



20 VIRTUAL 20 CONFERENCE

7-11 DECEMBER



isa-arbor.com/conference

#ISAVirtual2020



Table of Contents

Welcome	3
First Things to Know	4
Agenda	5–8
Sponsors	10
Networking Opportunities and Games	12
Student Track	13
Session Descriptions	15–26
Climbers Corner	28
Poster Presentations	29
One Tree	29
TREE Fund	31
Partner Directory	32
Board of Directors	33
Patron	34
Attendee Survey	35



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Hello and welcome to the 2020 ISA International Virtual Conference!

While we all hoped to meet together in Albuquerque, New Mexico earlier this year, I am excited we have this opportunity to connect at the end of this unprecedented year as an industry and peers for ISA's first virtual conference. Moving the event into this virtual space allows more attendees from around the world than ever before to participate in an ISA educational event and learn from industry leaders and innovators.

As attendees, you have the ability to view the vast majority of sessions on demand, at your convenience, for up to 30 days following the conference, regardless of your time zone. It truly has never been easier to gain insight, access content, and engage with ISA than at this year's virtual conference.

Over the conference dates and beyond, we encourage you to use the virtual platform, Whova, to connect with peers on the community boards, share ideas on focused discussion topics, or set up your own meet ups with friends, old and new. Also, make sure to take time to visit the Sponsor and Partner profile pages located in the virtual platform. Without the generosity and support of these organizations this event would not be possible. We encourage you to engage and thank them for their dedication to ISA and the promotion of the arboriculture and urban forestry professions.

Thank you for taking the time to join us. We are so excited about what this event has to offer, and we look forward to learning, networking, and sharing ideas over these next few days.



A handwritten signature in black ink that reads "Caitlyn Pollihan".

Caitlyn Pollihan
CEO and Executive Director
International Society of Arboriculture

First Things to Know

Getting Assistance During the Event

Our team members are available throughout the conference between 9:00 a.m. - 5:00 p.m. U.S. Eastern Standard Time each day:

- Chat by clicking the Ask the Organizers chat box located in the community tab and type your message.
- Email conferencereg@isa-arbor.com

Whova Virtual Conference Platform and App

ISA will be using Whova as the virtual platform and app for this event. Registrants will receive an invitation email before the conference start with a link to sign into Whova, along with instructions for downloading the mobile app. The conference will be available on your computers and mobile devices and we recommend you use both. Chrome is the recommended browser.

Whova will allow attendees to:

- View the conference agenda and plan your schedule
- Access livestreams and on-demand videos directly within sessions and use the session Q&A
- Set up virtual meet-ups with your fellow attendees and interact with speakers or organizers
- Create and converse through various discussion topics in the community board
- Receive updates (e.g. last minute session changes from the organizers)
- Please check the following guide to know more about [Whova: How-To-Guide](#)

On demand sessions can be viewed directly in Whova. For live sessions you will be taken out of Whova to a Zoom meeting.

Event Timings in Different Time Zones

Once in the Whova platform and app all times will reflect the time zone you are in. We encourage attendees to view the agenda within the platform to plan out their schedules. The majority of sessions will be available on demand so attendees can view them at their convenience. Additionally, sessions will be available to attendees for up to 30 days following the end of the conference. Attendees can still view sessions, submit for CEUs, and interact with other attendees during that time.

Live Sessions vs. On Demand Sessions

A live session is one that will be occurring originally in the stated time in the agenda, with the ability to do live Q&A with the presenters within Zoom. These sessions will be recorded and shared later on as on-demand sessions.

On-demand sessions are sessions attendees can view at any point during the conference at their convenience. To view these simply enter the session in the agenda tab and click play.

Submitting CEUs

This event provides attendees the opportunity to earn ISA Continuing Education Units (CEUs) by participating in select sessions. If you are a current ISA credential holder, to be eligible to receive CEUs, you will be required to fill out the conference CEU form with necessary information that is provided within the virtual platform. Additionally, ISA will be tracking through the platform the engagement and attendance time of individual attendees in individual sessions. The CEU requirements for this event are the same as attending an in-person conference, and these conference sessions will only be available in this format to registered attendees for 30 days following the conference. CEU codes will be given at the end of each session and will be shared both visually and audibly.

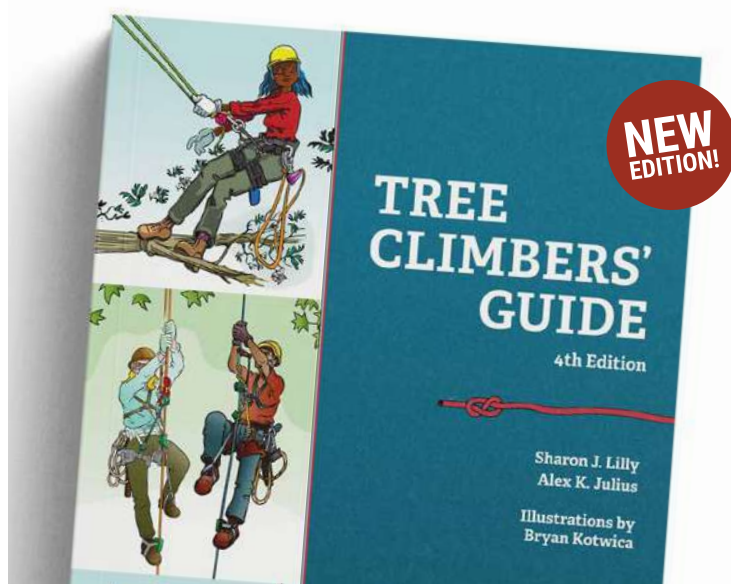
You may earn CEU credits for sessions viewed at different times than shown on the agenda as long as you view the session in its entirety and submit the CEU Code provided at the end of each session. CEUs must be submitted in the online form provided within the virtual platform. ISA will not accept CEUs submitted through physical mail or other means.



All sessions can be watched on demand until 10 January 2021.
Those marked **"LIVE"** will be available on demand after 11 December 2020.

MONDAY 7 DECEMBER

8:00 a.m. - 8:15 a.m.	Arboricultural Research and Education Academy (AREA) Welcome Remarks	
8:00 a.m. - 8:30 a.m.	Tree Canopy Change and Urban & Community Forestry Programs	0.5 CEU A, U, T, M, L, Bp (0.25), Bm (0.25)
8:45 a.m. - 9:20 a.m.	Remove or Retain? Research and Anecdote Surrounding Wire Baskets	0.5 CEU A, M, Bp
9:20 a.m. - 10:00 a.m.	AREA Student Presentations	
10:15 a.m. - 10:55 a.m.	Tree Vitality: Why Should You Care?	0.5 CEU A, T M, Bp, L
11:00 a.m. - 12:00 p.m.	Measuring a Tree's Pulse and Its Relationship to Tree Health	1 CEU A, T, M, L, Bs (0.5), Bp (0.5)
11:45 a.m. - 12:30 p.m.	Does Soil Sealing Affect Urban Tree Health? An 8 Year Research	0.75 CEU A, U, T, M, L, Bs (0.25), Bm (0.5)
12:30 p.m. - 1:15 p.m.	Minimizing Hazards Arising from Lignotuberos and Epicormic Shoots	0.75 CEU A, U, T, M, Bs, L
1:00 p.m. - 2:00 p.m.	Visit Partner Profiles	
2:00 p.m. - 2:50 p.m.	Two Hands are Better than One: A Cut Above the Rest	0.75 CEU A, U, T, M, L, Bp (0.5), Bm (0.25)
3:00 p.m. - 4:00 p.m.	Rope Splicing 2020... The State of the Art of Splicing Life Support and Rigging Tools in Arboriculture	1 CEU A, U, T, M, Bp, L
4:00 p.m. - 4:45 p.m.	Quantifying Climbing Efficiency	0.75 CEU A, T, M, Bp, L
5:00 p.m. - 5:45 p.m.	Innovations for Efficient and Safe Tree Care Crews!	0.75 CEU A, U, T, M, L, Bs (0.25), Bp (0.25), Bm (0.25)
6:00 p.m. - 6:40 p.m.	Tree Climbers Biomechanics Research Update	0.5 A, T, M, L, Bp (0.25), Bm (0.25)



Tree Climbers' Guide 4th Edition

Written specifically from the tree climbers' perspective, this book teaches safe climbing and aerial tree work principles. Each chapter includes a list of key terms and concludes with a workbook section.

