# ISA Annual International Conference and Trade Show

II-I4 August 2019 | Knoxville, Tennessee (US)

...with ITCC and Arbor Fair | 9-11 August

# **Onsite Guide**

ioxille ISA

https://www.isa-arbor.com/conference





# Welcome to Knoxville, Tennessee! Knowville ISA

n behalf of ISA Southern Chapter, it is my privilege to welcome you to the 2019 ISA Annual International Conference and Trade Show. We are confident you will find your visit to Tennessee, known as "The Volunteer State," and the City of Knoxville all you might expect and more.

ISA Southern Chapter is honored to be hosting the 2019 ISA Annual International Conference and Trade Show again following the 2005 Trees in Tune Conference in Nashville, Tennessee. Knoxville has been looking forward to your visit since we learned we were selected to be the 2019 host. Many people have been working diligently to ensure you have an amazing experience while you are here.

You will find that Knoxville has a small town feel with big city amenities. The conference is located near the center of downtown Knoxville bordered by the Tennessee River, the University of Tennessee, and a collection of historic sites, including a small fort and cabins which represent our humble beginnings in 1786. As you look to the south, you will see the Great Smoky Mountains in the distance and our urban wilderness area with hiking, paddling and world-class mountain biking just across the river. Towering above the Knoxville Convention Center is an iconic gold ball, a reminder of when 11 million people came to Knoxville for the 1982 World's Fair. The Sunsphere offers a spectacular 360-degree view of Knoxville you will not want to miss while you are here.

Our downtown is very walkable and offers a great variety of local food options, microbreweries, distilleries and music venues. Every Wednesday and Saturday, Farmer's Market in the Market Square area of downtown Knoxville brings up to 150 local farmers, bakers and artisans. Market Square has been the site of this popular gathering since the 1860s. We have a free trolley system that will take you to areas such as Old City and the University of Tennessee campus that are a little further walk. We also have rental bikes and scooters to help you get around as well.

Nearby, you can enjoy our zoo, greenways, parks, arboreta, lakes, rivers, museums and resort areas. Gatlinburg, Pigeon Forge and Oak Ridge are neighboring cities with too many attractions to list. Indoor or outdoor, there is much to explore in East Tennessee after your conference sessions and activities.

Finally, I want to personally invite you to attend the TREE Fund and Toast With the Host gala at Jackson Station, a renovated train depot, Tuesday from 6:00 p.m. – 9:00 p.m. Learn about the remarkable activities of TREE Fund, and join the ISA Southern Chapter for an enjoyable evening of southern hospitality that includes comfort food, two free drinks and music. It will be a fun occasion where all can relax and unwind.

We look forward to seeing you at the events!

David & Vandungiff

**David Vandergriff** 2019 ISA Local Program Chair



# ITCC AND CONFERENCE **SPONSORS**







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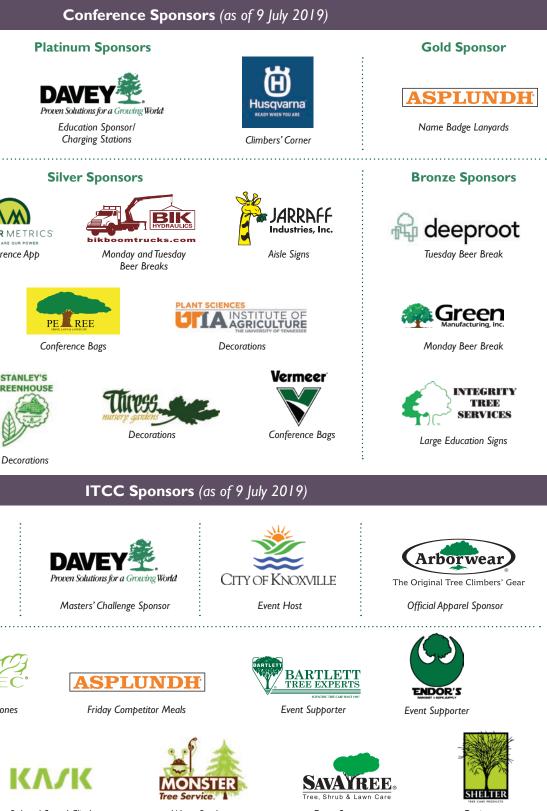












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# CONFERENCE **THINGS TO KNOW**

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- Read presentation descriptions, presenter bios and handouts
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- · Provide feedback on presentations
- · Peruse conference agenda, meetings, education and special activities

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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 in Cumberland Concourse.
- 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 registration hours.
- · Refreshments are available to all attendees at these Knoxville **Convention Center locations:**

Monday,	Light Breakfast	7:00 a.m. – 8:00 a.m.	Cumberland Concourse
12 August	Breaks	l I:00 a.m. – I:00 p.m. 3:00 p.m. – 4 :00 p.m.	Trade Show Floor
Tuesday, 13 August	Breakfast and Networking	7:30 a.m. – 9:00 a.m.	Trade Show Floor
	Breaks	11:00 a.m. – 12:00 p.m. 2:00 p.m. – 3:00 p.m.	Trade Show Floor
Wednesday, 14 August	Light Breakfast	7:30 a.m. – 9:00 a.m.	Cumberland Concourse
	Break	11:00 a.m. – 12:00 p.m.	Cumberland Concourse

- Light lunch will be available on the Trade Show Floor Monday and Tuesday while quantities last. Alternatively, experience one of downtown's numerous local restaurants — a short five-minute walk from the Knoxville Convention Center in Market Square.
- 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 https://www.isa-arbor.com/ISA-Privacy.
- Transportation will be provided between the Knoxville Convention Center and Lakeshore Park (Friday – Sunday) for conference attendees who wish to attend the ITCC, Arbor Fair and Expo held at Lakeshore Park. Buses will depart from the Knoxville Convention Center's North entrance off Clinch Ave.

# **Registration Hours**

**Knoxville Convention Center – Clinch Concourse** 

Friday, 9 August	4:00 p.m. – 6:00 p.m.
Saturday, 10 August	7:00 a.m. – 12:00 p.m.
Sunday, I I August	7:00 a.m. – 8:30 p.m.
Monday, 12 August	6:30 a.m. – 5:30 p.m.
Tuesday, I 3 August	7:00 a.m. – 3:00 p.m.
Wednesday, 14 August	7:00 a.m. – 1:30 p.m.

# 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.

Thursday, 8 Augus	st
8:00 a.m. – 5:00 p.m.	TRAQ Full Course: Day I (KCC – 30
8:00 a.m. – 5:00 p.m.	ISA Board of Directors Meeting (Hilt
Friday, 9 August	
8:00 a.m. – 5:00 p.m.	Tree Anatomy Workshop: Day 1 (KCC
8:00 a.m. – 5:00 p.m.	TRAQ Full Course: Day 2 (KCC – 30
8:00 a.m. – 5:00 pm	ISA Board of Directors Meeting (Hilt
10:00 a.m. – 4:00 p.m.	Arbor Fair and Expo (Lakeshore Park
I:00 p.m. – 6:00 p.m.	ITCC Masters' Qualifying Events (Lak
3:00 p.m. – 4:00 p.m.	Historical Tour of the Lakeshore Park
4:00 p.m. – 6:00 p.m.	Registration Opens (KCC – Clinch C
Saturday, 10 Augu	ıst
7:00 a.m. – 12:00 p.m.	Registration Open (KCC – Clinch Co
7:00 a.m. – 12:00 p.m. 7:30 a.m. – 12:00 p.m.	
	ISA Board of Directors Meeting (Hilt
7:30 a.m. – 12:00 p.m.	ISA Board of Directors Meeting (Hilt TRAQ Full Course: Day 3 (KCC – 30
7:30 a.m. – 12:00 p.m. 8:00 a.m. – 11:30 a.m.	ISA Board of Directors Meeting (Hilt TRAQ Full Course: Day 3 (KCC – 30 Tree Anatomy Workshop – Day 2 (KC
7:30 a.m. – 12:00 p.m. 8:00 a.m. – 11:30 a.m. 8:00 a.m. – 5:00 p.m.	ISA Board of Directors Meeting (Hilt TRAQ Full Course: Day 3 (KCC – 30 Tree Anatomy Workshop – Day 2 (KC ISA Credentialing Council Meeting (H
7:30 a.m. – 12:00 p.m. 8:00 a.m. – 11:30 a.m. 8:00 a.m. – 5:00 p.m. 8:00 a.m. – 5:00 p.m.	Registration Open (KCC – Clinch Co ISA Board of Directors Meeting (Hilt TRAQ Full Course: Day 3 (KCC – 30 Tree Anatomy Workshop – Day 2 (KC ISA Credentialing Council Meeting (H University of Tennessee Campus and <i>Ticket Required</i> ITCC Masters' Qualifying Events (Lak
7:30 a.m. – 12:00 p.m. 8:00 a.m. – 11:30 a.m. 8:00 a.m. – 5:00 p.m. 8:00 a.m. – 5:00 p.m. 8:15 a.m. – 12:00 p.m.	ISA Board of Directors Meeting (Hilt TRAQ Full Course: Day 3 (KCC – 30 Tree Anatomy Workshop – Day 2 (KC ISA Credentialing Council Meeting (H University of Tennessee Campus and <i>Ticket Required</i>
7:30 a.m. – 12:00 p.m. 8:00 a.m. – 11:30 a.m. 8:00 a.m. – 5:00 p.m. 8:00 a.m. – 5:00 p.m. 8:15 a.m. – 12:00 p.m. 8:30 a.m. – 4:00 p.m.	ISA Board of Directors Meeting (Hilt TRAQ Full Course: Day 3 (KCC – 30 Tree Anatomy Workshop – Day 2 (KC ISA Credentialing Council Meeting (H University of Tennessee Campus and <i>Ticket Required</i> ITCC Masters' Qualifying Events (Lak
7:30 a.m. – 12:00 p.m. 8:00 a.m. – 11:30 a.m. 8:00 a.m. – 5:00 p.m. 8:00 a.m. – 5:00 p.m. 8:15 a.m. – 12:00 p.m. 8:30 a.m. – 4:00 p.m. 9:00 a.m. – 3:15 p.m.	ISA Board of Directors Meeting (Hilt TRAQ Full Course: Day 3 (KCC – 30 Tree Anatomy Workshop – Day 2 (KC ISA Credentialing Council Meeting (H University of Tennessee Campus and <i>Ticket Required</i> ITCC Masters' Qualifying Events (Lak Effective Report Writing Workshop T Arbor Fair and Expo, <b>ITCC</b> (8:30 a.m
7:30 a.m. – 12:00 p.m. 8:00 a.m. – 11:30 a.m. 8:00 a.m. – 5:00 p.m. 8:00 a.m. – 5:00 p.m. 8:15 a.m. – 12:00 p.m. 8:30 a.m. – 4:00 p.m. 9:00 a.m. – 3:15 p.m. 9:00 a.m. – 4:00 p.m.	ISA Board of Directors Meeting (Hilt TRAQ Full Course: Day 3 (KCC – 30 Tree Anatomy Workshop – Day 2 (KC ISA Credentialing Council Meeting (H University of Tennessee Campus and <i>Ticket Required</i> ITCC Masters' Qualifying Events (Lak Effective Report Writing Workshop T

