United States

Lara Roman, U.S. Forest Service, Philadelphia, Pennsylvania, United States

Volunteer stewardship is integral to urban forest management, with volunteer roles including tree planting, maintenance, and data collection—the latter generally referred to as citizen science. We present a case study of Tree Checkers, an evolving urban forestry citizen-science program at the non-profit Pennsylvania Horticultural Society (PHS) in Philadelphia. We will provide background on the PHS Tree Checker program's origins, purpose, and research collaborations. We will outline the operations of the program, discuss efforts to enhance the program through mobile data collection, and conclude with lessons learned to provide guidance to other urban forestry practitioners and researchers considering starting or enhancing a citizen science program.

4:30 pm–5:00 pm



Street Tree Longevity: Tree Growth and Response Over Forty Years

Richard Hauer, University of Wisconsin, Stevens Point, Wisconsin, United States

City trees face the dynamics of construction and repair of the built environment associated with the life spans of utilities, streets, curbs, and sidewalks. This talk will detail a population of over 900 urban street trees in Milwaukee, Wisconsin, evaluated since 1979. This talk covers both the short-term and long-term outcomes of what a construction damage prevention program can do for a community. This study will collect data to quantify the long-term effects of construction damage to urban street trees. Study findings show the effects of lawn width, species, tree size, tree construction, and construction type on tree survival, growth, and condition. Arborists, urban foresters, planners, construction workers, and ultimately decision-makers will receive take-home messages on how to enhance tree growth and survival.

Which Fungi Matter and What Are They Telling Us?

Curtis E. Young, The Ohio State University, Columbus, Ohio, United States

Several common fungi can cause decay in landscape and streetscape trees, including heart, trunk, butt, and root rots. The resulting decay weakens the integrity of limbs, trunks, and roots, and may ultimately lead to failure of the tree. Significant decay under favorable growth conditions for the fungi can occur in relatively short periods (i.e., months to years). Frequently, decay isn't visible on the outside of the tree until the bark loosens from the trunk, a cavity opens, or when the fungi generate reproductive structures. These reproductive structures, or "fruiting bodies," are used to identify the rot-causing fungus. Identification of the fungus is imperative, for some fungi are more significant than others. Based on the species of fungus present, management decisions can be made or recommended. Management of these fungi is limited to maintaining a healthy tree, pruning infected parts of the tree, or complete removal of the infected tree.

Tuesday, 7 August

9:00 am–11:00 am

SYMPOSIUM

Creating a Sustainable Urban Forests Science and Practice Network

Facilitators:

Scott Maco, The Davey Institute, Kirkland, Washington, United States

Paul Ries, Oregon State University, Corvallis, Oregon, United States

Owen Croy, Faculty of Forestry, Vancouver, BC, Canada

Panelists:

David Gamstetter, Cincinnati Park Board, Cincinnati, Ohio, United States

Rich Hauer, Richard Hauer, University of Wisconsin, Stevens Point, Wisconsin, United States

Cecil Konijnendijk, University of British Columbia, Vancouver, BC, Canada

David Nowak, USDA Forest Service, Syracuse, New York, United States

Jessica Sanders, Casey Trees, Washington D.C., United States

Matthew Wells, City of Santa Monica, Santa Monica, California, United States

Jess Vogt, DePaul University, Chicago, Illinois, United States

The Sustainable Urban Forests Coalition (SUFC), of which ISA is a member, is working on the creation of an urban forestry Science and Practice Network. In this interactive session, researchers, practitioners, and audience members will discuss desires and needs for future research directions and technology transfer opportunities. Each panelist will have eight minutes to provide an introduction to their topics of interest and an assessment of research and practice needs in the field of urban forestry. Audience members will have 45 minutes to interact with the panel and each other to further explore the topic.

SOILS PANEL

Urban Tree Space Design: Myths, Case Studies, Best Practices

Tyler Stevenson, ODNR Division of Forestry, Columbus, Ohio, United States

James Urban, Urban Trees + Soils, Annapolis, Maryland, United States

The process of designing and implementing a tree space in an urban site is complex and requires a thorough understanding of the interaction of urban systems and existing conditions as well as site engineering and landscape architecture. James Urban, FAS-LA, and Tyler Stevenson will present two approaches that will inform arborists and urban foresters how to better understand and control the process of including trees in complex urban construction projects. The session will be relevant to arborists and urban foresters who are functioning as reviewers of the design or work, individuals in charge of the design and or the construction, and site managers after project completion looking for potential design or construction mistakes that may be causing trees to decline despite the best of intentions.

The What, Why, & How of High-Performance Urban Trees

Jeremy Bailey, *GreenBlue Urban, Woodstock, Ontario, Canada*

What is a “high-performance” urban tree? Why should we increase investment in order to produce high-performance trees? What are the key things that specifiers, designers, property owners, and residents want to see from an increased investment in urban trees? Is it stormwater management, carbon mitigation, oxygen production, wind deflection, noise abatement, urban heat island reduction, street beautification—or is it other benefits that healthy trees offer? What is the ROI of the “average” urban tree planting over the life of the tree compared to the ROI of a high-performance tree? At what point does performance outweigh cost? This session addresses these questions in a thought-provoking presentation that analyzes and defines the factors that contribute to high-performance trees, and the key to realizing their benefits through design. It reviews the best practices and design techniques that successfully integrate trees into urban infrastructure, and provides examples of how high-performance trees have been established in regional and international case studies.

Root Growth Under Pavement: Two Urban Plaza Studies

Tom Smiley, *Bartlett Tree Research Lab, Charlotte, North Carolina, United States*

Jim Urban, *Urban Trees + Soils, Annapolis, Maryland, United States*

Growing trees in center city areas or in other places where there is little open space for root development can be challenging. This talk will present the results of two controlled studies of trees grown with pavement over their root systems and a confined rooting area. The first is a ten-year study of elm trees and the second is a recently-completed, three-year study of *Liriodendron*. Compared in the studies were various structural soils and supported pavement. Both studies resulted in significant differences in tree growth.

Ohio Urban Site Index

Stephanie Foster-Miller, *Ohio Department of Natural Resources, Findlay, Ohio, United States*

The Urban Site Index (USI) is a systematic approach for evaluating sites with a corresponding species evaluation. USI pays homage to traditional forestry's site index, which is a measurement used in silviculture (forest management) to gauge soil quality and better predict tree future growth. Foresters use site index to decide which species to plant or favor in a forest stand.

Alan Siewert and Stephanie Foster-Miller developed the Urban Site Index (USI) process, a rapid assessment tool that uses four soil observations and four street observations to assess the quality of the planting site on a tree lawn. The USI assessment assigns a number between 0 and 20 for a street or site.

An entire community can be surveyed with little to no expense in a relatively short time. It has become a common management tool for Ohio communities in developing their 50 to 100-year Master Planting Designs.

A Rapid Urban Site Index for Street Tree Planting Sites

Bryant Scharenbroch, *University of Wisconsin, Stevens Point, Wisconsin, United States*



Urban trees experience site or soil-induced stress and this leads to reduced growth and health. A site/soil assessment tool would be useful for urban forest managers to better match species tolerances and site/soil qualities, and to assess the efficacy of soil management actions. Toward this goal, a rapid urban site index (RUSI) model was created and tested for its ability to predict urban tree performance. The RUSI model is field-based assessment tool that scores 15 site/soil parameters in approximately five minutes. Research was conducted in eight cities throughout the Midwest and Northeast U.S. to test the efficacy of the RUSI model.

9:00 am–9:40 am

Arborist Role in Disaster Planning: Recovery with Urban Forest Strike Teams

Dudley Hartel, *USDA Forest Service, Baton Rouge, Louisiana, United States*

John Parry, *U.S. Forest Service, Durham, New Hampshire, United States*

Natural disasters cause significant damage each year to our urban forests and the resulting assessment and cleanup responsibilities are a challenge for many communities. The Urban Forest Strike Team (UFST) initiative involves recruiting and training professional arborists to assess urban tree storm damage. The goals of UFST assessments are to assist communities in need, provide increased public safety, reduce loss of the urban tree canopy, document disaster recovery need and cost for FEMA reimbursement, and provide for more efficient recovery. Disaster planning, coordination with local and state emergency managers, and pre-storm mitigation will help reduce the direct cost of debris management for many communities and serve to enhance UFST participation during response or recovery.

Pruning to Death: Topping can also Affect Microclimate Conditions

Francesco Ferrini, *University of Florence, Florence, Italy*

Urban trees provide many benefits in terms of thermal comfort and Urban Heat Island (UHI) mitigation during the summer season. These benefits are strictly linked to tree canopy, but the management of trees in the urban environment includes pruning activities. The aim of this research is to evaluate the effects of topping on plant growth and physiology and on microclimatic conditions. We hypothesized that topping can affect temperature of air and soil and air relative humidity. This presentation will discuss the research findings.