Available in the ISA Store soon!



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TUESDAY 8 DECEMBER

10:00 a.m. - 11:30 a.m.	LIVE Opening General Session and Keynote - Emerging Trends for Trees in 2021	1 CEU A, U, T, M, Bm, L
11:45 a.m. - 12:30 p.m.	LIVE Effects of Restoration Pruning Treatments on Damaged Trees	0.75 CEU A, U, T, M, Bp, L
2:00 p.m. - 2:45 p.m.	ISA True Professionals and Awards of Distinction	
3:00 p.m. - 3:30 p.m.	Reaching Up: New Techniques for Reaching Tree Canopy Goals	0.5 CEU A, M, Bm
3:00 p.m. - 3:35 p.m.	Inspiring the Next Generation: A Framework for K-12 Schools	0.5 CEU A, M, Bm
3:00 p.m. - 3:35 p.m.	Understanding Engineering: How Trees Can Get People Onto Public Transport	0.5 CEU A, M, Bm
3:00 p.m. - 3:45 p.m.	Engaging the Unengaged: Improving Urban Forests Through Community Involvement	0.75 CEU A, M, Bm
3:00 p.m. - 3:50 p.m.	Why be a TreeKeeper	0.75 CEU A, M, Bm
3:00 p.m. - 4:00 p.m.	Research on Volunteer Urban Forestry Stewards: The Challenges and Opportunities of Expanding the TreeKeepers Program	1 CEU A, U, T, M, Bm, L
4:00 p.m. - 5:00 p.m.	Visit Partner Profiles	
5:00 p.m. - 6:00 p.m.	Poster Presentations	
6:00 p.m. - 7:00 p.m.	ISA BCMA Peer to Peer Session	

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WEDNESDAY 9 DECEMBER

11:15 a.m. - 12:00 p.m.	LIVE Block or Rigging Rings? An Investigation into the Efficacy of Introducing Friction at the Rigging Point	0.75 CEU A, U, T, M, Bp, L
1:00 p.m. - 1:45 p.m.	LIVE Arboriculture Education for the Washington University Prison Education Project	0.75 CEU A, M, Bs (0.25), Bp (0.25), Bm (0.25)
2:00 p.m. - 3:30 p.m.	Chadwick Award Winner Presentation	0.75 CEU A, U, T, M, Bs, L
4:00 p.m. - 5:00 p.m.	Visit Partner Profiles	
5:00 p.m. - 6:00 p.m.	LIVE TREE Fund After Hours	
6:15 p.m. - 7:15 p.m.	LIVE The Disease Triangle, The Health Triangle	1.0 CEU A, U, T, M, Bs, L
7:30 p.m. - 8:30 p.m.	LIVE Speciation and Hybridization of Tree Species: The Arboricultural Implications	0.75 CEU A, M, Bs (0.5), Bp (0.25)

THURSDAY 10 DECEMBER

9:00 a.m. - 10:00 a.m.	Visit Partner Profiles	
10:00 a.m. - 11:30 a.m.	LIVE The Future of Global Urban Forestry: Perspectives From Young Researchers	1.5 CEU A, M, Bm
11:45 a.m. - 12:30 p.m.	LIVE What is Tree Vitality and How to Rate It	0.75 CEU A, U, T, M, Bs, L
1:00 p.m. - 1:10 p.m.	LIVE Closing General Session	
3:00 p.m. - 3:30 p.m.	View to the Past: Managing New Mexico's Historic Urban Forests	0.5 CEU A, M, Bp (0.25), Bm (0.25)
3:00 p.m. - 3:50 p.m.	Native or Exotic? A Never Ending Debate in the Urban Landscape	0.75 CEU A, U, T, M, Bs, L
4:00 p.m. - 4:30 p.m.	The Efficacy of Utility Vegetation Management Cycles	0.5 CEU A, U, M, Bm
5:00 p.m. - 5:45 p.m.	Growing Trees in Stormwater Basins in Dry Summer Climates	0.75 CEU A, M, Bs (0.25), Bp (0.25), Bm (0.25)
6:00 p.m. - 7:30 p.m.	LIVE Women in Arboriculture Networking Event	



A

T

L

M

U

B s/m/p

s=Science • m=Management • p=Practice

Number of CEUs determined by length of session.



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FRIDAY 11 DECEMBER

9:00 a.m. - 9:40 a.m.	Making it Stick: Challenges in the Enforcement of Tree Regulations	0.75 CEU A, U, T, M, Bm, L
9:00 a.m. - 9:40 a.m.	The Worst Case Law Ever for Trees	0.75 CEU A, U, T, M, Bm, L
9:00 a.m. - 9:45 a.m.	Creating a Culture of Safety in a Small Business	0.75 CEU A, M, Bm
9:00 a.m. - 9:50 a.m.	Expanding Crews and Views	0.75 CEU, A, M, Bm
10:00 a.m. - 10:30 a.m.	Creating Resilient Urban Forest Ecosystems for the Digital Era	0.5 CEU A, M, Bm
10:00 a.m. - 10:40 a.m.	Trees & Highways: Improving Planting Success through Research	0.75 CEU A, M, Bm
10:00 a.m. - 10:40 a.m.	A Tale of Two Urban Forests - Horsechestnuts in Kiev and Chernobyl	0.75 CEU A, M, Bm
10:00 a.m. - 10:40 a.m.	What Are the Next Big Ideas of Urban Forestry	0.75 CEU A, M, Bm
10:00 a.m. - 10:45 a.m.	The Forest and the Trees: Human Health - Economic Value	0.5 CEU A, M, Bm
10:00 a.m. - 11:00 a.m.	Using Native Trees to Support Challenged Pollinators	1.0 CEU A, U, T, M, L, Bs (0.5), Bp (0.25), Bm (0.25)
10:00 a.m. - 11:00 a.m.	Does the Urban Forest Soundscape Change as Trees are Lost?	1.0 CEU A, M, Bm
11:00 a.m. - 11:35 a.m.	Writing Tree Pruning Specifications so the Tree Looks as Intended	0.5 CEU A, U, T, M, Bp, L
11:00 a.m. - 11:35 a.m.	Eradicating the Asian Longhorned Beetle from the U.S.	0.5 CEU A, U, T, M Bs, L
12:00 p.m. - 12:10 p.m.	Student Lightening Round	
12:00 p.m. - 12:30 p.m.	Resource for Engaging with Botanic Gardens in Tree Planting and Species Conservation Efforts	0.5 A, U, T, M, L, Bs (0.25), Bm (0.25)
12:00 p.m. - 1:00 p.m.	The Return of Arboriculture Myths - The Science Behind What Works, What Doesn't, and Why	1 CEU A, M, Bs (.5), Bm (.5)
12:00 p.m. - 1:00 p.m.	Natural Disasters & Trees: Fire, Ice, Wind & Drought	1.0 CEU A, U, T, M, L, Bs (0.5), Bp (0.25), Bm (0.25)
12:00 p.m. - 1:20 p.m.	Plant Seeds of Success for the Future Urban Forest	1.25 CEU A, M, Bs (0.5), Bp (0.5), Bm (0.25)
12:00 p.m. - 1:30 p.m.	Applying Morphophysiology to Tree Stability Assessment	1.5 CEU A, U, T, M, L, Bs (0.75), Bm (0.75)
2:00 p.m. - 2:30 p.m.	Current Trends in Urban Forest Diagnostics	0.5 CEU A, U, T, M, Bp, L
2:00 p.m. - 2:35 p.m.	OSHA Proposes an Arborist Standard: Why That's A Good Thing	0.5 CEU A, U, T, M, Bm, L
2:00 p.m. - 2:50 p.m.	COVID-19 and Arboriculture	0.75 CEU A, U, T, M, Bm, L
4:00 p.m. - 4:45 p.m.	Update on Tree Appraisal - Using the 10th Edition	0.75 CEU A, M, Bm
4:00 p.m. - 4:45 p.m.	Wielding the A300 Standards: The Shield and the Sword	0.75 CEU A, U, T, M, L, Bp (0.25), Bm (0.5)
4:00 p.m. - 5:00 p.m.	Did We Keep that Heritage Tree Too Long?	1.0 CEU A, U, T, M, Bm, L