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C – 301 A) Ticket Required

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k Conservatory Property (Lakeshore Park)

Concourse)

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ton – Salon A)

00D) Registration Required

CC – 301 A) Ticket Required

Hilton – Sequoyah II)

Gardens Tour (Tour departs KCC at Clinch Ave./North Entrance)

keshore Park)

Ticket Required, Requires Laptop (KCC – 301 D)

m. – 6:00 p.m.) (Lakeshore Park)

(Tour departs KCC at Clinch Ave./North Entrance) Ticket Required

ore Park)

mony (Lakeshore Park)

# CONFERENCE AGENDA AT A GLANCE

# **O** KCC = Knoxville Convention Center

Sunday, I I August	t
7:00 a.m. – 8:30 p.m.	Registration Open (KCC – Clinch Concourse)
8:00 a.m. – 3:00 p.m.	Tree Anatomy Workshop – Day 3 (KCC – 301 A) Ticket Required
8:00 a.m. – 5:00 p.m.	ISA Credentialing Council Meeting (Hilton – Sequoyah II)
8:30 a.m. – 2:30 p.m.	ITCC Masters' Challenge (Lakeshore Park)
9:00 a.m. – 2:00 p.m.	Arbor Fair and Expo, ITCC (Lakeshore Park)
9:00 a.m. – 4:15 p.m.	Documenting Evidence Workshop (KCC – 301 D) Ticket Required
I:00 p.m. – 5:00 p.m.	An Overview of Utility Specialist Certification Study Guide (KCC – 301 E) Ticket Required
5:00 p.m. – 6:00 p.m.	Student Kick-off Meeting (KCC – Rotunda Room)
6:00 p.m. – 7:30 p.m.	Arboriculture Celebration with Emcee: Sam Venable (KCC – Ballrooms D-G)
7:30 p.m. – 9:30 p.m.	Welcome Reception (KCC – Trade Show Floor) – <b>ITCC</b> scores will be posted at ISA Central (KCC – Exhibit Halls A&B, Booth #320)
Monday, 12 Augus	st
6:30 a.m. – 5:30 p.m.	Registration Open (KCC – Clinch Concourse)
7:00 a.m. – 8:00 a.m.	Light Breakfast, Coffee and Networking (KCC – Cumberland Concourse)
7:00 a.m. – 8:00 a.m.	ISA Board Certified Master Arborist <sup>®</sup> Breakfast (KCC – 301 D-E) Invitation Only
7:00 a.m. – 8:00 a.m.	Past Presidents' Breakfast (KCC – 300 C) Invitation Only
8:00 a.m. – 8:30 a.m.	ISA President and Local Chapter Welcome (KCC – Ballrooms D-G)
8:30 a.m. – 9:30 a.m.	Featured Keynote 1: Steve Curwood, Living on Earth (KCC – Ballrooms D-G)
9:30 a.m. – 11:00 a.m.	General Education Sessions (KCC – Ballrooms D-G, KCC – Ballrooms A-C, KCC – 301 A-C, and KCC – Lecture Hall)
9:30 a.m. – 5:00 p.m.	KCC – Trade Show Floor Open (KCC – Exhibit Halls A&B)
	Climbers' Corner (KCC – Exhibit Halls A&B, Booth #928)
	ISA Presents including Poster Displays (KCC – Exhibit Halls A&B, Booth #621)
10:00 a.m. – 12:00 p.m.	Science and Research Committee Meeting (Hilton – Sequoyah II)
10:00 a.m. – 12:00 p.m.	Ownership Linkage Committee Meeting (Hilton – Great Smoky B&C)
11:00 a.m. – 1:00 p.m.	Break on the KCC – Trade Show Floor (KCC – Exhibit Halls A&B)
11:30 a.m. – 1:00 p.m.	Association Leadership Luncheon (KCC – 301 D-E)
11:30 a.m. – 12:30 p.m.	Urban Tree Growth and Longevity Annual Meeting (Hilton – Sequoyah I)
1:00 p.m. – 3:00 p.m.	General Education Sessions (KCC – Ballrooms D-G, KCC – Ballrooms A-C, KCC – 301 A-C, and KCC – Lecture Hall)
I:00 p.m. – 3:00 p.m.	Hands-on Diagnostic Workshop (KCC – 300 D) Ticket Required
3:00 p.m. – 4:00 p.m.	Break on the KCC – Trade Show Floor (KCC – Exhibit Halls A&B)
4:00 p.m. – 5:00 p.m.	Educational/Research Poster Presentations (KCC – Exhibit Halls A&B, Booth #621)
4:00 p.m. – 5:00 p.m.	General Education Sessions (KCC – Ballrooms D-G, KCC – Ballrooms A-C, KCC – 301 A-C, and KCC – Lecture Hall)
5:00 p.m. – 7:00 p.m.	Women in Arboriculture Networking Event (Hilton Salon A&B) Ticket Required
6:30 p.m. – 8:30 p.m.	AREA Meeting and Student Social (Calhoun's on the River) Ticket Required

# **()** KCC = Knoxville Convention Center

7:00 a.m. – 3:00 p.m.	Registration Open (KCC – Clinch Co
7:30 a.m. – 9:00 a.m.	Complimentary Breakfast on KCC –
7:30 am – 9:00 a.m.	Membership Committee Meeting (KC
7:30 a.m. – 3:00 p.m.	KCC – Trade Show Floor Open (KCC Climbers' Corner (KCC – Exhibit Ha ISA Presents including Poster Displays
8:00 a.m. – 8:30 a.m.	ISA Annual Business Meeting at Climb
9:00 a.m. – 11:00 a.m.	General Education Sessions (KCC – I and KCC – Lecture Hall)
11:00 a.m. – 12:00 p.m.	Break in the KCC – Trade Show Floo
11:00 a.m. – 12:00 p.m.	Educational Products and Services Co
11:00 a.m. – 1:30 p.m.	Board of Directors and CoR Lunched
12:00 p.m. – 2:00 p.m.	General Education Sessions (KCC – I and KCC – Lecture Hall)
1:30 p.m. – 5:00 p.m.	Nominating and Elections Committee
2:00 p.m. – 3:00 p.m.	Break on the KCC – Trade Show Floo
3:00 p.m. – 4:00 p.m.	General Education Sessions (KCC – I and KCC – Lecture Hall)
4:00 p.m. – 5:00 p.m.	Featured Keynote 2: Lynda V. Mapes, V
5:00 p.m. – 6:00 p.m.	ISA Board of Directors Induction (KC
6:00 p.m. – 7:00 p.m.	TREE Fund After Hours (Jackson Tern
7:00 p.m. – 9:00 p.m.	Toast With the Host – ISA Southern on online when you register.
Wednesday, 14 Au	igust
7:00 a.m. – 1:30 p.m.	Registration Open (KCC – Clinch Co
7:30 a.m. – 9:00 a.m.	Light Breakfast, Coffee and Networki
7:30 a.m. – 9:00 a.m.	Arboriculture in Parks and Gardens F
8:00 a.m. – 5:00 p.m.	TRAQ Renewal Course (KCC – 300
8:30 a.m. – 3:30 p.m.	SCA Field Day Ticket Required
9:00 a.m. – 11:00 a.m.	AREA and General Education Session
9:00 a.m. – 4:00 p.m.	SMA Municipal Specialty Workshop (H
11:00 a.m. – 12:00 p.m.	Break (KCC – Cumberland Concours
12:00 p.m. – 3:00 p.m.	AREA and General Education Session
l:00 p.m. – 8:00 p.m.	Council of Representatives Meeting (