9:40 am–10:20 am

American Chestnut Restoration: An Icon Returns

Carolyn S. Keiffer, *The American Chestnut Foundation (Miami University), Middletown, Ohio, United States*

The American Chestnut was an iconic tree of the eastern deciduous forest. Its influence was massive—not only in size and prevalence—but also because of its indispensability as a food and lumber resource. Unfortunately, the accidental introduction of the Asian fungus *Cryphonectria parasitica* in the early 20th century has resulted in the near extinction of this once dominant tree. Through traditional crossbreeding and genetic engineering, the American Chestnut Foundation is poised to reintroduce a blight resistant chestnut tree back into its native range within the eastern deciduous forest. Large scale restoration plantings on mine sites, clearcuts, and forest gaps have yielded excellent growth and survival rates. Ongoing projects with public and private groups will be discussed in this presentation. The re-establishment of a self-sustaining chestnut to the canopies of eastern forests is a multi-generational project and is one of the most exciting ecological restoration transformations ever attempted.

As the Climate Changes Urban Forests Will Feel the Heat

Daniel A. Hermis, *The Davey Tree Expert Co., Kent, Ohio, United States*

Earth has warmed sharply in recent years, changing regional climate patterns and having significant impacts on urban forests and arboriculture. Tree growth and physiology, species range, pest pressure, water use, timing and efficacy of plant health care techniques, and outdoor working conditions all are being affected. The carbon dioxide concentration of Earth's atmosphere has increased from 280 parts per million (ppm) at the dawn of the industrial revolution in the late 19th century to more than 400 ppm today. The effects of climate change are predicted to intensify and accelerate in coming decades due to the impacts of increasing greenhouse gas emissions. In this presentation, we will explore the regional impacts of continued climate warming on arboriculture and urban forestry, as well as the potential for urban forests to mitigate climate change through carbon sequestration.

10:20 am–11:00 am

Genetic diversity within the Urban Forest

Philip Gruszka, *Pittsburgh Parks Conservancy, Pittsburgh, Pennsylvania, United States*

Current tree propagation practices are clonal either by tissue culture or cuttings. Within cultivars of tree species that are clonal, there is no genetic diversity. As urban foresters remove old dying trees species and replace them with contemporary cultivars, the overall genetic diversity within the urban forest declines. While urban foresters look to maximize genetic diversity, replacement tree cultivars hinder that objective.

This presentation does not condemn current practices, it only serves to make urban foresters aware of the issue and offers opportunity for a new business

model. Harvesting seed from local tree populations that have withstood the test of time are genetically ideal for that given region. The genetic makeup of these trees are preserved for future generations to openly pollinate and continue to promulgate their respective species.

Goals of a regional breeding programs are to provide the propagation industry genetically diverse species for the greater marketplace and make available restoration and landscape grade trees for the local market.

Basic Field Diagnostics

Jennie D Mazzone, Bartlett Tree Research Laboratories, Charlotte, North Carolina, United States

So you're an arborist, but how much do you really know about solving the mystery of a sick tree? In this presentation, you'll learn to see the landscape through the eyes of a diagnostician. You'll also learn how to observe and think about the health of the tree in the broader context of the landscape. We'll cover topics such as recognizing abiotic stress factors, the significance of site history, how symptoms can indicate which part of the tree is sick, and some common disease and insect problems to watch for. If you're looking to improve your plant health care skills, this session is for you!

12:00 pm–2:00 pm

SYMPOSIUM

Tree Biomechanics

Ward Peterson, Davey Resource Group, Aurora, Ohio, United States

The arborist community's understanding of the structure and functions of trees has increased substantially over the last decade. ISA, Davey, and dedicated volunteers helped to coordinate the synergy among researchers, companies, and technicians who collaborated in a creative climate of creativity at the three Biomechanics Research Weeks in Ohio, U.S. These interactions helped to broaden participants' potential ideas, research, connections, and contributions. Researchers and technicians will present results of the research in a number of concise, easy-to-understand lectures.

Root and Stem Cutting and the Impact on Tree Stability

Tom Smiley, Bartlett Tree Research Lab, Charlotte, North Carolina, United States

Assessment of Uprooting Strength and Recovery after Root Failure for *Platanus Occidentalis*

Philip van Wassenae, Urban Forest Innovations, Inc., Mississauga, Ontario, Canada

Will Standard Reduction Pruning Regenerate Smaller, Safer Trees?

Guy Meilleur, Historic Tree Care, New Hill, North Carolina, United States

Crown Restoration Pruning of Damaged Trees

Jake Miesbauer, The Morton Arboretum, Lisle, Illinois, United States

Radial Secondary Root Growth Patterning in Maple

Jason Grabosky, Rutgers University, New Brunswick, New Jersey, United States

Tree-top Perspectives from Biomechanics Technicians

Chad Clink, Bartlett Tree Experts, Columbus, Ohio, United States

Jim Funai, Cuyahoga Community College, Highland Hills, Ohio, United States

12:00 pm–12:40 pm

Ornamental Trees Gone Bad: How the Callery Pear Became Invasive

Theresa Culley, University of Cincinnati, Cincinnati, Ohio, United States

Callery pear (*Pyrus calleryana*) trees, represented by cultivars such as 'Bradford', 'Cleveland Select', and 'Aristocrat', can be found in many residential yards and tree islands in commercial areas. This self-incompatible, Chinese species was imported into the United States in the early 1900s to serve as rootstock and as a source for fire blight resistance in the edible pear, *P. communis*, before its ornamental potential was recognized in the 1960s. More recently, wild Callery pear trees started to appear in natural areas and along roadsides in many states. Removal of these trees now costs parks and municipalities thousands of dollars annually. The pear has become invasive in the U.S. because of hybridization that is occurring among the different cultivars commercially available. One solution in Ohio is commercial regulation of the species following a phase-out period, along with promotion of suitable alternatives. The lessons learned from this species are now being applied to other situations and species.

Good Leadership—The Key Ingredient

Jay Maier, Green Collar Consultants, Rochester, Minnesota, United States

The responsibilities of leading a company are many. Owners and managers are often the primary arborists, and thus carry substantial weight: finding and engaging talented employees, doing marketing, sales, bookkeeping, and equipment maintenance, not to mention earning a profit. Moving from an "arborist who is a leader" to "the leader of the company" is a very difficult transition. The good news is that it can be achieved through well-crafted leadership skill—a skill that requires work and practice, not unlike climbing or pruning. A leader makes sure everyone on the team clearly understands what the business is striving to accomplish, and then organizes and inspires them to accomplish it. We will look together at how good leadership—the key ingredient in running a successful business—can be achieved.

Fertilizers and Fertilization; Much To Discover!

Joe R. Samnik, Expert Tree Consultant LLC., Palm Harbor, Florida, United States

Arguably the most misunderstood area of tree science is fertilizers and their application. They are also one very formidable piece of your future's financial puzzle and the success that comes with it. This presentation will guide you through the maze of fertilizers and basic soil sciences that played a role in

the settlement of a 14-million-dollar product liability lawsuit. This presentation will benefit you and your business as you advance from the choices of advertised fertilizers to applied knowledge that will take you to the next level in the marketplace.

12:40 pm–1:20 pm

How to Get the Most Out of Your New Hires

Brad Hughes, Arbor R.O.W., Osceola, Missouri, United States

The tree care industry, like many other industries, is experiencing a labor shortage that is likely to get worse before it gets better. Hiring employees has always been a costly endeavor, but that is especially true in tree care, where liability and workers' compensation insurance rates are relatively high. As a result, hiring new employees is a more risky and expensive proposition than ever before, and, by extension, turnover is also more costly. In order to remain competitive under these conditions, emphasis should be placed on hiring the right personnel, training them effectively and efficiently, and then retaining them. Choosing, onboarding, and training employees methodically means increased control over costs can be achieved through increased production, decreased insurance rates, reductions in lost time, fewer instances of turnover, and higher employee morale.

New Understandings of Lightning & Tree Damage

Kim D. Coder, University of Georgia, Athens, Georgia, United States

Research and its applications on lightning attributes continue to change and modify our perceptions of proper tree protection and care. Estimating average and extreme lightning forces applied through and around trees suggests a number of means for better protecting trees and sites.

It is clear some aspects of lightning protection systems designed for buildings and towers do not effectively defend ecologically-viable space surrounding trees. Lightning ground strike risks to trees need to be more carefully determined. Both aboveground and belowground tree injury should be recognized for both initial extent and long-term impacts. Historically and culturally significant, large and rare specimens, and recreational site trees should all receive additional consideration in protection plans. This talk will review both lightning research findings and lightning/tree interactions with applications to tree protection and sustainability.

Fertilizers: The Good, The Bad, and The Generally Unnecessary

Linda Chalker-Scott, Washington State University, Tacoma, Washington, United States

There are hundreds of fertilizer-type products widely marketed for use on trees and landscapes. These include biostimulants, chelated nutrients, "complete" fertilizers, microbial inoculants and probiotics, and transplant fertilizers, which can be applied to the soil, to the foliage, or even injected into the soil or trunk. This presentation will consider the science behind both the product types and the methods of application, providing a practical guide for arborists in choosing and applying the most appropriate nutrient source.