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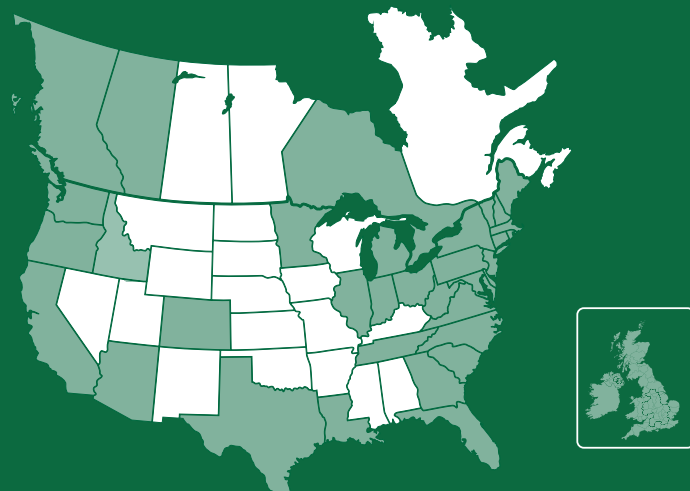


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skill set and advance your career.

Networking Opportunities and Games

Events:

LIVE TREE Fund After Hours
Wednesday 9 December
5:00 p.m. - 6:00 p.m.

LIVE Women in Arboriculture Networking event
Thursday 10 December
6:00 p.m. - 7:30 p.m.

Community Leaderboard Contest

Be an active participant in the conference community boards! Attendees will earn points based on their participation in the community boards, photo submissions, event polls and surveys. Top participants will be entered to win the **grand prize of a Husqvarna chainsaw!**



Tree Trivia

This tree trivia quiz, sponsored by Bartlett Tree Experts, is meant to be a fun test of your tree knowledge and fun facts! Complete the quiz and you'll be entered to **win a \$100 Amazon gift card courtesy of Bartlett.** Find the quiz under the Extras tab.

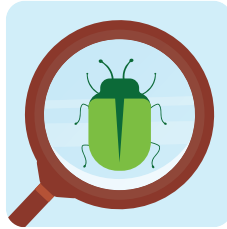


Virtual Company Profile Scavenger Hunt

Visit ISA Partners' pages for your chance to win prizes!

Step 1 - Find the [KEYWORDS]

Visit each Partner profile page under the Partner tab to find key words that look like this between brackets [EXAMPLE]. A clue will be provided in the "Extras" tab on the app home screen. Take some time to learn about each Partner!



Step 2 - Complete the secret phrase:

Rearrange all of the found [KEYWORDS] on the provided form in the Extras tab to complete the secret phrase. Winners will be drawn at random from the correctly submitted secret phrases. Winners will be notified by ISA team members via the Whova app.

Prizes* Provided by:

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**Non-US winners may receive monetary equivalent gift cards or promotion code.*

Use Whova to connect

On the Whova mobile app:

Click the Attendees tab on the bottom of the screen to browse the attendee list. At the top of the Attendees page, you can search attendees by keywords.

In their professional profiles, you can take notes or request contact information. Say 'hi' with one click or start a private chat by clicking the "Message" button.



On the Whova desktop platform:

Click on the Attendees tab on the left side of the screen under Main Navigation. At the top of the Attendees page, you can search by keywords such as 'company name' or 'title'. To start a conversation, click Send Message to begin a chat.

ISA has curated a student track to help those who are looking into getting in the industry with suggested sessions. We encourage you to view these sessions as well as any others that might interest you. Thank you to The Davey Tree Expert Company for being the ISA International Virtual Conference Student Sponsor and encouraging continued support for students in this field.

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5:00 p.m. - 6:00 p.m.	Poster Presentations	

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2:00 p.m. - 2:45 p.m.	Chadwick Award Winner Presentation	0.75 CEU A, U, T, M, Bs, L

THURSDAY 10 DECEMBER

10:00 a.m. - 11:30 a.m.	LIVE The Future of Global Urban Forestry: Perspectives From Young Researchers	1.5 CEU A, M, Bm
1:00 p.m. - 1:10 p.m.	LIVE Closing General Session	

FRIDAY 11 DECEMBER

10:00 a.m. - 10:40 a.m.	What Are the Next Big Ideas of Urban Forestry	0.75 CEU A, M, Bm
10:00 a.m. - 10:30 a.m.	Creating Resilient Urban Forest Ecosystems for the Digital Era	0.5 CEU A, M, Bm
12:00 p.m. - 1:00 p.m.	Natural Disasters & Trees: Fire, Ice, Wind & Drought	1.0 CEU A, U, T, M, L, Bs (0.5), Bp (0.25), Bm (0.25)

Thank you to the ISA Student Sponsor



All sessions can be watched on demand until 10 January 2021. Those marked **"LIVE"** will be available on demand after 11 December 2020.



During this season of gratitude, we are thankful for:

**The students who we sponsored.
You give us hope for the next generation.**

**The attendees at the conference.
We are honored to be among you.**

**Our #greenleaders who serve as volunteers,
in leadership and as presenters.**

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Session Descriptions



All sessions can be watched on demand until 10 January 2021.

MONDAY 7 DECEMBER

8:00 a.m. - 8:15 a.m.

Arboricultural Research and Education Academy (AREA) Welcome Remarks

8:00 a.m. - 8:30 a.m.

Tree Canopy Change and Urban & Community Forestry Programs

—Richard Hauer

Healthy tree canopies are essential to achieve urban trees benefits such as rainfall interception, human health, and shade. Many communities have implemented tree planting and canopy cover goals, and research has explored patterns of urban tree canopy cover. However, few studies have investigated the relationship between canopy cover and municipal forestry program attributes, especially across multiple cities. This talk will describe the change in urban tree canopy (UTC) in Wisconsin communities and how municipal forestry attributes, community sociodemographic factors, and land use patterns explain UTC.

8:45 a.m. - 9:20 a.m.