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Tuesday, 13 August



oncourse)

Trade Show Floor (KCC – Exhibit Halls A&B)

CC – 300 C)

C – Exhibit Halls A&B)

alls A&B, Booth #928)

ys (KCC – Exhibit Halls A&B, Booth #621)

bers' Corner (KCC – Exhibit Hall, Booth #928)

Ballrooms D-G, KCC – Ballrooms A-C, KCC – 301 A-C,

or (KCC – Exhibit Halls A&B)

Committee Luncheon (KCC – 301 D-E)

eon (Hilton – Sequoyah III)

Ballrooms D-G, KCC – Ballrooms A-C, KCC – 301 A-C,

ee Annual Meeting (Hilton – Great Smoky C)

oor (KCC – Exhibit Halls A&B)

Ballrooms D-G, KCC – Ballrooms A-C, KCC – 301 A-C,

Witness Tree (KCC – Ballrooms D-G)

CC – Rotunda Room)

minal) RSVP at Registration

Chapter (Jackson Terminal) RSVP at Registration by procuring this FREE ticket

oncourse)

ting (KCC – Cumberland Concourse)

Forum (KCC – 301 D)

D) Registration Required

ns (KCC – Ballrooms D-G and KCC – Ballrooms A-C)

(KCC – 301 A) Ticket Required

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ns (KCC – Ballrooms D-G and KCC – Ballrooms A-C)

(KCC - 301 E)

Stop by the Davey Tree Expert Booth 301 on the Trade Show Floor to charge your laptop, phone, or tablet.



# CONFERENCE HIGHLIGHTS

# Arboriculture Celebration and Reception, Sunday Evening – I I August, 6:00 p.m. (KCC – Ballrooms D-G)

ISA kicks off this year's conference with the Arboriculture Celebration. Join us as we recognize the best of the best in Arboriculture, the 2019 ISA Award of Distinction recipients and ITCC champions. The popular Tennessee-based blue grass band Grassically Trained rounds out the evening's entertainment with ethereal harmonies and impressive musicianship.

# Monday Opening General Session – 12 August, 8:00 a.m. (KCC – Ballrooms D-G)

ISA acknowledges the 2019 ISA True Professionals, deserving arborists being honored for their best practices and successes in educating their colleagues and communities.



Monday 8:30 a.m. – 9:<u>30 a.m.</u> (KCC – Ballrooms D-G)

# **Monday Featured Presenter** Steve Curwood, Living on Earth

Steve Curwood is the executive producer and host of National Public Radio's Living on Earth — broadcast on more than 300 NPR affiliates in the US - president of World Media Foundation, Inc. and a lecturer in environmental science and public policy at Harvard University. He has more than 30 years' experience as a journalist having worked for NPR, CBS News, and the Boston Globe, and began his career as the weekend host for another familiar NPR program All Things Considered. Steve is the recipient of numerous accolades including a shared Pulitzer Prize for Public Service as part of the Boston Globe's education team. Avoiding partisan lines, he advocates the fact that our relationship to our environment, and what we do to it, is as important as any other part of our lives.

**Q** KCC = Knoxville Convention Center

Sam Venable, a Knoxville, Tennessee, native and graduate of the

columnist specializing in humor. He is the winner of several state,

regional and national writing awards including a humor-writing

award from the Society of Professional Journalists. Fragments of

Hate, Sam's six-part News Sentinel series, won the Sigma Delta

Journalists, the Investigative Reporting award from the Tennessee

Press Association, and was a Pulitzer Prize nominee. Sam is the

author of more than 13 books. In recent years, he has become a

popular comedic entertainer on the Talk is Cheap comedy tour.

bring Southern Appalachia to life during the evening's festivities.

Tuesday

4:00 p.m. – 5:00 p.m.

(KCC – Ballrooms

D-G)

Sam's life experience, warm wit and love of the outdoors will

**Tuesday Featured Presenter** 

Lynda V. Mapes is an award winning journalist and

Seattle Times reporter where she specializes in coverage

of native cultures, natural history, and the environment. In

addition to her staff position at the Seattle Times, Lynda is

an associate of the Harvard Forest of Harvard University,

in Petersham, Massachusetts. As a 2014-15 Bullard Fellow

at the forest, she explored the human and natural history

of a single, 100-year-old oak to write Witness Tree. Recent

honors include an award from the American Association

Habitat Conservation Award bestowed by the National

Oceanic and Atmospheric Administration Fisheries. Lynda

is the author of five books. Her first children's book was

published this spring.

for the Advancement of Science and the Dr. Nancy Foster

Lynda V. Mapes, Witness Tree

Chi feature reporting award from the Society of Professional

University of Tennessee, has written for the Knoxville News

Sentinel since 1970; first as outdoors editor and later as a

Sunday

Arboriculture

Sam Venable, Emcee

Celebration



# Congratulations to the 2019 ISA Award Winners

Award of Merit Francesco Ferrini **Full Professor** University of Florence Bagno a Ripoli / Florence, Italy



Alex L. Shigo Award for Excellence in Arboricultural Education Les P.Werner Professor University of Wisconsin - Stevens Point Stevens Point, Wisconsin, US



Sharon J. Lilly Award of Achievement James R. Clark Managing Consulting Arborist HortScience Bartlett Consulting Pleasanton, California, US

Honorary Life Membership John E. Signorini Retired; former Executive Vice President and Chief Financial Officer The F.A. Bartlett Tree Expert Company Stamford, Connecticut, US

# **ISA** Awards of Distinction and **President's Award**

Sunday, during the **Arboriculture Celebration** 

(KCC – Ballrooms D-G)



**Rob Calley** President Backridge Tree Service, Inc. Mary Esther, Florida, US



Ann Koenig **Community Forester** Missouri Department of Conservation Columbia, Missouri, US



**Mark Roberts** Consultant Roberts Consulting, Ltd. Dunedin, Otago, New Zealand



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# 2019 ISA Awards of Distinction



**R.W. Harris Author's Citation** Julian A. Dunster Owner

Dunster and Associates Environmental Consultants, Ltd. Victoria, British Columbia, Canada



#### L.C. Chadwick Award for Arboricultural Research **Daniel Herms** Vice President of Research and Development The Davey Tree Expert Company Kent, Ohio, US



Millard F. Blair Award for Exceptional Contribution to Practical Arboriculture Dwayne Neustaeter Sr. President, Arboriculture Canada Training and Education, Ltd. Olds, Alberta, Canada



**Early-Career Scientist Award Richard W. Harper** Extension Associate Professor University of Massachusetts Amherst, Massachusetts, US



### Honorary ISA Membership Paul Wood Owner Black Bear Adventures Bicycle Tours Charlotte, North Carolina, US



# 2019 ISA President's Award

**Brian Kane** Massachusetts Arborists Association Professor University of Massachusetts - Amherst Amherst, Massachusetts, US

# 2019 ISA True Professionals of Arboriculture



#### Gilbert A. Smith and Lesley Bruce Smith Owners

Arborsmith, Ltd. Lake Bluff, Illinois, US



**Andrew Trotter** Vice President of Field Operations West Coast Arborists Norco, California, US

# **ISA** True Professionals ofArboriculture

Monday, during the **Opening General Session/Welcome** 

(KCC – Ballrooms D-G)

# OPTIONAL **CONFERENCE ACTIVITIES**

# Friday, 9 August – Sunday, 11 August

#### International Tree Climbing Championship with Arbor Fair and Expo Husqvarna (Lakeshore Park)

(See page 11 for schedule of event times.)

Cheer on your favorite competitors at the ITCC, and support industry education and public awareness. Don't forget to browse the Arbor Fair and Expo for industry equipment, educational displays and crafts. Stop by the Ask an Arborist tent for some impromptu question-and-answers, or bring the kids to experience our Fun Tree Climb and Limb Walk!

(Transportation to and from Lakeshore Park will be provided for conference attendees. Buses will depart outside the Knoxville Convention Center's Clinch Ave. entrance.)

# Sunday, II August

Arboriculture Celebration and **Welcome Reception** 

**Opening Ceremony** 6:00 p.m. – 7:30 p.m. (KCC – Ballrooms D-G)



(Name badge required.)