1:20 pm–2:00 pm

Creating Healthy Soil in the Residential Setting

Sylvia McNeil, McNeill's Tree Service, Corvallis, Montana, United States

Soils in highly urbanized areas where infrastructure and impervious surfaces dominate may require augmented management. Residential soils share the commonality of construction activities and other anthropogenic influences but, to a lesser extent, often have larger quantities of soil volume with which to work. With larger soil volume, soils have the capability of being self-sustaining, yet their ability to do so is often compromised by management decisions made by the homeowner or professionals. An understanding of how healthy soil is created in a residential setting and becoming familiar with soil constituents and their interactions with plants is necessary for making decisions which will improve the health of the entire landscape ecosystem. This lecture will walk through an introduction of what healthy soil is and how it is created. It will also introduce the main constituents of the soil ecosystem and how they are important to the overall functionality of the natural system within residential settings.

The Crumbling Foundation of Modern Arboriculture: Finding Climbers?

Austin Wienecke, Arbor Care Tree Specialists, Astoria, Oregon, United States

Talk with any company owner and the problem of finding employees who will enter our industry and stay is becoming more and more difficult. Whether it is a generational issue or an issue of a changing economy, the fact remains that our industry, like other hand trades, is seeing a vacuum of entry-level employees. Looking at the question of why this is happening and what we can do as an industry and as individual company owners is the basis for this presentation. We need to think about how we manage employees. We need to think about how we attract new employees. We need to think about how our individual challenges of finding qualified employees may translate into the overall decline of our industry.

Mature Tree Transplanting: Science Supporting Best Management Practice

Gary Watson, The Morton Arboretum, Lisle, Illinois, United States

Replicated research on transplanting large, mature trees is not practical for logistical and financial reasons. Instead, we must apply the knowledge we have gained from the study of smaller trees to maximize success on this larger scale. This presentation will first summarize our understanding of tree biology and horticulture as it contributes to the successful transplanting of trees, such as root loss and regrowth, water stress, carbohydrate status, root ball size, preparatory root and canopy pruning, and timing of operations. The discussion will note gaps in our knowledge base that, if filled by additional research, could improve the transplant success of trees. This will be followed by a look at the evolution of the methods and equipment used to transplant mature trees for more than a century, and how modern methods are supported by science and best practice.

3:00 pm–3:40 pm

SYMPOSIUM

Tree Biomechanics (Continued)

Ward Peterson, Davey Resource Group, Aurora, Ohio, United States

The arborist community's understanding of the structure and functions of trees has increased substantially over the last decade. ISA, Davey, and dedicated volunteers helped to coordinate the synergy among researchers, companies, and technicians who collaborated in a creative climate of creativity at the three Biomechanics Research Weeks in Ohio. These interactions helped to broaden participant's potential ideas, research, connections, and contributions. Researchers and technicians will present results of the Biomechanics research in a number of concise, easy-to-understand lectures.

Facilitating Destructive Biomechanics Tree Research

Mark J Hoenigman, Busy Bee Services, Ltd., Novelty, Ohio, United States

Testing Cabled and Braced Canopies in Mature Tree Canopies

Greg Dahle, West Virginia University, Morgantown, West Virginia, United States

Stories from Biomechanics Week: Past, Present, and Future

Greg Dahle, West Virginia University, Morgantown, West Virginia, United States



White Hat Hacking the

TRAQ Methodology

James Komen, Class One Arboriculture, Glendale, California, United States

The term hacker is most often used in its negative connotation. A black hat hacker seeks system weaknesses out of malice or with the intention of causing harm or selfish gain, but a white hat hacker works to anticipate such system weaknesses with the intention of informing users and improving the system or its implementation.

In this presentation, the speaker plays the role of a white hat hacker for the widely-accepted Tree Risk Assessment Qualification (TRAQ) methodology. It will show ways that the outcome of a tree risk assessment can become distorted either accidentally or intentionally. The goal is to aid reviewers of risk assessment reports and users of this methodology in reviewing or performing risk assessments with a critical eye.

Training the Next Generation of Arborists

John Ball, South Dakota University, Brookings, South Dakota, United States

Arboricultural post-secondary education is struggling for survival. There have been numerous programs cut during the past decade while very few expanded or created. Many programs are only one faculty deep, and arboriculture is a course rather than a curriculum. This means that arboriculture instruction

may be limited to the knowledge and skill set of a single faculty member.

This session will highlight the findings from two web-based surveys, one to educators in two- and four-year programs that teach arboriculture, and one to potential employers. The survey data will be used to show gaps between the knowledge and skills that are being taught at post-secondary schools and what employers view as valuable in new workers. It will also illuminate, more importantly, the skills and knowledge base that employees are willing to pay more for in new employees.

Tree Atlas, Forest Health, and Future Tree Risk Assessment

Anantha M. Prasad, USDA Forest Service, Delaware, Ohio, United States

Louis R. Iverson, USDA Forest Service, Delaware, Ohio, United States

Predictions of rapid changes in climate translates to altered tree habitats in the future. In the eastern U.S., some tree species are likely to benefit from more suitable habitats, while others will be threatened by declining habitats. The latter will have to adapt in situ, migrate, or face extinction. These, along with other human-induced and natural disturbances are likely to put some tree species at increased risk, threatening overall forest health. Using the climate change tree atlas (<https://www.fs.fed.us/nrs/atlas/>) and other spatial products developed in our research station, we discuss the future of forest health and sustainability in the eastern U.S. that is relevant to arborists and others interested in knowing what the future entails for many tree species.

3:45 pm–5:00 pm

FEATURED PRESENTATION

NASA and the Arborist: An

Accidental Collaboration

Matt Melis, NASA Glenn Research Center, Akron, Ohio, United States

In February of 2003, Space Shuttle Columbia was lost while returning home, the consequence of an impact on its wing leading edge from a piece of insulating foam during launch. It would be two and a half years before the Shuttle would fly again following an extensive impact test program conducted by NASA researchers.

Critical to the program was the ability to measure the deformation of Shuttle test articles as they were subjected to impact tests using a stereo imaging technology. Nearly ten years later, NASA Glenn Research Center and The Morton Arboretum entered into a collaboration to use the same technology to capture the biomechanical deformation response of trees subjected to adverse loading. Matt Melis, Aerospace Engineer from the NASA Glenn Research Center, will provide an overview of how stereo imaging supported the Columbia accident investigation and return-to-flight, followed by details of the NASA/Morton effort.

Wednesday, 8 August

8:00 am–8:40 am

L.C. Chadwick Award Winner

Richard J. Hauer, Ph.D., University of Wisconsin, Stevens Point, Wisconsin, United States

It Takes a Village to Raise an Urban Forest

The path towards a research discovery is paved by many people who raise a research question from the foundation to a greater height of discovery. Dr. Hauer will present his journey with a focus on selected arboriculture and urban forestry research projects. His talk gives special attributions of key people, ideas, and discoveries through research findings in trees and construction, ice storms and tree management, stem girdling roots, municipal forestry operations, emerald ash borer management, tree planting methods, the costs of not maintaining trees, and more.

8:40 am–8:50 am

Good Ole Rocky Top: Knoxville, Tennessee 2019!

Sharon Jean-Philippe, University of Tennessee, Knoxville, Tennessee, United States

9:00 am–9:30 am



Urban Tree Canopy

Cover Change in Philadelphia

Lara Roman, U.S. Forest Service, Philadelphia, Pennsylvania, United States

Many cities in the United States have set ambitious goals to increase their urban tree canopy cover. By looking to the past, we can better understand the rates and processes of tree cover change. This presentation shares findings from a study of 40 years of urban tree canopy cover change in Philadelphia, Pennsylvania, from 1970 to 2010. Using aerial photography from each decade, we laid 10,000 points randomly across the city to manually interpret land cover for each point. This study represents long-term analysis of urban tree canopy cover change using a time window long enough for trees to show substantial growth and demonstrating the continually fluctuating nature of urban tree canopy.

9:00 am–9:40 am

A Review of Deaths in Australia from Accidental Tree Failures

Mark Hartley, The Arborist Network, Shanes Park, NSW, Australia

Arborists and society as a whole are more aware of the risk from trees than they were 20 or 50 years ago. Images of fallen trees, crushed cars, damaged houses, and reports of close calls and fatalities are readily transmitted on television and via electronic media. At the same time, the disproportionate attention given to tree failures and associated deaths, along with the actions of well-meaning arborists, has probably resulted in an exaggeration of the risk of harm associated with trees. To help arborists better understand the risk associated with trees, a database of deaths arising from accidental tree failures in Australia from 1858 to 2017 was compiled. The information will allow arborists to better understand and communicate the risks associated with trees and to provide more meaningful benchmarking of the risks associated with accidental tree failures.