Remove or Retain? Research and Anecdote Surrounding Wire Baskets

—Andrew Koeser

Wire baskets helped to industrialize the transplanting process for field-grown nursery stock. However, their use is not without controversy. Many nursery growers and others worry that removal of this packaging material at planting may disrupt an already compromised root system and reduce transplant success. In contrast, many arborists and urban foresters fear this packaging may serve as both a short-term barrier to root regrowth and a long-term source of root restriction. While opinions abound, actual research on this topic is relatively scarce. Is wire basket removal a death sentence for trees already compromised by root loss and water stress? Do wire baskets left intact lead to the slow death of trees? This presentation draws on past and recent research findings in an effort to offer an impartial view on one of arboriculture's more controversial issues regarding cultural practice. Impact on transplanting survival, growth, and stability are discussed.

9:20 a.m. - 10:00 a.m.

AREA Student Presentations

—Ryan Fawcett

—Ryan Klein

—J. Christina Mitchell

—Corey Bassett

—Shannon MacDonald

There will be five subsessions:

- Can Volunteers Learn to Prune Trees?
- Modeling Forest Biomass Using LiDAR Remote Sensing on an Urban Landscape
- Professionalism and the Assessment of Consequences of Tree Failure
- The Ecology of Urban Forest Fragments: Effect of Nonnative Plant Species on Forest Complexity and Arthropod Communities
- Beyond Survival: Managing Urban Forests to Optimize Ecosystem Services and Disservices

10:15 a.m. - 10:55 a.m.

Tree Vitality: Why Should You Care?

—Jon Banks

Tree health and vitality influence a wide range of physiological processes including pest/disease susceptibility and water stress resilience. Dr. Banks will introduce the concept of tree vitality and how it can relate to pest and disease resilience, as well as tree establishment and survival within the landscape. A range of options for monitoring tree vitality, including chlorophyll fluorescence, shoot and root electrolyte leakage, root growth potential, SPAD meters, root and shoot starch concentration and infra-red thermometry systems will be discussed using “real life” case studies from diagnostic field work and ongoing research trials. Dr. Banks will explain how measuring tree vitality is of benefit to those managing trees. The future potential of this stress detection technology will also be discussed.

11:00 a.m. - 12:00 p.m.

Measuring a Tree's Pulse and Its Relationship to Tree Health

—Charles Cannon

This presentation will introduce the basic concepts of sap flow, the factors that influence it, how it is measured

and then dig into our collaborative research programs in long-term monitoring and experimental trials, ending with prospective uses of the data and technology. We feel the time is ripe for the application of these kinds of tools and that they will be highly useful and informative, particularly as we accumulate replicated continuous data for many species.

11:45 a.m. - 12:30 p.m.

Does Soil Sealing Affect Urban Tree Health? An 8 Year Research

—Alessio Fini

An experiment started in 2011 to evaluate the effects of different pavements on growth and health of two urban tree species with different rooting characteristics, namely *Fraxinus ornus* (Manna ash) and *Celtis australis* (European hackberry). 48 plants of the two species were planted in a 1 m² planting pit surrounded by 50 m² (538 sft) of: 1- impermeable pavement (asphalt on concrete sub-base); 2- permeable pavement (pavers on a crushed rock sub-base); 3- porous pavement (monolithic porous pavement on a crushed rock sub-base); 4- no pavement (bare soil kept free of weeds by herbicides). Since 2012, several biometric (e.g. shoot growth, dripline area, dbh) and physiological (e.g. leaf gas exchange, water relations, chlorophyll fluorescence, VOC emission) were measured. Health of established trees was slightly affected by pavements, despite large effects on soil parameters being observed.

12:30 p.m. - 1:15 p.m.

Minimizing Hazards Arising from Lignotuberous and Epicormic Shoots

—Greg Moore

Lignotuberous and epicormic buds are stress adaptations, which can grow 4m per annum and 300mm per week using the capabilities of mature stem and root systems. Lignotuberous shoots are well-attached to root systems, but heavy, rapidly-growing epicormic shoots can fail. Both can be used to manipulate canopies. The Australian public is interested in these shoots after wildfires, and when someone is killed by a falling epicormic shoot. Seedlings of *Eucalyptus obliqua* were heat stressed (40 degrees - 100 degrees C) and decapitated leaving 2, 4 or 8 leaves. Shoot production didn't guarantee survival because shoot mortality ranged from 55-100%. In stressed trees, regeneration is from epicormic buds higher in the canopy, then lower branch epicormic buds, buds on the trunk and finally lignotuberous buds, which are a last-resort survival mechanism. Understanding these shoots can be the difference between life and death for urban forest managers.

1:00 p.m. - 2:00 p.m.

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2:00 p.m. - 2:50 p.m.

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

—Alex Laver

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Chainsaw safety is the elephant in the room. One-handed chainsaw use of top handle and rear handle saws in the canopy has been a safety issue for years. We know we should not be doing it, we have all seen what can happen all too easily, but somehow as an industry we still do it! Why? We will unpack the issue and give you some new cuts and tools to keep you and your team safer in the canopy.

3:00 p.m. - 4:00 p.m.

Rope Splicing 2020... The State of the Art of Splicing Life Support and Rigging Tools in Arboriculture

—Mark Przekurat

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We'll have a discussion regarding the changing facets of rope splicing in 2020 and beyond, with a brief look back to acknowledge where we've been. And a frank discussion about where we are and where we're headed if we don't change course. We will take a look at the ANSI Z133, innovations in rope technology, manufacturers' responsibilities, reclassifying arborist splicing shops as manufacturers, insurance questions, chinks in our armor and Best Management Practices vs voluntary minimum standards. Is it time to merge the European standards with the U.S. ANSI standards? Is it time for a voluntary splicing methodology standard?

4:00 p.m. - 4:45 p.m.

Quantifying Climbing Efficiency

—John Ball

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We often hear of a climbing system or procedure being more efficient. But what does efficient mean? This presentation will cover some of the evolving research on climber performance, and how we can improve our climbing fitness and reduce fatigue.

5:00 p.m. - 5:45 p.m.

Innovations for Efficient and Safe Tree Care Crews!

—Johan Hallendorf

The world is changing around us, new technologies, social trends, legislation and customer demands evolve and set new standards for innovation. A reflection from Husqvarna around emerging technologies and how they can be used to create innovations in the tree care business. The lecture will focus on the tree care crew tool box and what solutions could be explored to improve safety and efficiency.

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6:00 p.m. - 6:40 p.m.

Tree Climbers Biomechanics Research Update

—Alex Laver

An update of the investigation research project work being done to investigate the biomechanics of the tree climber and optimized techniques for arboreal activities. Project correlations between working practices and chronic injury rates provide an evidence basis for the recommendation of safer working practices and improved healthcare for arborists.

We are here to demonstrate the new advances in biomechanical motion analysis equipment and show you how we are capturing the arborist in motion. This Project has been supported by Fund 4 Tree, TREE Fund, Arboricultural Association and Teufelberger.

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wastelands, our world and those of the trees we care for are changing. Join this special session with Gill Cassar to explore emerging trends to keep top of mind in 2021, and learn about the actors and innovations fuelling a global movement to conserve, restore and grow a trillion trees in the coming decade.

Welcome Remarks
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Keynote Session
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11:45 a.m. - 12:30 p.m.

Effects of Restoration Pruning Treatments on Damaged Trees

—Jason Miesbauer

When trees are damaged during storms they typically respond through the production of sprouting branches. Referred to as epicormic sprouts, these branches are a critical component in replacing the tree crown and photosynthetic capacity. Unfortunately, there is little empirical data to guide industry best management practices with respect to crown restoration pruning. This presentation will discuss results from a long-term study on the growth response to different pruning treatments to damaged trees, and how these results can help guide practitioners to improve their methods for restoration of storm damaged trees.