ISA kicks off this year's conference with the Arboriculture Celebration. Join us as we recognize the best of the best in Arboriculture, the 2019 ISA Award of Distinction recipients, and ITCC champions. Local humorist author of A Handful of Thumbs and Two Left Feet, Sam Venable, will emcee the evening.

# Welcome Reception on the Trade Show Floor 7:30 p.m. – 9:30 p.m. (KCC – Trade Show Floor)

(Name badge required.)

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. The popular Tennessee-based blue grass band Grassically Trained rounds out the evening's entertainment with ethereal harmonies and impressive musicianship.

# Monday, 12 August

# Women in Arboriculture Networking Reception

5:00 p.m. – 7:00 p.m. (Hilton Knoxville – Salon A&B)



Ticket Required: \$30 onsite

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

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



# Monday, 12 August

# **AREA Meeting and Student Social**

6:30 p.m. – 8:30 p.m. (Calhoun's on the River)

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 Arboriculture Research and Education Academy (AREA) colleagues. The event will begin with the annual AREA meeting at 6:30 p.m., followed by a networking social at Calhoun's on the River. Some drinks and appetizers will be provided with your ticket. Special recognition will be given to the 2019 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 at Calhoun's on the River.)

# Tuesday, 13 August

# **TREE Fund After Hours** 6:00 p.m. – 7:00 p.m. (Jackson Terminal)

Free for ISA Conference registrants.



REA

**INTERNATIONAL TREE CLIMBING CHAMPIONSHIP** WITH ARBOR FAIR AND EXPO

# International Tree Climbing Championship with Arbor Fair and Expo

9 – 11 August 2019 | Lakeshore Park

# **Arbor Fair and Expo Activities**

Artisans and Crafts Ask an Arborist Food Vendors Live Demonstrations Tree Care Products and Vendors And more...

For the Kids! Fun Tree Climb Limb Walk **Face Painting** 



# Transportation

Transportation to and from Lakeshore Park will be provided for conference attendees. Buses will depart outside the Knoxville Convention Center's Clinch Ave. entrance.

10

supporting tree research and education.

You're invited! Join us for fun, food and friendraising

as we celebrate TREE Fund successes and those who

• Opportunity to support your favorite Tour des Trees

Ken Ottman Outstanding Volunteer Award

make it all possible. Bring your friends and join the festivities:

recipient announcement

7:00 p.m. – 9:00 p.m. (Jackson Terminal)



Free for ISA Conference registrants.

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

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

> Stay connected! Follow us on: f 🔰 丽 **#ISAKnoxville**

**#ITCCKnoxville** 

Team and Rider • Appetizers and drink tickets TREE Fund After Hours proceeds benefit TREE Fund,

**Toast With the Host** 





# Presented by



Watch professional arborists from around the world compete for the title of **World Champion!** 



# **Schedule**

Friday, 9 August 10:00 a.m. – 4:00 p.m. 1:00 p.m. – 6:00 p.m.

Saturday, 10 August 8:30 a.m. – 4:00 p.m. 9:00 a.m. – 4:00 p.m. 4:00 p.m. – 5:00 p.m. 5:00 p.m. – 6:00 p.m.

Sunday, I I August 8:30 a.m. – 2:30 p.m. 9:00 a.m. – 2:00 p.m.

Arbor Fair and Expo ITCC Masters' Qualifying Events

ITCC Masters' Qualifying Events Arbor Fair and Expo SCA Rake Master Challenge ITCC Recognition and Awards Ceremony

Masters' Challenge Arbor Fair and Expo Friday, 9 August

Sessions are held at the Knoxville Convention Center (KCC)

COLOR KEY Beginner General Advanced Climbers' Corner

# EDUCATIONAL SESSIONS DAVIA ALCHOT

Meeting	MONDAY, 12		COLO
	(As of 9 July 2019 – times and		
		Breakfast, Welcome a	
	7:00 a.m. – 8:00 a.m. Breakfast, Coffe & Networking (KCC – Cumberland Co		
	Urban Forestry	Tree Planting	
	KCC – Ballrooms D-G	KCC – Ballrooms A-C	KCC – Lect
	9:30 a.m. – 10:00 a.m. Using Diversity Guidelines to Enhance Stand Sustainability: A Case Study Michael Duddy 0.5 CEU, A, M, Bm	9:30 a.m 10:00 a.m. Tree Watering: You've Been Doing it Wrong Darrell Downey 0.5 CEU, A, M, Bp	9:30 a.m. – 10:00 a Storm Work From Adjustor's Perspec FJ Runyon 0.5 CEU, A, M, Bm
	10:00 a.m. – 10:30 a.m. Certification Partnerships to Support Urban Wood Utilization and Community Benefits Kathryn Fernholz 0.5 CEU, A, M, Bm	10:00 a.m. – 10:30 a.m. Tree Planting Strategies: Increasing Canopy Through Public-Private Partnerships Amory Ngan, Ray Vendrig 0.5 CEU, A, M, Bp (0.25) Bm (0.25)	
	<b>10:30 a.m. – 11:00 a.m.</b> <b>Tree Management and</b> <b>Sailing Without a Rudder</b> Mark Roberts 0.5 CEU, A, M, Bm	10:30 a.m. – 11:00 a.m. Increase Your Professional Approach to Tree and Shrub Planting: Stand Out From the Crowd Edward Gilman 0.5 CEU, A, M, Bp	
		l I:00 a.m. – I:00 p.m. Brea	ak (KCC – Trade Show
	Urban Forestry	Practical Arboriculture	Education/Re
	1:00 p.m. – 1:30 p.m. Climate Change Impacts on Street Tree Species in California Igor Lacan 0.5 CEU, A, T, L, M, Bs (0.25), Bm (0.25)	I:00 p.m. – I:30 p.m. Tree Risk Management Plans: Don't Leave Your Office Without One Jennifer Gulick 0.5 CEU, A, M, Bm	1:00 p.m. – 1:30 p.t Tree Support Syst Tom Smiley 0.5 CEU, A, M, T, Bm
	1:30 p.m. – 2:00 p.m. The Present Status of Urban Forestry in the World Francesco Ferrini 0.5 CEU, A, M, Bm	1:30 p.m. – 2:00 p.m. Leading in Safety in a Growing Industry Travis Vickerson 0.5 CEU, A, M, Bm	1:30 p.m. – 2:00 p.n Future Trends in A and Urban Forest Paul Ries 0.5 CEU, A, M, Bm
	2:00 p.m. – 2:30 p.m. Diversity of the Urban Forest is More Than Trees John J. Ball 0.5 CEU, A, Bs	2:00 p.m. – 2:30 p.m. Fruit Tree Pruning for Arborists Susan Poizner 0.5 CEU, A, Bp	2:00 p.m. – 2:30 p.i. Tending the Next Generation of Arb and Urban Foresto Holly Campbell 0.5 CEU, A, M, Bm
	2:30 p.m. – 3:00 p.m. The Role of Nurseries for Increasing Urban Forest Species Diversity Justin Morgenroth 0.5 CEU, A, M, Bp	Pruning           2:30 p.m 3:00 p.m.           The Unkindest Cut:           Pruning Myths           Linda Chalker-Scott           0.5 CEU, A, U, T, L, M, Bp	2:30 p.m. – 3:00 p. An Urban Foreste Recruiting the Net Eric North 0.5 CEU, A, M, Bm
		3:00 p.m. – 4:00 p.m. Brea	<b>k</b> (KCC – Trade Show
	3:00 p.m. – 3:30 p.m. Arbor Day Tree Cities of the World Pete Smith, Dan Lambe 0.5 CEU, A, M, Bm	<b>3:00 p.m. – 3:30 p.m.</b> <b>Pruning to Harm Trees!</b> Johan Ostberg 0.5 CEU, A, T, L, Bp	ISA ( <sup>k</sup>
	3:30 p.m. – 4:00 p.m. Adaptive Management for Climate Change in the Urban Forest Jason Battles	3:30 p.m. – 4:00 p.m. Pruning for Performance and Prevention Lindsey Purcell 0.5 CEU, A, U, T, L, M, Bp	4:00 p.m. – 5 Alex Klein: Guy Meilleu Biomechanics
	0.5 CEU, A, M, Bm 4:00 p.m. – 4:30 p.m. Trees and Urban Development: Understand Development and Protect More Trees Keith Mars 0.5 CEU A M Bre	4:00 p.m. – 4:30 p.m. Biomechanics Research Week 2010-2019: Summer Camp With a Purpose! Guy Meilleur 0.5 CEU, A, U, T, L, Bp	Holly Camp Igor Lacan: Results of a F Wei Zhang: Tree Survival
	0.5 CEU, A, M, Bm 4:30 p.m. – 5:00 p.m. Managing Urban Forest Calamities — Building Resilience and Good Governance Cecil Konijnendijk	4:30 p.m. – 5:00 p.m. ISA Prescriptive Pruning Program Edward Gilman 0.5 CEU, A, T, L, Bp	Hailing Yang Jehane Sam Exploring Pub Ryan Fawce



Workshops and tours are separately ticketed unless otherwise noted.