9:00 am–11:30 am

The Ohio State University Campus Tour

Steve Volkmann, The Ohio State University, Columbus, Ohio, United States

Kim Moss, The Ohio State University, Columbus, Ohio, United States

Mary Maloney, The Ohio State University, Columbus, Ohio, United States

Tour the OSU campus by bus with stops allowing an opportunity for more in-depth observation and discussion. We will visit Mirror Lake Hollow and Oval area, Woody Hayes Bridge, and finally Chadwick Arboretum and Learning Gardens and Arboretum North. As we travel campus, guides will point out landmarks, new developments, and recent street tree plantings. This tour will be a combination of walking and bus travel. Tour leaders include Stephen Schneider, Steve Volkmann, Kim Moss, and Mary Maloney. (Ticket required)

9:15 am–3:30 pm

SCA Field Day: A Three



Destination Tour: Franklin Park Conservatory, Ahlum & Arbor Tree Preservation, and Land Grant Brewery

Chris Ahlum, Society of Commercial Arborists, Columbus, Ohio, United States

Join the Society of Commercial Arboriculture on our annual field day during which we will explore the best Columbus has to offer to commercial arborists! This year, we will be taking a guided tour of the Franklin Park Conservatory and visiting the operation headquarters for Ahlum & Arbor Tree Services owned by SCA Board President Chris Ahlum. We hope you will join us! (Ticket required)

9:15 am–4:15 pm



SMA: A Walking

Tour of Downtown Columbus Trees

Steve Cothrel, City of Upper Arlington, Upper Arlington, Ohio, United States

Lisa Bowers, Ohio Department of Natural Resources, Hebron, Ohio, United States

Downtown Columbus is a vibrant neighborhood with several distinct districts. As various areas of downtown have been redeveloped over the past decade, many examples of innovative street tree and green infrastructure installations have been built. Many of these modern streetscapes and adjacent historic neighborhoods are within walking distance of the convention center. Tour leaders from Columbus and nearby communities will lead small group walking tours of the downtown area to review, evaluate, and critique some of the technologies and techniques employed to make Columbus a greener city and downtown a more sustainable neighborhood.

This tour will cover a variety of parks and neighborhoods in the downtown Columbus area. The tour will be led by a team of professional urban foresters and members of the City of Columbus Tree Sub-Commission. Some of these professionals will also guide small groups along the tour route (attendees will walk several miles, but rest breaks will be included). (Ticket required)

9:30 am–10:00 am



Selecting and Field Testing

Climate-Ready Trees in California

Janet Hartin, University of California Cooperative Extension, San Bernardino, California, United States

Urban forests are at risk from stressors associated with climate change, such as drought, heat, pests, and extreme weather events. A study started in 2015, which is expected to continue over 20 years, will contribute to the knowledge needed to shift urban forest planting palettes to species that will be more resilient to these stressors. A five-step process for selecting and field-testing tree species was created for this study. Trees planted at reference sites receive superior growing and maintenance conditions, whereas those in each park site are subject to challenges, such as compacted soil, vandalism, under-watering, and overwatering. Results will help urban foresters, landscape architects, planners, and local tree planters select trees for planting that can improve the stability and long-term success of future urban forests. The five-step process created for this study can serve as a model for people locally and internationally who are interested in conducting a similar study modified for their climate zone.

9:40 am–10:20 am

Introducing the Haddon Matrix:

Only You Can Prevent Injuries

Alex Julius, International Society of Arboriculture, Champaign, Illinois, United States

The Haddon Matrix is a brainstorming tool that was introduced in the 1950s to help prevent car accidents. It is used by identifying key areas pre-, during, and post-event, where if prevention methods were introduced, an incident or the impact of that incident could be minimized or prevented entirely. When applied to tree care, it is easy to see how focusing energy on company policies and equipment manufacturing (also called Prevention Through Design) could truly have a meaningful impact on injury prevention in the arboriculture industry. This exercise will provide safety managers with the tools they need to apply this in their own workplace, running through numerous real-world examples together.

10:00 am–11:00 am



AREA Student Travel Grant Winners

Andrew Benson, University of Canterbury, Christchurch, New Zealand

Jehane Samaha, University of British Columbia, Vancouver, BC, Canada

Kaitlyn Pike, DePaul University, Chicago, Illinois, United States

Theresa Williams, University of Wisconsin, Stevens Point, Wisconsin, United States

Matt Walker, West Virginia University, Morgantown, West Virginia, United States

10:20 am–11:00 am

Chipper Use and Safety: What's New, What's Old?

Timothy Walsh, *The Davey Tree Expert Company, Streetsboro, Ohio, United States*

Chippers have been a common tool in the tree care industry for almost 70 years. There have been many changes in their design, size, and functionality, but one thing has remained the same: these machines were designed to take large material and cut it into smaller pieces. When the right chipper is chosen and maintained, and when employees are trained and observed and machines are used properly as designed, they still pose risk. These are not dangerous machines, but they can injure, maim, and kill when used improperly. The basics of the different types of chippers will be reviewed with an emphasis on safe usage. Additional features for safety and productivity will be reviewed as well.

12:00 pm–12:30 pm

Practical Uses of Integrated Vegetation Management (IVM) in North America

Geoff Kempter, *Asplundh, Grand Rapids, Michigan, United States*

How current IVM methodologies match up to the proposed ANSI A300 Part 7 IVM, as the name implies, is a systematic method of managing vegetation to achieve a defined objective. IVM is based on integrated pest management (IPM) principles developed in the 1950s and on research on how vegetation responds to various treatments and is frequently associated with electric utility rights-of-way (ROW). The American National Standard for IVM (ANSI A300 Part 7) was originally written for use on electric utility ROW following the 2003 blackout; however, the term IVM is also used widely in other industries and settings. For this reason, the revision of A300 Part 7 has been designed to include settings other than utility ROW. This presentation provides an overview of the basic principles of IVM as described in the Standard and reviews the results of a market study that examines how various practitioners are currently applying IVM across North America, and whether those uses fit within the bounds of IVM as set forth in the proposed revision of ANSI A300 Part 7.

Dismantling in Trees Observed After Natural Loading Events

Anand Persad, *The Davey Tree Expert Company, Kent, Ohio, United States*

Trees in managed settings that experienced some level of natural dismantling (leaf drop/defoliation, branch fractures, stem failure, and root plate failure) were surveyed in several regions in the U.S., Caribbean, and Canada. Data on tree species, tree size (DBH), tree height, and canopy spread were collected along with site characteristics including root ball space constraints, tree location, de-icing salt spray, pruning management before the event, and signs of abiotic or biotic impact before the natural loading event. This presentation will provide an overview of the data collected. These data may help evaluate arboricultural-care-related strategies and guide our urban tree programs as we build wind prediction models to evaluate risk in our green spaces.

12:30 pm–1:00 pm

UVM Program Management

Randall H. Miller, *CNUC, Syracuse, Utah, United States*

Utility vegetation management is a multifaceted and often complex enterprise. It requires effective program planning, knowledge of the environment and appropriate control measures, skills in work scheduling, budgeting, and personnel management, and technological aptitude. In this presentation we will discuss the importance of these elements to sustainable right-of-way management.

Ecosystem Disservices a Way Towards Acceptance for Urban Forestry

Johan Östberg, *Swedish University of Agricultural Sciences, Uppsala, Sweden*

It is widely recognized that urban trees contribute a vast amount of ecosystem services, but to justify and fully utilize urban ecosystems, it is important to also assess and minimize the disservices they provide. This study aimed to provide new insights to help understand urban ecosystem disservices. The central research question was whether complaints recorded at municipal park departments could be used as a source of knowledge on urban tree disservices. The sources for the research provided in-depth knowledge on how ecosystem disservices, and perceived ecosystem disservices, shape the way that urban forestry is managed and governed. The results showed that many of the disservices reported could have been avoided by correct planning, management, and communication. With correct information on ecosystem disservices, it is therefore possible to guide management, planning, and information so that the number of disservices is reduced and public perceptions of urban forestry are improved.

1:00 pm–1:30 pm

Managing Large and Old Urban Roadside Trees in Penang, Malaysia

Fariza Firdaus Mohd Salleh, *Raintree Arborist, Puchong, Selangor, Malaysia*

Georgetown is the capital city of the Malaysian state of Penang located in the northern part of Peninsular Malaysia. This city represents the urban landscape during the British era dated back from end of the 18th century with outstanding cultural heritage and the historical core Georgetown was listed as the UNESCO World Heritage Site on the 7 July 2008. It is the only city in Malaysia and even in the Asian region that have many old and large-heritage roadsides trees in the busiest major city thoroughfares. Some of these trees were planted in early 1800s and the early phase of tree planting activities has continued to until late 1800s which were mainly to provide instant shade and greenery. The trees are being choked and constricted by these activities ubiquitously. Digging works for utility installations and upgrading of road drainage proved to be of significant threat to the trees health, stability and safety. Lack of proper care or mistreatment of the trees has been rather chronic for a long time. Maintaining and managing large old trees in the city center's roadsides in this state capital is very challenging to arborists and municipality workers. This paper highlights and

discusses on various issues and challenges in performing best arboricultural practices in maintaining tree health and managing tree risk whilst reducing conflict of interests of various stake holders.

1:00 pm–1:40 pm

Managing the Politics of EAB through Replacement

Ralph C Sievert, *Minneapolis Park & Recreation Board - Forestry, Minneapolis, Minnesota, United States*

Philip J Potyondy, *Minneapolis Park & Recreation Board - Forestry, Minneapolis, Minnesota, United States*

Emerald ash borer (EAB) was discovered in Minneapolis, Minnesota, in 2010. As the agency responsible for managing its public trees, the Minneapolis Park & Recreation Board's (MPRB) Forestry Department immediately began strategizing the best approach to take. Residents were informed through presentations to neighborhood associations. The Minnesota Department of Agriculture (MDA) served as a valued resource in helping shape the eventual plan. Feedback was provided during discussions with the Minneapolis Tree Advisory Commission. While there has been some opposition, residents have largely accepted the changes taking place across Minneapolis neighborhoods. This is due to extensive community engagement that helps inform residents plus a commitment to phased removals and replacements taking place on residential streets. A presentation on what is being accomplished in Minneapolis will benefit those who are dealing with or will be dealing with the devastating effects of EAB.