2:00 p.m. - 2:45 p.m.

ISA True Professionals and Awards of Distinction

One of the highlights of our conference is celebrating professional achievements of our ISA members. Each year we recognize those who make contributions to the profession. Please join us as we recognize this year's ISA True Professionals and honor The ISA Awards of Distinction winners, presented by Bartlett Tree Experts.

3:00 p.m. - 3:30 p.m.

Reaching Up: New Techniques for Reaching Tree Canopy Goals

—Jessica Sanders

Reaching tree canopy goals through new means. In order to reach tree canopy goals, we must inspire everyone around us to plant and care for trees. This presentation

TUESDAY 8 DECEMBER

9:00 a.m. - 10:00 a.m.

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10:00 a.m. - 11:30 a.m.

Opening General Session and Keynote - Emerging Trends for Trees in 2021

—Gill Cassar

—Caitlyn Pollihan

ISA kicks off the 2020 International Virtual Conference with welcome remarks from ISA CEO and Executive Director Caitlyn Pollihan. This is followed by a keynote from Gill Cassar who heads the 1t.org on Emerging Trends for Trees in 2021. From coronavirus to wildfire

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highlights trees on structures as well as urban land conservation efforts in order to reach the 40% tree canopy goal of Washington DC. Conservation easements, tax sales, land donations, and fee simple land purchases are being explored as a way to increase green space throughout the district.

3:00 p.m. - 3:35 p.m.

Inspiring the Next Generation: A Framework for K-12 Schools

—Logan Donahoo

Research shows that today's youth often miss the chance to learn about urban forestry before it's time to make a career selection... so where will the next generation of tree care professionals come from? A new Arbor Day Foundation program aims to make it easier to reach them as K-12 students. Learn how tree care professionals and K-12 schools can create partnerships through the program framework and resources.

3:00 p.m. - 3:35 p.m.

Understanding Engineering: How Trees Can Get People Onto Public Transport

—Russell Horsey

Bristol is known for its recent European Green Capital award. The way in which its arboricultural team broke down silos to work more closely with the city's engineers and green new transport infrastructure such as new cycle-ways and bus routes was a key to this and other success within the city. Find out why arborists should start to understand engineering more if they are to succeed in getting more trees into urban cities.

3:00 p.m. - 3:45 p.m.

Engaging the Unengaged: Improving Urban Forests Through Community Involvement

—Eric North

Sustainable urban forests require active communities, yet many community members are unfamiliar with management needs and challenges. Engaged and educated communities are powerful agents of change and improvement for urban forests. Engaged community members have a closer connection with the trees that make up their community and can help advocate for positive change in urban forests. From citizen education programs and tree inventories to watering newly planted trees and engaging local businesses in urban forestry. Discover how to harness the energy of community volunteers to aid in the management of urban forests through volunteer tree inventory, citizen education, and working with local businesses.

3:00 p.m. - 3:50 p.m.

Why be a TreeKeeper

—Jess Vogt

—Camila Cortez

—Annalise Nordgren

In the Chicago region, the Openlands TreeKeepers program has been engaging volunteers in urban forest stewardship since 1991. Over 2,000 individuals have taken the course on tree planting and care and passed a written exam and pruning practicum to become certified TreeKeepers. We interviewed TreeKeepers to examine barriers to participation. Insights from interviews will be included in the presentation, as will more details of survey results, including a comparison of long-time and newly-certified TreeKeepers.

3:00 p.m. - 4:00 p.m.

Research on Volunteer Urban Forestry Stewards: The Challenges and Opportunities of Expanding the TreeKeepers Program

—Al De Reu

Openlands' TreeKeepers Program has trained over 2,000 volunteers over 29 years. TreeKeepers log thousands of hours each year planting and caring for trees, educating neighbors, and advocating for the urban forest. As the TreeKeepers program looks to expand, various challenges exist, from cultural and linguistic barriers to municipal workers' hesitation to working with volunteers. Efforts must be made to reach new audiences, sustain current volunteers, engage new partners, and inform students of careers in arboriculture to expand the TreeKeepers program.

4:00 p.m. - 5:00 p.m.

Visit Partner Profiles!

5:00 p.m. - 6:00 p.m.

Poster Presentations

There will be four sub-sessions:

- Collaborating to Increase Urban Tree Diversity
- Training Volunteers to Prune Trees in Jacksonville's Parks
- Tree Preservation During Construction: An Evaluation of a Strict Municipal Tree
- Specifying Diverse Urban Forests: Does Consultant Firm Type Make a Difference

WEDNESDAY 9 DECEMBER

11:15 a.m. - 12:00 p.m.

Block or Rigging Rings? An Investigation into the Efficacy of Introducing Friction at the Rigging Point

—Matthew Follett

Funded in part by the Tree Fund, this project set out to examine recent advances in rigging hardware (rigging rings and rigging thimbles). While these systems have quickly become popular among climbing and rigging arborists (most reporting improved feel in the tree, and improved "safety"), and several manufacturers are introducing products, there has been little empirical research presented. In this project we set out to compare a variety of rigging anchor points in an experimental fashion with a repeatable and consistent method of deaccelerating the falling load ("letting it run"), as is recommended by manufacturers and the industry as a whole.

1:00 p.m. - 1:45 p.m.

Arboriculture Education for the Washington University Prison Education Project

—Carolyn Gaidis

Who has climate change, deforestation and global warming affected the most? The poorest populations. It affects the people that have the least amount of voice. How do we get them heard? My students enrolled at the Washington University Prison Education Project have researched the various means of carbon sequestration and have been passionate about the ramifications of global warming. The oppressed caring about the planet, when their surroundings do not breed much more than contempt, is a very powerful voice for change. How do trees and soil science play a significant role in designing for change? Presented will be the challenging process of teaching inside a prison, allowing for collaboration with Sam Fox School students, their combined working drawings/thoughts, their research findings and subsequent mitigation solutions.

2:00 p.m. - 2:45 p.m.

Chadwick Award Winner Presentation

—Dan Herms

The 2019 ISA Chadwick Award Winner Presents "The Multiple Dimensions of Tree Defense to Insects." Tree resistance to insects has been recognized as an ideal pest management strategy. This presentation will review my research on the various dimensions of tree defense including mechanisms, physiology, and genetics. The implications of carbon allocation patterns of trees for environmental effects on expression of defense will be addressed, including effects of stress and cultural practices such as fertilization. The consequences of lack of resistance of trees to invasive insects will also be explored.

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4:00 p.m. - 5:00 p.m.

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6:15 p.m. - 7:15 p.m.

The Disease Triangle, The Health Triangle

—Kent Honi

One of the most useful concepts in Integrated Pest Management is the Disease Triangle. On the surface, this idea seems too simple to be of any practical use. But if we look at it in greater depth through some examples, we can see how the Disease Triangle can inform everything we do in our practice as tree care professionals. The payoff can be increased effectiveness in your practices, as well as a renewed relationship with your clients as allies rather than adversaries in helping trees. We can also look at this concept from another angle: the Health Triangle, in which we apply what we have learned to foster resilience in our trees and landscapes.

7:30 p.m. - 8:30 p.m.

Speciation and Hybridization of Tree Species: The Arboricultural Implications

—Greg Moore

Providing attendees with examples of good specifications, explaining why commonly used terms allow poor pruning to be practiced, and how to be in compliance with the specifications will help promote better pruning and project inspection.