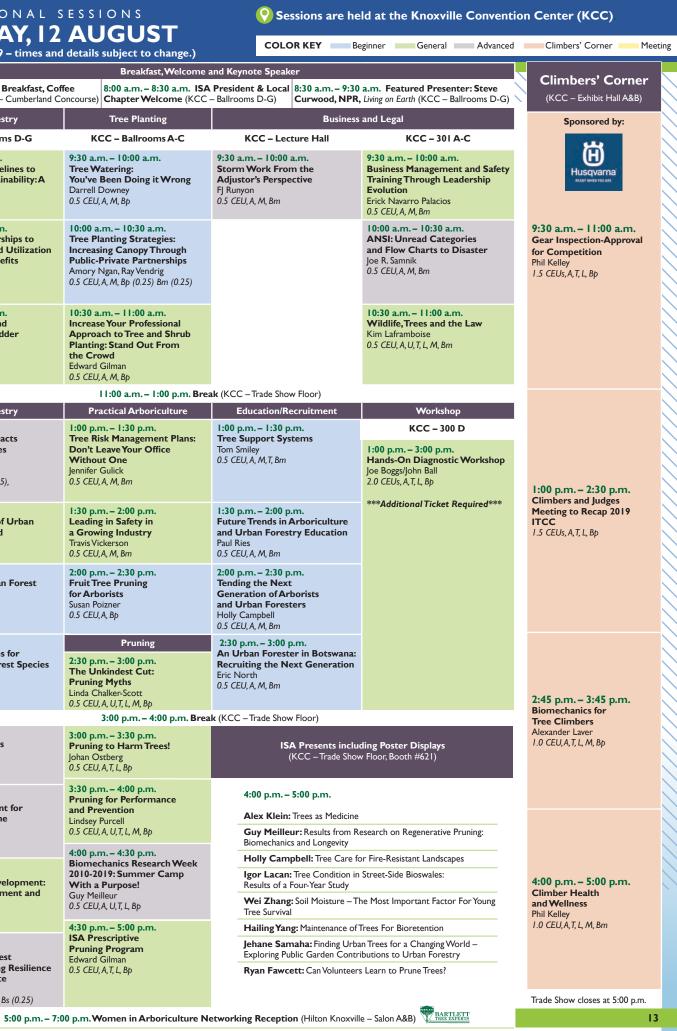
# **Pre-conference Sessions, Workshops and Tours**

	8:00 a.m. – 5:00 p.m.	KCC - 301 A	<b>Tree Anatomy Workshop: Day I,</b> Mark Hartley (Lunch included), 8.0 <i>CEUs</i> , <i>A</i> , <i>M</i> , <i>T</i> , <i>L</i> , Bs <b>Note: Three-day workshop. CEU total: 22.0.</b>
	Saturday, 10 A	ugust	
	8:00 a.m. – 5:00 p.m.	KCC – 301 A	Tree Anatomy Workshop: Day 2, Mark Hartley (Lunch included) 8.0 CEUs, A, M, T, L, Bs
	9:00 a.m. – 3:15 p.m.	KCC - 301 D	Effective Report Writing Workshop, Julian Dunster (Lunch included, Requires Laptop) 6.25 CEUs, A, M, Bm
	8:15 a.m. – 12:00 p.m.		University of Tennessee Campus and Gardens Tour, Sam Adams (Depart from KCC Clinch Ave. entrance)
	12:45 p.m. – 4:00 p.m.		<b>City of Knoxville Urban Forest Tour,</b> Kasey Krouse (Depart from KCC Clinch Ave. entrance)
	Sunday, I I Aug	gust	
	8:00 a.m. – 3:00 p.m.	KCC – 301 A	<b>Tree Anatomy Workshop: Day 3,</b> Mark Hartley (Lunch included) <i>6.0 CEUs, A, M, T, L, Bs</i>
	9:00 a.m. – 4:15 p.m.	KCC – 301 D	<b>Documenting Evidence Workshop,</b> Julian Dunster (Lunch included) 7.25 CEUs, A, U,T, L, M, Bm
	1:00 p.m. – 5:00 p.m.	KCC – 301 E	An Overview of the Utility Specialist Certification Study Guide, Randy Miller and Geoffrey Kempter (Refreshments included) 4.0 CEUs, A, U, Bm
	Monday, 12 Au	igust	
$\langle$	l:00 p.m. – 3:00 p.m.	KCC – 300 D	Hands-On Diagnostic Workshop, Joe Boggs/John Ball (Additional Ticket Required) 2.0 <i>CEUs A T L B</i> b

KCC - 300 D (Additional Ticket Required) 2.0 CEUs, A, T, L, Bp



0.5 CEU, A, M, Bm (0.25), Bs (0.25)



# EDUCATIONAL SESSIONS

Sessions are held at the Knoxville Convention Center (KCC)