1:30 pm–2:00 pm



Emerald Ash Borer Management Approaches: Ten-Year Canopy Retention Case Study

Rich Hauer, *University of Wisconsin, Stevens Point, Wisconsin, United States*

David Snyer, *City of Milwaukee, Milwaukee, Wisconsin, United States*

Many places in North America and Europe still have healthy and vibrant urban ash (*Fraxinus* spp.) tree populations at risk to Emerald Ash Borer (EAB). This talk will provide a basis of what we have learned to date in North America, from extensive mortality in some locals to retained trees in other places based on active management. In simple terms, the options vary from letting the pest take control of a tree population or letting the human decision maker take control. We will briefly introduce the science behind biologically and effectively managing the pest. The economic ramifications of various options will be discussed. The economic, ecologic, and social ramifications will provide a context for arborists, urban foresters, and others to actively manage EAB populations for maximum canopy benefit retention during a decades-long approach toward replacing the canopy of ash tree populations. The UWSP program provides a contrasting approach using chemical treatment and proactive planting in strategic locations to develop a no net loss sum of tree canopy. Likewise the economic, ecologic, and social functions provide the story for both management approaches.

1:40 pm–2:20 pm

The Economic Value of Tree Preservation during Development

Robert J. Laverne, Davey Tree Expert Company, Hartsville, Ohio, United States

Wendy A. Kellogg, Cleveland State University, Cleveland, Ohio, United States

New residential development is most often a death sentence for the trees that stand in its way. This behavior might be altered if developers thought there was an economic value to being more selective. Unfortunately, the relationship between tree preservation and new development is not well studied. The purpose of this study was to characterize the economic value gained from the preservation of mature trees during the land development process. The study focused on six counties constituting the greater Cleveland, Ohio, U.S., real estate and land development market. Qualitative interviews with development and real estate professionals revealed a nuanced association of value and challenges to tree preservation during the residential land development process. Previous methods for estimating the economic value of trees were moved forward through aerial location of trees on parcels using Google Earth™ and the National Agricultural Imagery Program (NAIP) data and through the mixed method approach. The study provided information to a state-level agency managing the state's incentive-based smart growth program.

2:00 pm–2:30 pm



Six Years of Research about Trees Growing in Pervious and Impermeable Sidewalks

Alessio Fini, Università di Milano, Novate Milanese, MI, Italy

A long-term research project was started in 2011 to evaluate the effects on four different pavement systems on two woody species and on soil physical traits. Forty-eight plants of *Celtis australis* and *Fraxinus ornus* were planted in a 1 m² planting pit surrounded by 50 m² of either impermeable pavement (asphalt on concrete sub-base), permeable pavement (pavers on a crushed rock sub-base), porous pavement (monolithic porous pavement on a crushed rock sub-base), or no pavement (bare soil kept free of weeds by herbicides). Effects of the different pavements on growth and physiology of establishing trees have been described in a previous work.

Results have shown that soil physical traits have been largely affected by impermeable pavements. Indeed, the effects of the difference in growth and physiology of ash and hackberry will be discussed in detail in the presentation.

2:20 pm–3:00 pm

A New Method to Compensate for Tree Loss

David J. Nowak, USDA Forest Service, Syracuse, New York, United States

When a healthy tree is removed, one common question is: how much should the tree owner be compensated for the loss of the tree? A common compensation formula that is used can be problematic as it is indirect and the true value of trees is

unknown. A solution to this indirect valuation lies in not trying to convert the compensation into monetary units, but in keeping the compensation in units that are directly related to the tree itself. As the value of the tree is most directly related to leaf surface area, then leaf area can be used to estimate compensation for tree loss. This presentation proposes a new means of compensation for the loss of healthy trees and estimates how many new trees are needed to compensate for the removal of a healthy tree based on comparing the net present value of future leaf area between a removed tree and planted trees. Once the number of replacement trees is calculated, it can be directly converted to monetary values based on market costs, if so desired.

2:30 pm–3:00 pm



Root Position and Growth on

Asphalt Tensile Crack Failure (AREA)

Jason Grabosky, Rutgers University, New Brunswick, New Jersey, United States

While Finite Element models are used in pavement design and have been used to describe root growth in soils, there are few examples exploring integration of the two applications with respect to designing urban root zones under pavement. In the first of four studies (previously presented in ISA AREA session), FE models were developed to test the influence of an asphaltic concrete wearing surface-layer thickness and base-layer thickness (the top two layers in a pavement design) in surface crack formation from a growing tree root simulation in positions within the top zone of the base layer and below the base layer. This presentation will cover the results from this research.

12:00 pm–12:30 pm

TOWN HALL

Greening Youth for a Better Tomorrow

James C. Ezeilo, Greening Youth Foundation, Atlanta, Georgia, United States

Angelou Ezeilo, Greening Youth Foundation, Atlanta, Georgia, United States

The City of Atlanta has witnessed a stark reduction in the number of semi-skilled tree management labor. Local and national tree management corporations expressed frustration at the lack of available talent and the high rate of turnover. Seeing the possibility for expanded programming for our Urban Youth Corp (UYC), the Greening Youth Foundation designed the UYC Tree Care Management Training Program (TCMT), a partnership between the Greening Youth Foundation and the Tree Care Industry Association. TCMT is a ten-week program that, through a rigorous curriculum, combines training in the technical aspects of tree care, such as chain saw operation, chipper operation, and grounds operation, with a number of soft skills, such as professional development, financial literacy, health and nutrition, life coaching, and character development.

12:30 pm–1:00 pm

TOWN HALL

Workforce Development: Recruiting and Training to Meet the Needs of the Tree Care Industry

Discussion led by Tree Care Industry Association, Londonderry, New Hampshire, United States

For the past several years, TCIA has spearheaded efforts to recruit and train the workforce needed to support the tree care industry. Based on the lessons learned during that time, TCIA has refocused and reinvigorated its workforce development efforts moving forward. During this session, attendees will learn about the ongoing recruitment campaigns, the ability to participate in apprenticeship, and the tools and resources available to assist tree care companies in those efforts.

CLIMBERS' CORNER

Monday, 6 August

9:30 am–11:00 am

Evolution of Modern Tree Climbing

Phillip Kelley, North American Training Solutions, Chehalis, Washington, United States

Tree climbing is evolving at an unprecedented rate. The past 25 years have seen considerable change from what was done before. What are the factors driving this change? Tools or techniques? Does one factor drive another? Are equipment manufacturers behind some of these changes? We will also discuss what has been lost and what has been gained through this evolution and how it directly relates to individual safety. (*Ticket required)

11:10 am–11:50 am

The Silent Future

Christian Johnsson, Husqvarna, Charlotte, North Carolina, United States

What does the future look like when it comes to outdoor power tools? Get some insights into what one of the world's largest manufacturers is planning when it comes to power sources and technology changes for everything from chain saws to hedge trimmers.

Climbers' Corner

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1:15 pm–2:15 pm

Cut Above the Rest: Two Hands are Better than One!

Alex Laver, Tree Logic, Great Dunham, Norfolk, United Kingdom

Arborists get stuck using the same basic cuts (in work and training) with little understanding of how simple changes to their practice can have a powerful impact. Climbers often resort to one-handing chain saws, because they don't have the skills or climbing techniques to achieve the best results safely, quickly, and efficiently. This will be a dynamic presentation and demonstration to help solve these issues by looking at safety implications of poor cuts, poor work-positioning, and poor planning. We will conclude the demonstration with an interactive discussion.

2:30 pm–3:15 pm

Rope Construction

Adam Moser, Yale Cordage, Saco, Maine, United States

A review of rope types and demonstration of the forces developed on a climbing or rigging system in normal use. Subtle variations in rope constructions, diameters, and fiber can significantly change the behavior of a climbing or rigging system. This year's Climbers' Corner presentation will feature a review of typical rope constructions and fibers as well as the supplied manufacturer information for these products. Understanding the information provided by the manufacturer should help a climber select the product best suited for the job.

3:30 pm–4:15 pm

Bounce Back!

Mark Bridge, Treemagineers, Basel, Switzerland

Previously, when considering assemblies of equipment in tree work, the main consideration has been compatibility and configuration. There is, however, a key term missing, which is resilience. The aim of this discussion is to help attendees understand the interaction between phases of stress/load and the return to a state of relaxation afterward, allowing individuals to incorporate checks and balances to build more stress-resistant structures—whether the structure is an assembly of climbing equipment or a team.

Tuesday, 7 August

8:30 am–9:15 am

Preventative Chainsaw Maintenance: A Five Part Plan

Cary Shepherd, Strongsville, Ohio, United States

This discussion on pre-inspection and preventative maintenance for professional operators will cover important information that will help minimize chain saw problems, increase safety and productivity, and lower cost. Maintenance requirements for a chain saw are different today than in the past, and you will learn what to do and why you should do it. We will also talk about the challenges for newer EPA 2-stroke engines related to fuel, octane, and ethanol. Sounds boring...but it won't be!