THURSDAY 10 DECEMBER

10:00 a.m. - 11:30 a.m.

The Future of Global Urban Forestry: Perspectives From Young Researchers

—Cecil Konijnendijk

—Sophie Nitoslawski

—Zhaohua (Cindy) Cheng

—Corey Bassett

From Europe's nature-based solutions to China's Forest Cities, professionals around the world are developing new ways to use urban forestry as solutions to common local and global problems, such as climate change adaptation and mitigation and public health challenges. Attendees will be exposed to new and unlikely sources for inspiration and collaboration so they can better care for their trees at home. The panel will engage attendees in discussions of global visions for the development of urban forestry, through a session grounded in practical methods and programs.

11:45 a.m. - 12:30 p.m.

What is Tree Vitality and How to Rate It

—Johan Östberg

Many tree managers are conducting tree inventories to monitor urban trees, and one of the most important parameters being collected is information on the tree's vitality, sometimes called condition. But what is tree vitality, how can this be rated and how do different user groups rate tree vitality?

In this study, we conducted a Delphi study to compare two different user groups; arborists (consulting, climbing and municipal) and biologists (consulting and from government agencies). The study revealed differences between how the two groups rated trees with lower vitality, and there were large differences in what factors used to rate the trees vitality, both between the two groups and within the groups. This information is crucial for all managers and consultants that collect and use information on tree vitality (condition).

1:00 p.m. - 1:10 p.m.

Closing General Session

2:00 p.m. - 3:00 p.m.

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3:00 p.m. - 3:30 p.m.

View to the Past: Managing New Mexico's Historic Urban Forests

—Amy Bell

Urban tree inventories provide valuable data to guide management practice, but a unique inventory project in New Mexico's historic districts is demonstrating how the inventory process can provide additional value through psychological and social experience. The inventory method went beyond the typical 'snapshot in time' inventory to connect trees through culture, history, and community values. This connection helps us understand our relationship to the urban forest as its own historic period, establishing the importance of its sustained support.



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3:00 p.m. - 3:50 p.m.

Native or Exotic? A Never Ending Debate in the Urban Landscape

—Francesco Ferrini

When planning new green spaces it is necessary to remember that the urban environment is very different from the natural environment where the species evolved out, and that, sometimes, exotic species might provide better performances than species which, though native from a specific area, could have serious difficulty to thrive in our cities where the climatic conditions and soil characteristics are completely different. Native plants don't necessarily survive these conditions any better than exotics. Besides we should answer some questions when we have to choose the species to be planted:

- Which trees should be planted in order to maximize carbon sequestration and pollutants removal?
- Which species native and/or exotic can better face the temperature increase foreseen for the next decades?
- Can the drought tolerance of certain species be increased through better management techniques?
- How will the interaction between the different species change in the future?

4:00 p.m. - 4:30 p.m.

The Efficacy of Utility Vegetation Management Cycles

—Philip Chen

Many utilities are behind on their maintenance cycles, and UVM professionals have long believed that falling behind on cycles increases long-term costs, but there is little objective research to support the view. In 1997, Browning and Wiant conducted the only related study and identified a positive correlation between the number of years a tree grows, and the time required to prune it. CNUC has embarked on a study (funded by the TREE Fund) to update Browning and Wiant's work through the application of a data mining approach. CNUC's study compiled ten years of production data across a broad range of cycle-lengths from North American utilities to investigate the relationship between labor hours and cycle length. This talk will cover CNUC's results and lessons learned. Research in this presentation was supported by TREE Fund.

5:00 p.m. - 5:45 p.m.

Growing Trees in Stormwater Basins in Dry Summer Climates

—Igor Lacan

Results of a five-year study of tree growth and soil moisture in GSI facilities in California and Oregon indicate adequate tree condition and growth, acceptable soil chemistry, and a complete absence of extended winter waterlogging. In contrast, summer soil moisture in GSI facilities was very low, and potentially constrained tree performance. As these findings only partially correspond to published studies, the presentation will discuss their implications for tree species selection and for irrigation management. Then we will review the characteristics of the artificial soils (substrates) used in GSI facilities, focusing on practical information to help arborists communicate with GSI facility planners and managers. The presentation will conclude with a simple protocol for monitoring trees in GSI facilities that is brief and readily usable in the field.

FRIDAY 11 DECEMBER

9:00 a.m. - 9:40 a.m.

Making it Stick: Challenges in the Enforcement of Tree Regulations

—Daniel Priest

In this session we will look at the history and development of Austin's tree regulations. We'll also talk about ongoing challenges to enforcement that have resulted from the rapid growth of the city over the same period. While intense development pressure over the last decade has provided a few tough lessons it has also made available resources for improved tree protection and enforcement systems. We'll examine a couple of case studies and end with a discussion of the recent rewrite of Austin's Land Development Code and how we expect this to change tree protection in the city.

9:00 a.m. - 9:40 a.m.

The Worst Case Law Ever for Trees

—Joe Samnik

A presentation on trees and the law as it relates to unfortunate court decisions which negatively affect us and our everyday business practices. This presentation shall present actual case law decisions on a multiplicity of different practice area levels in our industry. The information presented shall support after situation conference attendance in avoiding the lawyer's food chain.

9:00 a.m. - 9:45 a.m.

Creating a Culture of Safety in a Small Business

—David Vincent

Quality Tree Service of West MI has gone from 10 employees to over 50 in a few short years in utility ROW clearance and residential services due to a complete shift in mindset. Safety as a part of the management team has driven safety, productivity, and lowered costs of three simple ideas: stay safe, stay busy, and do a quality job.

9:00 a.m. - 9:50 a.m.

Expanding Crews and Views

—Jessika Mitchell

This session aims to answer questions about worker recruitment and retention through a new lens. Together, we will explore the importance of looking beyond traditional hiring pools and building more gender inclusive work environments. Research demonstrates that utilizing the unique qualities women contribute to workplace culture can ultimately strengthen our teams and increase profit margins. However, we must acknowledge that work within the tree care industry presents a unique set of challenges for women and their employers. This talk will address these challenges, explore potential solutions, and provide communication tools that can be used by all members of our community to help make our industry a more inclusive and equitable environment.

10:00 a.m. - 10:30 a.m.

Creating Resilient Urban Forest Ecosystems for the Digital Era

—Sophie Nitoslawski

Novel and digital technologies are increasingly being applied in environmental and forest resource management projects in many parts of the world, made all the more accessible by advanced computational capabilities and recent calls to action for technology investments in the environment. Concurrently, smart city planning, involving the widespread integration into the urban environment of Information and Communication Technologies and Internet of Things tools, has been put forth as a promising model for enhancing municipal services and assets and for improving the lives of urban citizens. We'll present findings on smart city trends and related technologies, and we discuss how smart technology applications in urban forest management can concurrently enhance urban forest benefits while promoting citizen engagement in forest stewardship.

10:00 a.m. - 10:40 a.m.

Trees & Highways: Improving Planting Success through Research

—Michelle Catania

There are an estimated 21 million km of highways across the globe providing tremendous opportunity for increasing tree cover. However these post-construction landscapes can present many challenges to growing healthy trees because of poor quality soil and exposure to stressors such as road salt and pollution. To address the question, how can we improve tree survival and growth in highway environments, we have started a set of observational and experimental studies in northern Illinois. We assessed survival rates of different tree species planted along the highway at three time periods: 1988, 1997, 2008. To contribute to the best management practices for increased tree survival in a tollway environment, four experimental beds with over 1,000 trees were installed in 2018. This talk will provide an overview of this long-term project as well as preliminary results about increasing survivorship and growth of trees in highly modified environments.