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TUESDAY, I	<b>3 AUGUS I</b> ad details subject to change.)	COLOR KEY	Beginner General Advance	ced Climbers' Corner Me
(As or 7 July 2017 – times an		eakfast		8:00 a.m 8:30 a.m.
7:30 a.m. – 9:00 a.m.	Breakfast (KCC – Trade Show Floor	.)		ISA Annual Business Meeting (KCC – Climbers' Corner)
Appraisal-Tree Economics	Pests and Diseases	Symposium	Soils, Fertilization and Stormwater	
KCC – Ballrooms D-G	KCC – Ballrooms A-C	KCC – Lecture Hall	KCC – 301 A-C	Climbers' Corner
9:00 a.m. – 9:30 a.m. Depreciation Using the 10th Edition, Guide for Plant Appraisal James Clark 0.5 CEU, A, M, Bm	9:00 a.m. – 9:30 a.m. Oak Decline: A Fight Against the Inevitable Chelsi Abbott 0.5 CEU, A, M, Bs	9:00 a.m. – 11:00 a.m. Looking Backward and Forward Through TREE Fund Research: Impacts, Practical Research Outcomes, and You J. Eric Smith, Rich Hauer, Andrew	9:00 a.m. – 9:30 a.m. Vertical Mulching and Worm Technology for Sustainable Soil De-Compaction Glynn Percival 0.5 CEU, A, M, Bp	(KCC – Exhibit Halls A&B) 8:30 a.m. – 9:30 a.m. Aerial Rescue From a
9:30 a.m. – 10:00 a.m. How Nursery Stock Unit Cost Affects Trunk Formula Technique Appraisals James Komen 0.5 CEU, A, M, Bm	9:30 a.m. – 10:00 a.m. Using the Natural World to Combat Pests in Urban Landscapes Cyd E. Hamilton 0.5 CEU, A, U,T, L, M, Bp	Koeser, Arnold "Beau" Brodbeck, Steve Geist 2.0 CEUs, A, M, Bm	9:30 a.m. – 10:00 a.m. Reconnecting Trees to Soils in Our Landscapes Christopher W. Fields-Johnson 0.5 CEU, A, M, Bp, (0.25), Bs (0.25)	Competition Standpoint Phil Kelley 1.0 CEU, A, T, L, Bm
<b>10:00 a.m. – 10:30 a.m.</b> <b>The Art of Tree Appraisal</b> Martin A. Shaw <i>0.5 CEU, A, M, Bm</i>	10:00 a.m. – 10:30 a.m. Leveraging People and Technology to Cope With Invasive Pests Jessika M Mitchell, Christopher Shogren 0.5 CEU, A, U, T, L, M, Bp (0.25), Bm (0.25)		10:00 a.m. – 10:30 a.m. Urban Tree Establishment Using Structural Soil Lessons from the Netherlands Henry Kuppen 0.5 CEU, A, M, Bp	10:00 a.m. – 11:00 a.m. Advancements in Modern Chainsaw Technology and Ergonomics to Extend Climber Longevity, Safety and Productivity
10:30 a.m. – 11:00 a.m. The ROI of Healthy Urban Trees Matthew Werle 0.5 CEU, A, M, Bm	<b>10:30 a.m. – 11:00 a.m.</b> Beneficials: How to Identify and Use Them Effectively A.D.Ali 0.5 CEU, A, U, T, L, M, Bp		10:30 a.m. – 11:00 a.m. Trees and Green Infrastructure Soils for Stormwater Management Howard Stenn 0.5 CEU, A, M, Bm	Megan Bujnowski 1.0 CEU,A,T, L, M, Bs (0.5), Bp (0.5)
	l I:00 a.m. – I 2:00 p.m. B	reak (KCC – Trade Show Floor)		
Appraisal-Tree Economics	Pests and Diseases	Symposium	Soils, Fertilization and Stormwater	
12:00 p.m. – 12:30 p.m. Around the World With i-Tree Jason Henning 0.5 CEU, A, M, Bm	12:00 p.m. – 12:30 p.m. Connect the Dots: Plant Diversity, Pollinators and Pest Management Joe Boggs 0.5 CEU, A, U, T, L, M, Bs	12:00 p.m. – 2:00 p.m. Tree Preservation: Policy, Practice and Research Lara Roman, Jason Lubar, John O'Neill, Deborah Hilbert 2.0 CEUs, A, M, Bm	12:00 p.m. – 12:30 p.m. Educating Stormwater Engineers About Urban Forest Management Eric Kuehler 0.5 CEU, A, M, Bm	
12:30 p.m. – 1:00 p.m. Landowner and Professional	12:30 p.m. – 1:00 p.m. Compatibility of Insecticides		Urban Forestry and More!	
Perceptions of Cost-Share Funding for EAB Treatment Peter Stewart, Eric Wiseman 0.5 CEU, A, M, Bm	And Biocontrol for EAB Management Fredric Miller 0.5 CEU, A, U, T, L, M, Bs (0.25), Bm (0.25)		12:30 p.m. – 1:00 p.m. Growing the Industry: Public Relations 101 Stephen Lane 0.5 CEU, A, U, T, L, M, Bm	<b>12:00 p.m. – 2:00 p.m.</b> From Tree to Truck Phil Kelley 2.0 CEUs, A, T, L, M, Bp
Inventory and Monitoring 1:00 p.m. – 1:30 p.m. Drone-Based Techniques for Detailed Study of Tree Structure and Growth Charles Cannon 0.5 CEU, A, M, Bm (0.25), Bs (0.25)	1:00 p.m. – 1:30 p.m. Managing Bucida Street Tree Staining in Florida and the Caribbean A.D.Ali 0.5 CEU, A, M, Bm, Bs		<b>1:00 p.m. – 1:30 p.m.</b> Deforestation by Design <sup>™</sup> : Architecture, Engineering, Sustainability and Arboriculture John Palmer 0.5 CEU, A, M, Bm	Climbers' Corner Sponsored by:
1:30 p.m. – 2:00 p.m. The Digital Urban Forest: Map, Access, and Share Your Data Ian Hanou	I:30 p.m. – 2:00 p.m. Can We Vaccinate Trees to Protect Against Root Diseases? Glynn C. Percival 0.5 CEU, A, U, T, L, M, Bs		1:30 p.m. – 2:00 p.m. Household Practices and Attitudes Toward Tree Recycling and Wood Products Eric Wiseman, Mikaela Schmitt-Harsh	Husqvarna READY WHICH YOU ARE Trade Show closes at 3:00 p.m.
0.5 CEU, A, M, Bm	TREE FUND Calibrating Innovation		0.5 CEU, A, M, Bm	
Inventories and Menitoria		eak (KCC – Trade Show Floor)	Livban Ferratury and Manal	
Inventories and Monitoring 3:00 p.m. – 3:30 p.m.	Pests and Diseases 3:00 p.m. – 3:30 p.m.	Tree Protection 3:00 p.m. – 3:30 p.m.	Urban Forestry and More! 3:00 p.m. – 3:30 p.m.	
Tree Data Collection Used to Promote Tree Benefits Craig J. Hinton 0.5 CEU, A, M, Bm	Which Tree Pests Matter? Joe Boggs 0.5 CEU, A, U, T, L, M, Bs	Tree Preservation Protocol Based on ANSI A300 Standards Ormand B. Crabtree 0.5 CEU, A, T, L, M, Bm	Austin Community Tree Program: Past, Present and Future Margaret Valenti 0.5 CEU,U A, M, Bm	TREE FUND Cultivating Innovation
3:30 p.m. – 4:00 p.m. Evaluating Tree Species; Diversity in Thirty Parks Brian Watkins 0.5 CEU, A, T, L, M, Bp (0.25), Bm (0.25)	3:30 p.m. – 4:00 p.m. Managing the Forest, Not the Trees: Adaptive Management for Oak Wilt in Austin April Rose 0.5 CEU, A, M, Bm	3:30 p.m. – 4:00 p.m. Managing Trees and Construction Ian H. Gray 0.5 CEU, A, M, Bm	3:30 p.m. – 4:00 p.m. Comparing 15 Different Tree Risk Assessment Methods Using Only Sensitivity Analyses Gregory M. Moore 0.5 CEU, A, T, L, M, Bm	Indicates researchers funded by TREE Fund since 2002.
4:00 p.m.	5:00 p m. Fostured Presenter L		Palling arms D. C.)	

4:00 p.m. - 5:00 p.m. Featured Presenter: Lynda V. Mapes, Witness Tree (KCC - Ballrooms D-G)

6:00 p.m. – 9:00 p.m. Tree Fund After Hours and Toast With the Host (Jackson Terminal)

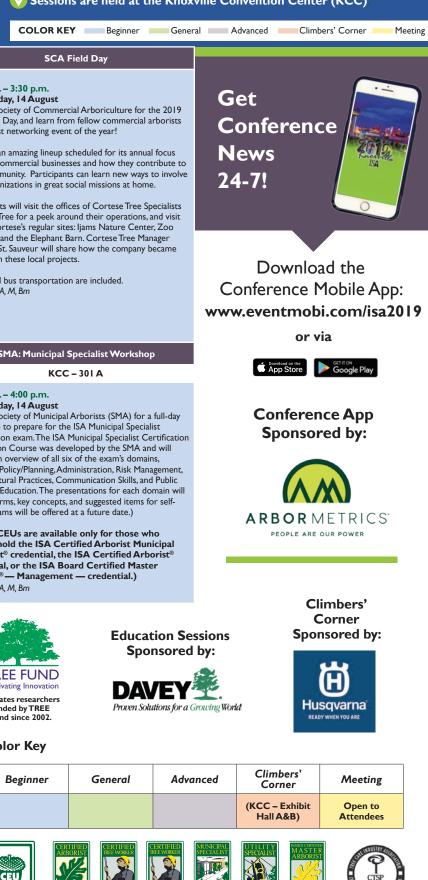


(As of 9 July 2019 – times and details subject to change.)

Break	fast	
7:30 a.m.– 9:00 a.m.	Breakfast, Coffee and Networking (KCC – Cumberland Concourse)	8:30 a.m. – 3:30 p.i Wednesday, 14 Au Join the Society of C
AREA	UAA	SCA Field Day, and le at our best networki
KCC – Ballrooms D-G	KCC – Ballrooms A-C	
9:00 a.m 9:30 a.m. Measuring Ecosystem Services by Urban Species:The LIFE Urbangreen Project Alessio Fini 0.5 CEU,A, M, Bp (0.25), Bm (0.25) 9:30 a.m 10:30 a.m.	9:00 a.m. – 10:00 a.m. Safety Job Briefings: Not Just for Compliance Gerry Breton, 1.0 CEU,A, U,T, L, M, Bm	SCA has an amazing on local, commercial their community. Par their organizations ir Participants will visit and Wolf Tree for a p two of Cortese's reg Knoxville and the Ele
AREA Student Presentations Jamie Lim: Arboriculture Safety		Nicholas St. Sauveur involved in these loca
Standards Around the World <b>Riley Rouse:</b> Improving Root Systems of Container-Grown Trees Through Pre-Plant Root Modification		Lunch and bus transp 6.0 CEUs, A, M, Bm
Francisco Javier Garcia Monroy: Structure and Distribution of Urban Street Trees, Towards Understanding of Ecological and Performance Values		SMA: Mur
Zach Wirtz: Factors of Success in Canadian Urban Forest Governance 1.0 CEU, A, U, T, L, M, Bs (0.25), Bp (0.25), Bm (0.50)		9:00 a.m. – 4:00 p.r Wednesday, 14 Au Join the Society of M workshop to prepare Certification exam.T Preparation Course
10:30 a.m. – 11:00 a.m. Trees and Storms: Improved Estimates of Tree Debris Following Storms Richard Hauer 0.5 CEU,A, M, Bm	<b>10:00 a.m. – 11:00 a.m.</b> Worker Retention Will Nutter <i>1.0 CEU,A,U,T,L,M,Bm</i>	provide an overview including: Policy/Plann Arboricultural Practi Relations/Education. include terms, key co study. (Exams will be
I I:00 a.m. – I 2:00 p.m. Break (H	<pre><cc -="" concourse)<="" cumberland="" pre=""></cc></pre>	*Note: (CEUs are already hold the Is
I 2:00 p.m. – I 2:30 p.m. The Dynamics of Urban Tree Death Deborah Hilbert 0.5 CEU,A, Bs	12:00 p.m. – 1:00 p.m. Education Panel Philip Charlton, Alex Miller, Sharon Jean-Philippe, Brian Sprinkle	Specialist <sup>®</sup> creden credential, or the Arborist <sup>®</sup> — Mana 6.0 CEUs, A, M, Bm
<b>12:30 p.m. – 1:00 p.m.</b> Examining Strain Propagation in the Lateral and Codominant Branch Gregory Dahle 0.5 CEU, A, M, Bs (0.25), Bm (0.25)	Т.0 СЕÜ, А, U, T, L, M, Вт	TREE FUI Cultivating Innov Indicates resear funded by TR
1:00 p.m. – 1:30 p.m. Effect of Plant Growth Regulator Paclobutrazol on Laurel Wilt Pathosystem Stephanie Adams	I:00 p.m. – 2:00 p.m. Increasing Ecological Stewardship in Utility Vegetation Management Colby Tisdale	Fund since 20
0.5 CEU, A, Bs	I.0 CEU, A, U,T, L, M, Bm	Beginne
1:30 p.m. – 2:00 p.m. The Urban Visual Vitality Index: A Numerical Visual Assessment Method Denise Johnstone 0.5 CEU, A, M, Bs (0.25), Bm (0.25)		
2:00 p.m. – 2:30 p.m. Measuring Multi-Stemmed Street Trees Lara Roman 0.5 CEU, A, M, Bp	2:00 p.m. – 3:00 p.m. EAB – Dealing with Ash Trees: When to Climb and What to Do If You Can't Tim Walsh <i>1.0 CEU, A, T, L, M, Bm</i>	ISA