9:30 am–10:30 am

Felling the Tree: Working the Plan

Rip Tompkins, ArborMaster®, Little Compton, Rhode Island, United States

In this presentation we will look at the history of cutting techniques used to fell trees. We will examine the functions of the face notch, back cut, and most importantly the hinge. We will explore how different types of cuts can be used in different situations to improve control and safety. The use of the five-step felling plan will be introduced as a means of reducing accidents and improving results. Understanding different types of wood fiber and the function of the hinge are critical to the decision-making process. We will also discuss the proper use of pull lines in a felling operation. This presentation will create a good foundation of knowledge for tree cutters in today's urban setting. Using a felling plan and working through that plan will greatly reduce the number of unplanned events (accidents).

10:45 am–11:30 am

Work Safety: The Importance of Performing Aerial Inspection

Samuel Ma, Kassod Arbor Tree Consultancy & Services Limited, Burnaby, BC, Canada

In tree risk assessment, over 80% of signs of failure or decline can be observed from the ground using visual tree inspection. However, for the large or old tree, aerial inspection is necessary for checking the thickness of sound wood and the integrity of branch unions. Arborists who climb a defective tree need to pay extra attention and may need to tie a separate line to secure tree parts before climbing. Moreover, a separate life line or double/triple anchor technique may be necessary when climbing an obviously decayed or injured tree. In this seminar, I will share my experience in checking old and valuable trees with different degrees of defect. The focus will be on work positioning and additional safety measures needed for climbing trees with unpredictable or predictable hazards.

12:00 pm–1:00 pm

Climbing Around Powerlines: Am I Qualified?

Kevin Myers, ACRT, INC., Akron, Ohio, United States

Erick Navarro Palacios, ACRT, INC., Donna, Texas, United States

Craig Murk, ACRT, INC., Kingman, Arizona, United States

This presentation will explore the OSHA and ANSI requirements that are necessary to work in close proximity to electrical conductors in the United States. We will discuss the hazards of working around power lines, safe work practices, what to expect during an emergency, and what to expect after an electrical contact incident. Safety standards that will be discussed include ANSI Z133 and OSHA 1910.269. We will also present the most current Minimum Approach Distance charts and qualification levels, including the new Incidental Line Clearance Arborist qualification. Attendees will leave with a better understanding of the hazards involved in working around energized conductors, how to protect themselves from those hazards, what OSHA and ANSI require, and what the different qualification levels mean.

1:15 pm–2:45 pm

EAB Scenario: Tree Removal with Green Initiative

Eduardo Medina, The Davey Tree Expert Company, Chicago, Illinois, United States

Don Roppolo, The Davey Tree Expert Company, Pleasant Prairie Wisconsin, United States

Tim Walsh, The Davey Tree Expert Company, Streetsboro, Ohio, United States

Travis Vickerson, Vertical Landscapes, Raleigh, North Carolina, United States

Being struck by a whole tree is now the leading killer in the tree care industry. One specific threat comes from working on or near ash trees that have been attacked by the emerald ash borer. This presentation will walk through how to identify and mitigate some of the hazards relating to working near or on ash trees.

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POSTERS

CommuniTree: Stakeholder Relationships and Desired Outcomes for Collaborative Tree Planting

Margaret Abood, DePaul University, Chicago, Illinois, United States

Assessment of Container Tree Root Systems Using Ground Penetrating Radar

Marie Ambusk, Trees ROI, Hinesburg, Vermont, United States

i-Tree Landscape

Mike Binkley, The Davey Institute-The Davey Tree Expert Company, Kent, Ohio, United States

Urban Forest Assessment Using i-Tree Eco and Aerial Imagery

Nicholas Drunasky, Fairfax County Urban Forest Management Division, Fairfax, Virginia, United States

Wood and Bark Anatomy of *ilex theezans* in *Araucaria* Forest

Jeimy Blanco Florez, Secretaria Distrital Ambiente Bogotá, Bogotá, Columbia

Climate Change Effects on Plant Vulnerability

Laura Jull, University of Wisconsin, Madison, Wisconsin, United States

Crown Production Pruning

Ryan Redvers, Redvers Tree Care, Mount Albert, Ontario, Canada

Urban Foresters Response to Climate Change in Canada

Cecilia Shoopmann, DePaul University, Chicago, Illinois, United States

Soil Remediation Improves Roadside Tree Establishment and Growth

Susan Swanson, Specimen Tree, LLC, Sandy Springs, Georgia, United States

Urban Forestry and Climate Change Policy Analysis for Chicago-area Municipalities

Nora Westman, DePaul University, Chicago, Illinois, United States



AREA POSTERS



Biochar Soil Amendment and Growth and Physiology of Tree Saplings

Kamran Abdollahi, Southern University Agricultural Land-Grant Campus, Baton Rouge, Louisiana, United States

Technology Transfer Solutions

Anna DeToro, The Ohio State University, Columbus, Ohio, United States

The Communication of Trees

Erin Eregbu, Gateway Technical College, Kenosha, Wisconsin, United States

Spatial Distribution of Tree Stress in Washington D.C.

Fang Fang, West Virginia University, Morgantown, West Virginia, United States

Urban Tree Mortality: A Renew of Factors and Trends

Deborah Hilbert, University of Florida Gulf Coast Research and Education Center, Wimauma, Florida, United States

Retrenchment Pruning by European Standards

Guy Meilleur, Better Tree Care Associates, New Hill, North Carolina, United States

Improving Businesses with Data and Free Information

Ryan Munroe, Vineland Research and Innovation Centre, Vineland Station, Ontario, Canada

Exotic Trees Contribute to Urban Forest Diversity and Ecosystem Services

Christopher B Riley, The Ohio State University, Columbus, Ohio, United States

Growth Regulators

Carlos Llano Rojas, Astoritda, San Diego, California, United States

Comparing Field Measurement Methods of Soil pH and Moisture

Luke Scheberl, University of Wisconsin, Stevens Point, Wisconsin, United States

Can Soil Carbon Assessments Improve the Rapid Urban Site Index

Luke Scheberl, University of Wisconsin, Stevens Point, Wisconsin, United States

Current and Potential Impacts of Virginia's Emerald Ash Borer Treatment Program

Peter Stewart, Virginia Tech, Blacksburg, Virginia, United States



TRADE SHOW



Trade Show Hours

Sunday	7:30 pm–9:30 pm
Monday	11:00 am–4:30 pm
Tuesday	7:30 am–3:00 pm



Happenings on the Trade Show Floor

Sunday, 5 August

7:30 pm–9:30 pm

Welcome Reception

Monday, 6 August

9:30 am–11:00 am

Evolution of Modern Tree Climbing Workshop
(Ticket Required)

11:00 am–1:00 pm

Break on the Trade Show Floor

11:00 am–4:30 pm

ISA Presents (Poster Displays)

11:10 am–4:15 pm

Climbers' Corner

12:00 pm–12:30 pm

Town Hall—Greening Youth for a Better Tomorrow

12:30 pm–1:00 pm

Town Hall—Arborist Apprenticeship: Attracting and

Retaining a Well-Qualified Workforce

3:00 pm–4:00 pm

Break on the Trade Show Floor

Tuesday, 7 August

7:30 am–9:00 am

Complimentary Breakfast on the Trade Show Floor

7:30 am–3:00 pm

ISA Presents (Poster Displays)

8:00 am–8:25 am

ISA Annual Business Meeting

8:30 am–2:45 pm

Climbers' Corner

11:00 am–12:00 pm

Break on the Trade Show Floor

2:00 pm–3:00 pm

Break on the Trade Show Floor

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400 North High Street
Columbus, Ohio 43215 (US)

ITCC Venue

Franklin Park

1755 E. Broad St.
Columbus, Ohio 43203 (US)

Conference Host Hotel

Hilton Columbus Downtown

401 North High Street
Columbus, Ohio 43215 (US)

Parking fees:

\$25** per day (self-park)

\$28** per day (valet)

***Parking rates subject to change.*

Additional Conference Hotels

- **Hyatt Regency Columbus**

350 North High Street
Columbus, Ohio 43215 (US)

Parking fees:

\$20** per day (valet)

\$30** per day (valet with in/out privileges)

- **Hampton Inn and Suites Downtown Columbus**

501 North High Street
Columbus, Ohio 43215 (US)

Parking fees:

\$25** per day (valet with

in/out privileges); no self-park available

- **Drury Inn and Suites Convention Center**

88 East Nationwide Blvd
Columbus, Ohio 43215 (US)

Parking fees:

\$15** per day (self-park);

limited onsite covered parking

***Parking rates subject to change.*

Local Attractions

Check out some of these “musts” while you are in Columbus.

Must See:

- Franklin Park Conservatory and Botanical Gardens
- Columbus Museum of Art
- Short North Arts District
- German Village with The Book Loft

Must Do:

- Scioto Mile
- Columbus Zoo and Aquarium
- COSI science center
- Columbus Coffee Trail and Ale Trail

Must Eat:

- North Market
- Jeni’s Splendid Ice Creams
- Katalina’s
- Pistacia Vera

Learn more about all of these and more at www.experiencecolumbus.com.