10:00 a.m. - 10:40 a.m.

A Tale of Two Urban Forests - Horsechestnuts in Kiev and Chernobyl

—James Downer

This presentation examines the post apocalyptic zone in Pripyat Ukraine and the survival of an extant population of horsechestnut trees. Comparisons are made between similar age populations in Kiev Ukraine. Comments are also made about arboriculture in Ukraine.

10:00 a.m. - 10:40 a.m.

What Are the Next Big Ideas of Urban Forestry

—Cecil Konijnendijk

Innovation is key for any industry or profession. It's easy to get stuck in the old ways, as "we've always done it like this." Arboriculture, urban forestry, and associated fields are not different. Urban forestry, for example, in itself is an innovative concept, as it changes the way we look at cities and urban tree populations. This presentation reports back from an international conference on "Trees, People and the Built Environment," held in the U.K. in April 2020. The conference focused on innovation and the Big Ideas that have the potential to shape and transform our industry. Conference delegates were engaged in identifying and discussing especially promising innovations and

ideas. This presentation discusses some of the Big Ideas identified at the conference. It will discuss the potential for implementing some of these ideas in the daily practice of arboriculture and urban forestry.

10:00 a.m. - 10:45 a.m.

The Forest and the Trees: Human Health - Economic Value

—Kathleen Wolf

This presentation will provide 3 important outcomes of a novel analysis to help arboriculture and urban forestry professionals advocate for trees in their communities, and is based on research evidence about nature and human health. The first is to help the audience understand the current spectrum of nature, trees and human health response, including recent findings about "dosage" that directly translate to urban forestry programs and policy. The second will be the current scope of healthcare services and their costs in the U.S., and how trees can be integrated into Health in All Policies initiatives at all levels of government. Finally, and perhaps most important, an economic monetization that relates city forests and trees to human health will be reported, offering compelling analysis in support of trees as profoundly important for quality human habitat.

10:00 a.m. - 11:00 a.m.

Using Native Trees to Support Challenged Pollinators

—Kim Eierman

Pollinator decline is a serious problem for all of us since pollinators are responsible for the pollination of 80% of all flowering plants, and at least 30% of the food that we eat. Unfortunately, most of our managed landscapes offer little to attract and support pollinators. Native trees are rarely mentioned as a critical resource for pollinators, especially important in early spring. With their biomass and multiple ecological functions, native trees and shrubs, not just perennials, can help us win the war on pollinator decline. Arborists who can address this critical ecological issue are positioned to gain more business from clients and have a greater positive impact on the environment.

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10:00 a.m. - 11:00 a.m.

Does the Urban Forest Soundscape Change as Trees are Lost?

—Robert Laverne

Urban landscapes are full of sounds, however most research has focused on managing "noise" – primarily unwanted sounds from human sources. But soundscapes have desirable components as well, and humans benefit from sounds associated with nature. We wanted to know if the substantial loss of tree canopy caused by Emerald Ash Borer affected the composition of an urban soundscape. Is there more "noise" and fewer beneficial sounds? How are the characteristics of soundscapes evaluated? Do both quantitative as well as qualitative aspects of the soundscape change as trees are lost? Does it matter for the humans who live there?

11:00 a.m. - 11:35 a.m.

Writing Tree Pruning Specifications so the Tree Looks as Intended

—Gordon Mann
—Marie Ambusk

Pruning is the most frequently used risk and health mitigation option for arborists. Proper pruning helps trees grow better. Poor pruning injures trees, disrupts growth, and exhibits a standing example of what not to do, with no way to educate people that the work is incorrect. Too many public trees and landscape trees, such as those in parking lots, are poorly pruned and never achieving the benefits they were intended to provide.

11:00 a.m. - 11:30 a.m.

Eradicating the Asian Longhorned Beetle from the United States

—Phillip Baldauf

The Asian longhorned beetle, or ALB, is an invasive insect that feeds on a wide variety of trees in the United States, eventually killing them. USDA APHIS and its cooperators have eradicated ALB infestations from IL, NJ, and portions of the infested areas in NY, MA, and OH. Eradication efforts continue in the remaining infested areas in NY, MA, and OH. APHIS and its partners: establish quarantines to restrict the movement of regulated materials, inspect ALB host trees from the ground or aerially for signs of infestation, apply a preventative systemic insecticide to noninfested host trees, remove infested and high-risk host trees within a quarantine area, research best practices and eradication methods, and involve and educate the public.

12:00 p.m. - 12:10 p.m.

Student Lightening Round

—Basil Southey

12:00 p.m. - 12:30 p.m.

Resource for Engaging with Botanic Gardens in Tree Planting and Species Conservation Efforts

—Sue Paist
—Paul Smith

Global tree species conservation can seem daunting, and many people may not feel they have the capacity to contribute. However, integrating ex situ (in cultivation) and in situ (in the wild) conservation approaches is important and within reach for a variety of people and sites. We will highlight a range of tree species conservation programs and resources offered by Botanic Gardens Conservation International (BGCI) and ArbNet. Participants will learn about integrated plant conservation, processes and lessons learned for managing threatened tree groups, and how individuals can maximize the conservation impact of their efforts, no matter their capacity.

12:00 p.m. - 1:00 p.m.

The Return of Arboriculture Myths - The Science Behind What Works, What Doesn't, and Why

—Linda Chalker-Scott

Increasingly, ISA Certified Arborists® are asked by clients whether their recommendations are science-based. For over 20 years, Dr. Linda Chalker-Scott has focused on the science behind popular products, practices, and phenomena tied to the management of landscapes. In addition to discussing some of the most recent arboricultural myths, this presentation will provide online resources to assist arborists in debunking myths with their clients. A handout will be provided.

12:00 p.m. - 1:00 p.m.

Natural Disasters & Trees: Fire, Ice, Wind & Drought

—Kim D. Coder —Holly Campbell
—Rebecca Abney —Larry Morris
—Jason Gordon

Extreme weather and natural disaster events may lead to tree injury, mortality, and negative site impacts.

Communities and tree owners must deal with past damage while anticipating future tree and landscape issues, including severe drought, wind loads, and home ignition due to tree placement. New research will be reviewed on essential tree care prior to natural disasters to reduce tree failure, landscape loss and wildfire. Risk assessment, pruning, tree selection and placement, and soil considerations will be discussed. Post-disaster tree and site issues will be covered under changing climatic conditions where assessing tree structural and biological responses, and site / fuel load problems, will be critical to tree health care and community forest management.

12:00 p.m. - 1:20 p.m.

Plant Seeds of Success for the Future Urban Forest

—Nancy Buley
—James Barborinas
—Andrew Lisignoli

A trio of tree growers share their collective knowledge, processes and tips for planning, breeding, selecting and planting for a healthy, diverse and resilient urban canopy. Experts agree that growing and planting a healthy, diverse mix of adaptable, resilient tree species and cultivars is essential to future urban forest health. Long-range climate projections show an undeniable trend toward a hotter and drier climate, accompanied by temperature extremes, torrential rains and windstorms. Turbulent weather patterns of the future call for the development and selection of a new generation of climate resilient urban trees. Future forests must blend new with tried and true trees, native and introduced, and species and cultivars. Learn how new cultivars are developed, tested and introduced, how to choose well-grown, high quality trees, and which production methods will ensure you of the best results as you nurture your urban forest.

12:00 p.m. - 1:30 p.m.