2:30 p.m. – 3:00 p.m. The Effects of Root Pruning on Mature Quercus virginiana Andrew Benson 0.5 CEU, A, T, L, Bm

# Sessions are held at the Knoxville Convention Center (KCC)



(L)

**(T**)

**(A)** 

s=Science m=Management p=Practice

**U** 

**(M**)

**B** 

m

P

s

СТЅР

# Friday, 9 August

# 8:00 a.m. - 5:00 p.m.

### Tree Anatomy Workshop: **Day I** (KCC – 301 A) Mark Hartley

This three-day intensive tree anatomy 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 to aid in the process of identification and diagnosis; 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. Lunch will be provided.

# Saturday, 10 August

# 8:00 a.m. - 5:00 p.m.

Tree Anatomy Workshop: **Day 2** (KCC – 301 A) Mark Hartley See details under Friday schedule. Lunch will be provided.

# 9:00 a.m. – 3:15 p.m.

# Effective Report Writing Workshop (KCC – 301 D) Iulian Dunster

During this full-day session, participants will review how to write effectively and practice business writing styles needed to develop and respond to request for proposals, site memos, field and formal reports, and letters. Report themes focus on risk assessment, construction sites, and site memos in general. Participants will receive handouts, exercises, and report templates on a thumb drive during class to load onto their computers.

Throughout the day, the class will perform specific writing exercises, including writing and editing sample reports. The class will also examine reports and discuss how they might be improved.

Attendees must bring their own fully charged laptop. The laptop must be capable of accepting a standard USB Thumb drive and able to handle MS Word documents. Lunch will be provided.

# 8:15 a.m. – 12:00 p.m.

# University of Tennessee **Campus and Gardens Tour** Sam Adams

# (Depart from KCC Clinch Ave. entrance)

The University of Tennessee (UT) campus, founded in 1794, consists of 900 acres with more than 8,000 trees. It is the largest campus in the US designated by the National Arbor Day Foundation as a Tree Campus USA.

UT Gardens is located on the campus and functions as an outdoor laboratory to evaluate the performance and landscape use of trees and shrubs, as well as annuals and perennials.

Campus Arborist Sam Adams will lead the tour of the UT campus and gardens and discuss unique plants and campus tree management programs.

# 12:45 p.m. – 4:00 p.m. City of Knoxville Urban

# **Forest Tour** Kasey Krouse

# (Depart from KCC Clinch Ave. entrance)

The tour will begin with a visit to Knoxville's Urban Wilderness, which is a recreational, cultural, and historic preservation initiative that incorporates 1,000 acres of remnant native forest along downtown's south waterfront. The tour will then move to Knoxville's downtown for a discussion of tree preservation, planting and management initiatives.

# Sunday, I | August

8:00 a.m. – 3:00 p.m.

Tree Anatomy Workshop: **Day 3** (KCC – 301 A) Mark Hartley

See details under Friday schedule. Lunch will be provided.

# 9:00 a.m. - 4:15 p.m.

# **Documenting Evidence** Workshop (KCC – 301 D) Julian Dunster

Arborists routinely examine trees for health and risk. An assignment may involve site review or checking a tree before pruning or removing it. It may also involve collecting data to report appraisal of damage, trespass issues or forensic investigations about injuries caused by falling trees.

This course covers the professional practice of recognizing and understanding evidence, and learning how to effectively use it in reports. It applies to tree care companies, climbers, municipal, utility, and consulting arborists — anyone working with trees who may later need to explain what was done. In every case, from the routine to the unusual, the arborist needs to clearly understand the practical and intellectual process of documenting what was seen on site.

Before the course, participants are encouraged to submit case studies for class discussion. A group exercise includes examining the selected case studies' strengths and weaknesses, and suggesting ways in which we can improve our professional practices.

A copy of Julian Dunster's book, Documenting Evidence: Practical Guidance for Arborists, will be included as a part of the registration cost. Lunch will be provided.

# 1:00 p.m. – 5:00 p.m.

# An Overview of the **Utility Specialist Certification** Study Guide (KCC – 301 E) Randy Miller and Geoffrey Kempter

This half-day workshop provides an important overview of the new Utility Specialist Certification Study Guide and describes how it can be used as preparation for the Utility Specialist exam. Geoff Kempter and Randy Miller will co-present, each focusing on the chapters they wrote. Topics include pruning, safety, vegetation management, electrical knowledge, program management, storm preparation and response, and communications. Questions and discussion will be encouraged. Refreshments will be provided.

# EDUCATIONAL DESCRIPTIONS **MONDAY 12 AUGUST** (As of 9 July 2019 - times and details subject to change.)

# 9:30 a.m. – 10:00 a.m.

# Using Diversity **Guidelines to Enhance Stand** Sustainability: A Case Study (KCC – Ballrooms D-G) Michael Duddy, Judge, Main District

Court and Maine Business Court

Diversity guidelines are usually discussed in the context of city-wide planting goals. However, these guidelines can also be used to manage small stands of trees in parks, cemeteries and other discrete areas for enhanced sustainability. This presentation will use a case study from the management plan for Officer's Row Preserve, a highvalue stand of trees in Fort Williams Park, an important seaside municipal park in Cape Elizabeth, Maine. The presentation discusses step-by-step how diversity guidelines were used to develop a 10-year plan for Officer's Row Preserve, using a mix of plantings and removals, to increase the stand's sustainability in the face of threats from winter moth and other invasive insect pests.

# 9:30 a.m. – 10:00 a.m. Tree Watering:

# You've Been Doing it Wrong (KCC – Ballrooms A-C)

Darrell Downey, Chief Engineering Officer, PQ Partners, LLC

Improper irrigation is the number one reason new tree plantings fail. Why? Most people, even those experienced in the tree care industry, don't understand why this critical task is approached the way it often is. Many paradigms used in the tree care industry are not science-based. Instead, we approach this critical task by doing what we've always done — somehow expecting different results.

# 9:30 a.m. – 10:00 a.m. Storm Work From the Adjustor's Perspective (KCC – Lecture Hall)

FI Runyon, President/CEO, Timber Warriors

The insurance and arboriculture industries have been around for a long time, but the two are seldomly able to work with one another in a way that yields reoccurring business, profit and gratification. FJ Runyon comes from an arboriculture background, and not only has he worked successfully with the insurance industry, but he

continues to study their trade. FI will share his experience and knowledge, advising companies of what to do — and what not to do — in order to pocket the insurance jobs.

# 9:30 a.m. – 10:00 a.m.

**Business Management** and Safety Training Through **Leadership Evolution** (KCC - 301 A-C) Erick Navarro Palacios, Professional Arborist Instructor, North American Training Solutions

The term leadership is used often in business, education, government and academia. But we have watered down or lost the meaning of what makes a leader. A leader has the capability to relate and work effectively across all aspects of business, culture and life. Leadership skills are measured on the same scale used to measure individual intelligence. Our focus as leaders should be in assessing, training and educating our team of managers, supervisors and employees to help them develop advanced leadership skills. Our business management, leadership skills, safety abilities and operations are enhanced through multicultural experiences that improve perception, expand leadership skills and business communications, and strengthen team and customer/client relationships.

# 10:00 a.m. – 10:30 a.m.

# to Support Urban Wood Kathryn Fernholz, Executive Director,

Dovetail Partners A new unified urban wood certification strategy has a goal to align existing programs for responsible management in the urban forest. Existing urban forestry programs include accreditation, licensing, training and certification. The new initiative seeks to develop a certification process(es) that can be incorporated into existing professional and accreditation standards, adopted by municipalities, and embraced by tree-related operations within urban forests, including arboriculture businesses and wood processors. A recent policy change by the Programme for the Endorsement of Forest Certification,

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**Certification Partnerships Utilization and Community Benefits** (KCC – Ballrooms D-G)

the international market-based forest certification initiative, offers a new opportunity to recognize responsible urban forest management, and the products and services it provides.