Transportation To and From Airport

- **Taxi**

The estimated cost for a taxi fare between downtown Columbus and John Glenn Columbus Airport is \$25 (USD).

- **Bus**

Direct bus service connects downtown Columbus and John Glenn Columbus International Airport via AirConnect. Tickets are \$2.75 (USD) per ride. For more information, visit <https://www.cota.com/how-to-ride/airconnect/>.

Parking

Besides hotel parking, there are additional parking options with various price points located around the Convention Center. For more information, visit <https://columbusconventions.com/park/directions-and-parking/>.

Sales Tax Information

Columbus has no city sales tax; however, each zip code within the city is subject to state tax, county tax, and sometimes an additional tax of 0.5%.

Depending on the zip code, the sales tax rate in Columbus may vary from 5.8% to 7.5%. The Columbus tax rate may also vary depending on the type of purchase.



TREE FUND

TREE FUND ACTIVITIES AT THE 2018 ISA ANNUAL INTERNATIONAL CONFERENCE



→ Saturday, 4 August, 11:00 am, Franklin Park

2018 Tour des Trees Finale

Come cheer the Tour des Trees riders as they arrive at the ITCC, completing their 570-mile ride!

→ Sunday, 5 August, GCCC Booth #707

- Explore the future of tree research and education and find out what *your* future holds!
- Pick up your FREE admission ticket to Tuesday night's TREE Fund After Hours Buckeye Bash.
- Buy your Golden Ticket! \$100 gives you a chance to win the auction package of your choice. (only 75 tickets available)

→ Monday, 6 August & Tuesday, 7 August, GCCC Booth #707

- Explore the future of tree research and education. Meet TREE Fund researchers and discuss how their work is shaping the future of arboriculture and urban forestry. And find out what *your* future holds!
- Pick up your FREE admission ticket to Tuesday night's TREE Fund After Hours Buckeye Bash.
- Buy your Golden Ticket! \$100 gives you a chance to win the auction package of your choice. This popular raffle only has 75 tickets available and they go fast.

→ Tuesday, 7 August, 6:00 pm–7:00 pm, Park Street Cantina

TREE Fund After Hours Buckeye Bash

491 Park Street (walking distance from Convention Center)

FREE ADMISSION *
 ♦ Free appetizers
 ♦ Free drink tickets (2)



Join us for fun, food and fundraising as we celebrate TREE Fund successes and those who make it all possible.

All ISA Conference registrants and spouses are welcome!

- **Golden Ticket Raffle** gives you a chance to win the auction package of your choice!
- **Mini-Auction** featuring a Hawaiian Holiday, Big, Bad Kentucky Bourbon Bundle, Historic Rhode Island Weekend, and much more!
- **Ken Ottman Volunteer Award** winner announcement

* If you didn't pre-order an admission ticket through ISA registration, pick one up at booth #707 before 3:00 pm on Tuesday.

Thank you to the 2018 TREE Fund Partners

Crown/Diamond



Ruby



Platinum/Gold



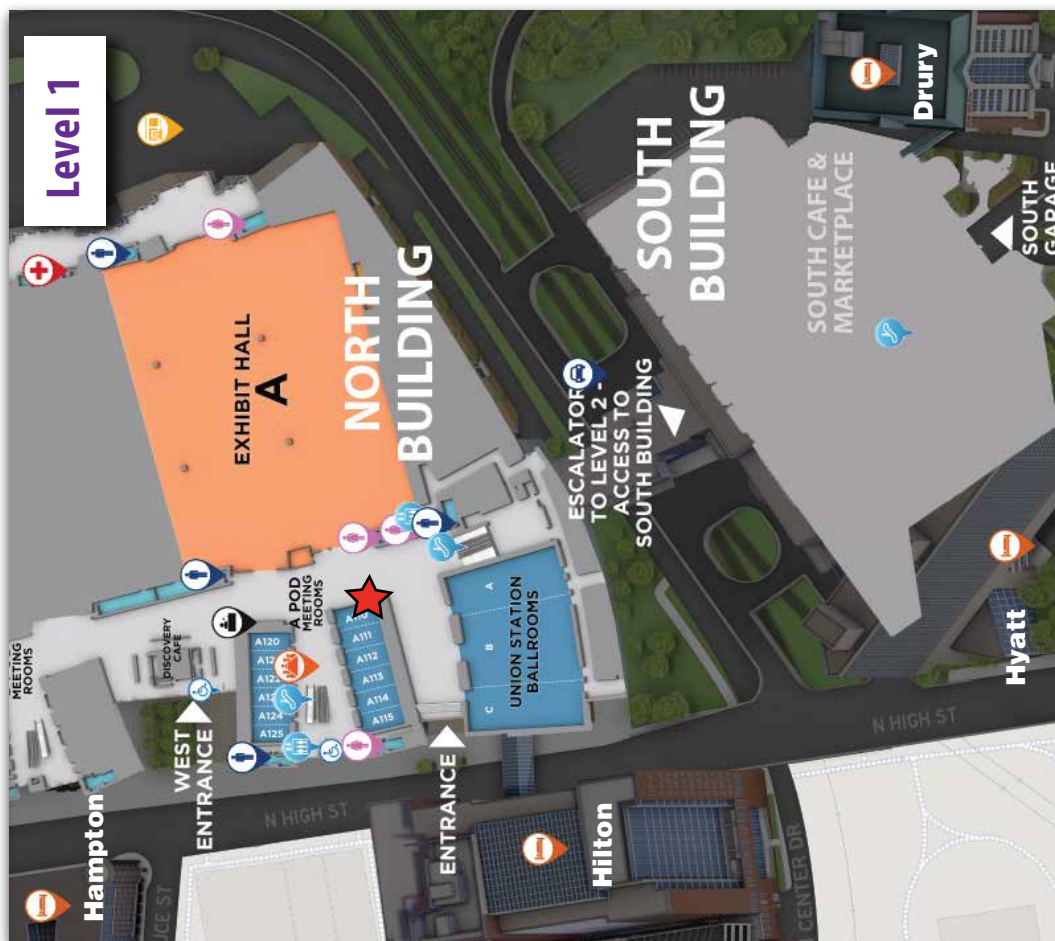
Silver

American Society of Landscape Architects, CN Utility Consulting Inc., DeepRoot Green Infrastructure, Florida Chapter ISA, ISA Rocky Mountain Chapter, ISA Texas, Jarraff Industries, Inc., Michael Grimm Tree & Landscape Services, New Jersey Arborists, SavATree, Southern Chapter ISA, Transmission & Distribution World, Tree Service Canada, Unifit Service Corp., Urban Forest Nursery, Urban Trees and Soils, Vermeer Corporation

Bronze

Chippers, Inc., ECI (Lakeside Environmental Consultants, Inc.), Independent Tree LLC, John B. Ward & Co., Mid-Atlantic Chapter ISA, Middle Tennessee Electric Membership Corporation, Minnesota Society of Arboriculture, New England ISA, New York State Arborists-ISA Chapter, Inc., Pacific Northwest ISA, Simonson and Associates Architects, Wachtel Tree Science, Weaver Leather, Western Chapter ISA

Greater Columbus Convention Center



LEGEND	
★ ISA Registration	☘ Starbucks
♂ Mens' Restroom	📍 A-Pod Meeting Rooms
♀ Women's Restroom	ℹ Information
🚶 Elevator	☎ Guest Services
🚶 Escalator	🏥 First Aid
♿ ADA Accessible	🚚 North Facility Loading Docks
🏨 Hotels	🚗 West Connector Drop-off

2017–2018 ISA Board of Directors



L-R Seated: Anne Beard (Vice President), Albuquerque, NM, United States; Paul Ries (President), Corvallis, OR, United States; Chris Walsh (Treasurer), Christchurch, New Zealand

L-R Standing: Nicolaas Verloop, Harmelen, The Netherlands; Caitlyn Pollihan (Executive Director), Champaign, IL, United States; Dennis Swartzell (Secretary), Las Vegas, NV, United States; Scott Prohett, Loganville, GA, United States; Paul Johnson, Austin, TX, United States; Skip Kincaid, St. Louis, MO, United States; Gordan Mann, Auburn, CA, United States; Jim Flott, Spokane, WA, United States; Dana Karcher, Lincoln, NE, United States; Cecil Konijnendijk, Vancouver, BC, Canada; Russ Carlson, Bear, DE, United States; Pedro Mendes Castro (President-Elect), Belo Horizonte, MG Brazil; Tom Wolf, Knoxville, TN, United States

New Incoming Board Members for 2018–2019: (not pictured) Gail Nozal, St. Paul, MN, United States; Dr. John Gathright, Seto Aichi, Japan



It is my pleasure to welcome you to Columbus, Ohio, for the 2018 ISA Annual International Conference and Trade Show and the International Tree Climbing Championship. Thank you for attending. This is the place where arboriculture meets, and I have no doubt that you will discover something new to add to your repertoire of arboricultural practices, meet many new professional contacts, and leave armed with information to inform the public about how important professional tree care is to ensure the future health and benefits of their trees.