Applying Morphophysiology to Tree Stability Assessment

—Stefania Gasperini
—Giovanni Morelli

The stability of a tree, on equal terms, depends on its shape. Morphophysiology is the discipline that relates the tree's architecture with its biological functioning, with particular reference to its dynamic balance of energy, hormones and structure. Morphophysiological analysis is based on the predictability of the evolution of a tree. Observing its present state allows one to reconstruct its

past and foresee its future development. The integration of the evaluation of stability, using visual and instrumental assessment, with the morphophysiological analysis allows one to relate the structural behavior of the tree with its evolution over time. In this way the most appropriate diagnostic or arboricultural operations can be planned, even in a long-term perspective, respecting the evolution of each specimen. Case studies will be presented concerning remarkable trees.

2:00 p.m. - 2:30 p.m.

Current Trends in Urban Forest Diagnostics

—Sarah Ruark

We recently conducted a literature survey to determine the “state-of-the-art” for current diagnostic tools that could be used by urban foresters. Techniques for determining nutrition sampling, risk assessment, and lab diagnostics for plant pathogens were among some of the topics covered. We also compiled a list of currently available Apps for mobile devices that could be used by diagnosticians.

2:00 p.m. - 2:35 p.m.

OSHA Proposes an Arborist Standard: Why That's A Good Thing

—Peter Gerstenberger

This presentation will explain federal OSHA's rule-making process as they pursue an arborist rule, and explore the likeliest outcomes and impacts of the rule for employers.

2:00 p.m. - 2:50 p.m.

COVID-19 and Arboriculture

—Alexander Martin

This presentation serves to provide foundational recommendations for employers and employees in the arboriculture industry to aid in efforts to prevent infection and to slow transmission of COVID-19. The presentation contains relevant information for employers, employees, and clients involved in arboriculture practices. It is imperative that individuals involved in arboriculture practices during the COVID-19 pandemic exercise caution to prevent infection and to slow transmission of COVID-19.

4:00 p.m. - 4:45 p.m.

Update on Tree Appraisal - Using the 10th Edition

—Tom Smiley

The CTLA Guide for Plant Appraisal, 10th Edition, Revised is the most comprehensive guide of current knowledge on the approaches, processes, and methods of plant valuation. This edition represents a systematic evolution of plant appraisal that integrates new research into a deeper understanding of the strengths and weaknesses of the available methods. This talk will provide an overview of the 10th edition and how to appraise trees using it.

4:00 p.m. - 4:45 p.m.

Wielding the A300 Standards: The Shield and the Sword

—James Komen

The ANSI A300 Standards are a documentation of what industry stakeholders can agree upon within the context of the ANSI approval process. When wielded correctly, they can form powerful legal weaponry to use both defensively and offensively. Learn how to limit your liability when performing risk assessments by following the mandatory requirements. Learn how to avoid offensive strategies by plaintiffs that attack insufficiency of inspections, reports, and pruning practices.

4:00 p.m. - 5:00 p.m.

Did We Keep that Heritage Tree Too Long?

—Mike Garvey

On a calm June evening in 2017, a 22 inch diameter limb suddenly fell upon a person in a municipal park, causing severe harm. The limb was part of a locally significant, 90 foot tall, 125 year old plains cottonwood that was climbed by school kids as part of Arbor Day celebrations only weeks before the limb failed. The tree was featured as a municipal "Tree of the Month" but also declared to be inappropriate around playgrounds because of being prone to failures. The tree failed at a park playground and the fallen limb was removed and chipped immediately after the incident. A lawsuit charged the municipality with negligence and spoliation of evidence. The tree was pruned 5 years before the incident but could this failure have been predicted and avoided? Are arborist certifications, qualifications, and routine visual inspections enough to defend our actions against charges of breach of duty?

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

—Alex Laver

Chainsaw safety is the elephant in the room. One-handed chainsaw use of top handle and rear handle saws in the canopy has been a safety issue for years. We know we should not be doing it, we have all seen what can happen all too easily, but somehow as an industry we still do it! Why? We will unpack the issue and give you some new cuts and tools to keep you and your team safer in the canopy.

Quantifying Climbing Efficiency

—John Ball

We often hear of a climbing system or procedure being more efficient. But what does efficient mean? This presentation will cover some of the evolving research on climber performance and how we can improve our climbing fitness and reduce fatigue.

Innovations for Efficient and Safe Tree Care Crews!

—Johan Hallendorf

The world is changing around us, new technologies, social trends, legislation and customer demands evolve and set new standards for innovation. A reflection from Husqvarna around emerging technologies and how they can be used to create innovations in the tree care business, this lecture will focus on the tree care crew tool box and what solutions could be explored to improve safety and efficiency.

Rope Splicing 2020... The State of the Art of Splicing Life Support and Rigging Tools in Arboriculture

—Mark Przekurat

We'll have a discussion regarding the changing facets of rope splicing in 2020 and beyond, with a brief look back to acknowledge where we've been and a frank discussion about where we are and where we're headed if we don't change course. We will take a look at the ANSI Z133, innovations in rope technology, manufacturers' responsibilities, reclassifying arborist splicing shops as manufacturers, insurance questions, chinks in our armor and Best Management Practices vs voluntary minimum standards. Is it time to merge the European standards with the U.S. ANSI standards? Is it time for a voluntary splicing methodology standard? Fids&Fibers Qualified Rope Splicing Program has been designed to meet some of these challenges. Basic goals and requirements of the program will be presented and feedback requested from the participants.

Tree Climbers Biomechanics Research Update

— Alex Laver

An update of the investigation research project work being done to investigate the biomechanics of the tree climber and optimized techniques for arboreal activities.

Arborists always complain of suffering from musculoskeletal injuries caused by repetitive stretching and supporting large loads in contorted postures. The prolonged use of these techniques can result in muscle sprains and degenerative joint problems. This project has been to investigate correlations between working practices and chronic injury rates to provide an evidence basis for the recommendation of safer working practices and improved healthcare for arborists. We are here to demonstrate the new advances in biomechanical motion analysis equipment and show you how we are capturing the arborist in motion. This project has been supported by Fund 4 Tree, TREE Fund, Arboricultural Association, and Teufelberger.



All sessions can be watched
on demand until 10 January 2021.

Poster Presentations

Tuesday 8 December, 5:00 p.m. - 6:00 p.m.

View the 2020 ISA Virtual Conference Poster Presentations located in the Agenda. Each poster has a short video introduction from the author and we encourage attendees to view their attached posters and topics.

Training Volunteers to Prune Trees in Jacksonville's Parks

—Lawrence Figart (Larry)

University of Florida Institute of Food and Agricultural Sciences / Duval County Extension Service,
Urban Forestry Extension Agent

Specifying Diverse Urban Forests: Does Consultant Firm Type Make a Difference

—Grant Thompson

Department of Horticulture, Iowa State University,
Assistant Professor

Tree Preservation During Construction: An Evaluation of a Strict Municipal Tree Ordinance

—Kaitlyn Pike

DePaul University, University of British Columbia,
Ph.D Student

Collaborating to Increase Urban Tree Diversity

—Deborah (Deb) Hilbert

AREA, University of Florida, ISA Component Officer



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- Funding for scientific research on urban tree care issues
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LIVE TREE Fund After Hours

Wednesday 9 December, 5:00 p.m. - 6:00 p.m.

Please join TREE Fund for a Virtual TREE Fund After Hours. TREE Fund will provide an update on our activities, award this year's Volunteer of the Year, recognize the success of this year's Tour des Trees riders and celebrate the importance of our mission with the help from a few friends.



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