My first exposure to ISA was 30 years ago when I joined the Ohio Chapter ISA, host for this year's event. I'm sure you'll be impressed by the hardworking volunteers from the Ohio Chapter, which was ISA's first chapter formed in 1942! ISA is only as successful as our volunteer support enables us to be. Our committees, councils, the chapter volunteers, affiliate organizations, and professional affiliates are an important way that the ISA mission is delivered. This volunteerism is what makes ISA stand out from other organizations, and this year we are focusing on this important way we do business. We are launching the **#getinvolved** campaign to communicate all of the opportunities for engagement with ISA to build interest in engagement with ISA in the future. Stop by ISA Central on the Trade Show Floor to learn more about this campaign and how you can become a volunteer.

Again, welcome, and have a great conference!

Paul D. Ries

Paul Ries
2017–18 ISA Board President

Thank you to those who have served on ISA committees in 2017–2018.

The programs and services of ISA would not be possible without the support of our dedicated volunteers.

ISA Board Committees

Executive Committee

Paul Ries (Chair), Pedro Mendes Castro (President-Elect), Anne Beard (Vice President), Chris Walsh (Treasurer), Dennis Swartzell (Secretary), Caitlyn Pollihan (Executive Director, non-voting)

Finance/Audit Committee

Chris Walsh (Chair), Jeremy Chancey, Kristin Josey, Gordon Mann, Michael Marshall, David Scharfenberger, John Signorini

Governance and Bylaws Committee

Dana Karcher (Chair), Anne Beard, Pedro Mendes Castro, Scott Prohett

Arboriculture & Urban Forestry Editorial Board

Jason Grabosky (Editor-in-Chief), Laurence Costello, William Elmendorf, Francesco Ferrini, C.Y. Jim, Daniel Marion, Peter May, Justin Morgenroth, Zhu Ning, Bryant Scharenbroch, Alexia Stokes, Maria-Luisa Tello Mariscal

Arborist News Editorial Board

Ahmed Ali, R. Bruce Allison, Patrick Brewer, Ian Bruce, Cathie Lavis, Jochen Pfisterer, Ellen Vincent, Jim Zwack

Awards Committee

Lauren Lanphear (Chair), Del Cressman, Ray Henning, Andrew Hillman, Sharon Jean-Philippe, Alan Jones, Rip Tompkins

Credentialing Council

Norman Easey (Chair), Dennis Archer, Kinglsey Choi, Craig Johnson, Shane Lanigan, Gail Nozal, Robert Tate, Luana Vargas

Conference Program Committee

Johan Östberg (Chair), Chris Ahlum, Christine Balk, Wendy Chen, Marla Eddy, Stephanie Foster-Miller, Amy Murray, Jessica Sanders, Aaron Schauer, Iris Magaly Zayas

Educational Products and Services Committee

Dave Scharfenberger (Chair), James Chatfield, Jason Grabosky, Joseph McNeil, Lindsey Purcell, E. Thomas Smiley, Timothy Walsh

Hispanic Committee

de Gourét Litchfield (Chair), Tomás Martínez-Trinidad (Vice Chair), Andrés Vernengo (Secretary), Santiago Del Pozo, Luis González Osorio, Gabriela Grille Rosa, Sofía Paredes Chávez, Gerard Passola Parcerissa, Jorge Ismael Polo Abad, Adolfo Sánchez García, Christian Torres-Santana, Ángela Villademoros

International Safety Committee

Tim Walsh (Chair), John Ball, Donald Blair, Mark Bridge, John Coles, Stephen Genua, John Hendricksen, Eduardo Medina, Dwayne Neustaeter, Don Picker, Don Roppolo, Rip Tompkins

International Tree Climbing Championship Committees

ITCC Operations

Eduardo Medina (Chair), Thomas Greenwood, Phillip Kelley, Chris Ahlum (2018 Liaison)

Rules Committee

John “Didj” Coles (Chair), Tim Bushnell, John Gauthier, Thomas Greenwood, Doug Sharp, Rip Tompkins

European Tree Climbing Championship Operations

Mark Bridge (Chair), Max Broeckmann, Christian “Puk” Kruck, Marcin Leszczynski, de Gourét Litchfield, Rip Tompkins
2018 Liaisons: Laurent Pierron, Sebastian Deuhel, Celine Cornillon

North American Tree Climbing Championship Operations

Philip Ruiz (Chair), John Gauthier, Phillip Kelley, Scott Bunker (2017 Liaison)

Asia Pacific Tree Climbing Championship Operations

David James (Chair), Doug Sharp, Grant Cody, Alex Witt (2017 Liaison)

Membership Committees

Committee Members

Jeremy Barrick (Chair), Arnold Brodbeck, Greg Dahle, Luiz Octavio de Lima Pedreira, Brandon Gallagher, Cathie Lavis, Shirley (Shirl) McMayon, William Melville, Thomas Mugridge, Johan Östberg, Ian Scott, Ruurd Van de Ven, Tom Wolf

Student Sub-Committee

Gregory Dahle (Chair), Stephen Chisholm, Louise Cohn-Still, Francesco Ferrini, Richard Hauer, Lindsey Purcell, Jessica Vogt

Nominating and Elections Committee

Brian Kane (Chair), Jim Zwack, de Gourét Litchfield, Mark Roberts, Jessica Sanders, Ian Scott, Pedro Mendes Castro (Board Liaison)

Past Presidents Committee

Michelle Mitchell (Chair), All ISA Past Presidents

Plant Appraisal and Valuation Committee

Joseph McNeil (Chair), Lewis Bloch, Robert Brudenell, Russell Carlson, Scott Cullen, Julian Dunster, Mark Duntemann, John Harris, Adam Hollis, J. James Kielbaso, Burton Smeltzer, T. Davis Sydnor

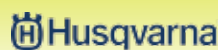
Science and Research Committee

Justin Morgenroth (Chair), Tenley Conway, Jason Grabosky, Kathleen Mahoney, Zhu Ning, Eric North, Ward Peterson, Lindsey Purcell, Jessica Sanders, Charles Shackleton, J. Eric Smith, Jessica Vogt, Gary Watson

Thank you to our OneTree Partners for their valuable year-round involvement and contribution. If you would like to become a OneTree Partner contact CorporateSales@isa-arbor.com.



Distinguished partners



Honored partner



2018 Local Host Committee



Thank you to the ISA Ohio Chapter, their conference host committee, coordinators, and the numerous volunteers who committed their time to assist ISA with the planning of the Annual International Conference and Trade Show along with the International Tree Climbing Championship.

Committee Chair

Shirley Vaughn

Davey Resource Group, Inc.
Kent, Ohio, US

Assistant Committee Chair

Dixie Russell-Executive Director

Ohio Chapter ISA
Baltimore, Ohio, US

Exhibits/Sponsorship Coordinator

Mark Contat

First Energy Corp
Medina, Ohio, US

Volunteer Coordinators

Lola Lewis

Ohio Department of Natural Resources-
Division of Forestry
New Philadelphia, Ohio, US

Sue Mottl

City of Stow
Stow, Ohio, US

Hospitality/Decorations Coordinators

Joyce Reier

City of Sidney
Sidney, Ohio, US

Rob Wendling

City of Gahanna
Gahanna, Ohio, US

Program Committee Representative

Stephanie Miller

Ohio Department of Natural Resources-
Division of Forestry
Findlay, Ohio, US

Publicity Coordinator

Mark Webber

Webber's Landscaping Co.
Dayton, Ohio, US

TREE Fund Event Coordinator

Hank (Henry) Gulich

Silver Lake, Ohio, US

ITCC Local Arrangements Coordinator

Chris Ahlum

Ahlum & Arbor Tree Preservation
Columbus, Ohio, US

Arbor Fair & Expo Coordinators

Virginia Bowman

First Energy Corp
Brecksville, Ohio, US

Steve Schneider

The Ohio State University
Columbus, Ohio, US

An additional thank you to the 2018 Annual Conference Program Committee:

Chair: Johan Ostberg, Swedish University of Ag Science, Alnarp, Sweden

Chris Ahlum, Ahlum & Arbor Tree Preservation, Columbus, Ohio, US

Christine Balk, The Davey Tree Expert Company, Kent, Ohio, US

Wendy Chen, University of Hong Kong, Hong Kong

Marla Eddy, City of Madison, Madison, Wisconsin, US

Stephanie Miller, Department of Natural Resources, Columbus, Ohio, US

Justin Morgenroth, University of Canterbury, Christchurch, New Zealand

Amy Murray, Integrity Tree Service, Grandville, Michigan, US

Eric North, University of Nebraska, Lincoln, Nebraska, US

Anand Persad, The Davey Institute, Kent, Ohio, US

Jess Sanders, Casey Trees, Washington DC, US

Aaron Schauer, Gateway Technical College, Kenosha, Wisconsin, US

Magaly Zayas, U.S. Forest Service, Lawrenceville, Georgia, US





Annual International Conference & Trade Show

with ITCC



2019

Knoxville, TN

ITCC • 9–11 August
Conference • 11–14 August

2020

Albuquerque, NM

ITCC • 7–9 August
Conference • 9–12 August