# 10:00 a.m. – 10:30 a.m.

# Tree Planting Strategies: Increasing Canopy Through **Public-Private Partnerships** (KCC – Ballrooms A-C)

Amory Ngan, Project Manager, City of Toronto/ Ray Vendrig, Manager, City of Toronto

The City of Toronto was one of the first municipalities in Canada to adopt a 40 percent tree-canopy target as part of its Strategic Forest Management Plan in 2013. Since then, like many municipalities, Toronto has dealt with the unrelenting pressures of urban development, invasive species such as EAB and ALHB, and extreme weather events such as the 2013 ice storm. Even with over 120,000 trees and shrubs being planted per year on public lands, and tree bylaws protecting both public and private trees, the challenges to maintaining the city's existing canopy, let alone achieving a 40 percent canopy cover, are as real as ever. To meet these challenges and to address growing public interest and demand for progress toward a 40 percent canopy, the city has developed a Tree Planting Strategy

# 10:00 a.m. – 10:30 a.m.

**ANSI: Unread Categories** and Flow Charts to Disaster (KCC - 301 A-C)

loe Samnik, Owner, Expert Tree Consultants, LLC The American National Standards Institute, ANSI A300, are the only performance standards in America by which our membership is judged. Some members do not own a copy of any of the 10 parts; some members own only the standard(s) applicable to their businesses, while others own outdated copies of the standards.

# 10:30 a.m. – 11:00 a.m.

### Tree Management and Sailing Without a Rudder (KCC – Ballrooms D-G)

Mark Roberts, Director, Roberts Consulting We manage trees for health and safety, as well as for natural form and structure. We manage the environment that our trees grow in.We can plant trees here

and grow trees there. We select trees for this and choose trees for that. We can manage one tree; we can manage 1,000 trees. We have tree budgets; we can chart growth predictions, and we even have tree KPIs. We can manage trees — but have we missed something? Have we missed the boat? Are we sailing our trees without a rudder?

# 10:30 a.m. – 11:00 a.m.

# Increase Your Professional **Approach to Tree and Shrub Planting: Stand Out From the** Crowd

(KCC – Ballrooms A-C) Edward Gilman, Professor Emeritus,

Environmental Horticulture

Stand out from the crowd of bidders with the latest planting details and specifications reviewed by a team of your colleagues and scientists around the US.Whether you prepare specifications for a governmental agency or perform contracted services, you will leave with a new, updated, easy-to-use set of 70 CAD-editable (DWG) and PDF specifications that include elevations, plan views and schematics of every imaginable planting situation. In addition, four detailed, comprehensive, editable specifications for soil preparation, planting, tree preservation and irrigation (nearly 110 pages in total) are included. Presenters discuss how you can use this package to enhance your efforts to provide science- and experience-based tree care when establishing newly planted trees.

# 10:30 a.m. – 11:00 a.m. Wildlife, Trees and the Law

(KCC - 301 A-C)

Kim Laframboise, Ecologist, Arborist and Species at Risk Specialist, SLR Consulting

Kim Laframboise is a certified arborist and Ecologist with over 15 years of experience. Laframboise has worked for both public and private sectors and is eager to share her experiences working within the industry. Specialties include terrestrial ecology, risk management, wildlife biology, species at risk and contractor education. She has extensive expertise navigating federal. provincial and municipal legislation in the arboricultural industry — related to wildlife, SAR and land use planning, in particular. Laframboise has provided expert testimony to environmental hearing panels, in addition

to peer review and litigation support for legal counsel.

# 1:00 p.m. – 1:30 p.m.

Climate Change Impacts on Street Tree Species in California (KCC – Ballrooms D-G) Igor Lacan, Urbran Forestry Advisor, UC Cooperative Extension

Climate change's higher temperatures upset the species composition of urban tree populations. Our study examines changes in common street tree species in California using a space-for-time substitution approach. We paired each of 16 cities covering the state's climatic range with a "warm city" counterpart. Today's "warm city" approximates the climate of the representative city in 2099. Of 140 tree species, as many as 82 may be unsuitable for a warmer climate, with greater losses in non-coastal cities. When we assess species suitability from sources using implied "climate envelopes," these are reduced to as few as 14. A hybrid approach results in an estimated 55 unsuitable tree species. The difference (82 vs. 55) is likely caused by insufficiently accounting for irrigation needs of newlyplanted street trees in Mediterraneantype climates like California.We'll discuss the space-for-time substitution approach and an online tree-species matrix that foresters can use to select the best trees.

# 1:00 p.m. – 1:30 p.m.

Tree Risk Management Plans: Don't Leave Your Office Without One (KCC – Ballrooms A-C) Jennifer Gulick, Principal/Community Forest Consultant, Urban Canopy Works

Like all infrastructure assets, trees and tree parts can fail and risk people and property. Trees provide tangible and intangible benefits. To reduce liability, trees are often removed, but this can lead to unnecessary loss of trees and benefits. Tree managers are often unaware of how their actions or inaction increase liability. Developing and following a risk management plan based on science, national arboricultural and safety standards, best practices, professional judgment and local risk tolerance levels not only reduces liability but helps control the risks trees pose while recognizing and

preserving their value. These plans guide tree managers to objectively consider risk, and then adopt policies and implement proportionate processes. Tree risk management plans consider local resources and operations to recommend the best use of staff and funding to implement a proactive tree risk management program.

# \*\*\*Ticketed Only\*\*\*

# 1:00 p.m. – 3:00 p.m.

Hands-On Diagnostic Workshop (KCC - 300 D) Joe Boggs, Assistant Professor, Ohio State University Extension/John Ball, Professor of Forestry, South Dakota State University

This hands-on workshop shares a wide range of tree samples illustrating pests, dieseases and physiological diagnostic challenges. Some samples focus on tree identification. Topics include how to separate serious from not-so-serious tree problems, with an eye toward supporting sustainable urban forests. The overarching goal is to improve tree care professionals' success in scouting, diagnosing and reacting to tree problems.

# 1:30 p.m. – 2:00 p.m.

The Present Status of **Urban Forestry in the World** (KCC – Ballrooms D-G) Francesco Ferrini, Full Professor, University of Florence

Urban forestry is a discipline and term that originated in the 1960s in Canada. It was later developed further in the United States, and it became progressively established in the 1990s in Europe.

# 1:30 p.m. – 2:00 p.m.

Leading in Safety in a Growing Industry (KCC – Ballrooms A-C)

# Travis Vickerson, Trainer, Vertical Landscapes

As our industry grows, the need for fundamental shifts in ideologies and outlooks grows as well. Though safety is a leading priority, the missed connection is "Who leads in safety?" The statement that safety is everyone's responsibility is fundamentally wrong. Safety is your priority, and the way we lead individuals to that priority is key.

Safety and leadership are both aspects of professionalism. No matter if it's teaching, production or research, we must be an industry of professionals. This outlook brings forth leadership concepts and mindsights driven by priorities such as safety. To see a cultural shift in our industry, we first must change our outward view. Vickerson presents leadership research from great leaders around the world. This motivational talk is aimed at firing you up for change, opening your mind to education and gleaning an introspective view of how you see yourself.

# 1:30 p.m. – 2:00 p.m.

# Future Trends in Arboriculture and Urban **Forestry Education** (KCC – Lecture Hall)

Paul Ries, Director, Graduate Certificate in Urban Forestry, Oregon State University

In May 2019, educators gathered at The Morton Arboretum for a threeday Educators' Symposium and Summit to discuss the future of teaching and mentoring arborists and urban foresters. Symposium participants from colleges and universities, community colleges, extension services and public education providers heard international speakers. Objectives were to: I) share and discover best practices, methods, tips and techniques for teaching, learning and mentoring; 2) discuss trends, opportunities, challenges and solutions related to educational institutions, programs and practices; and, 3) develop a plan for collaborating, communicating and coordinating for the future of higher and continuing education. In this presentation, two of the organizers of the Educators' Symposium provide an overview of the discussion and learnings, and give attendees an option to contribute to the future plan for arboricultural and urban forestry education.

# 2:00 p.m. – 2:30 p.m.

Diversity of the Urban Forest is More Than Trees (KCC – Ballrooms D-G) John Ball, Professor of Forestry, South Dakota State University

We tend to look at species or genera diversity in an urban forest, forgetting that there is already diversity among the owners of this shared public resource. While planting a diversity is key for establishing and maintaining the tree component, we also must consider the human element. Individuals and cultures don't necessarily share the same idea of the perfect street or park tree, or its function (shade, food forest, etc.) in a community. Without considering the end user when planting, it's possible that residents will neglect trees or even be outright hostile to their environment. This presentation highlights community tree planting efforts that sought input from local residents, and how these bottom-up efforts, though more intensive than topdown projects, are critical to a sustainable community forest.

# 2:00 p.m. – 2:30 p.m. Fruit Tree Pruning for Arborists (KCC – Ballrooms A-C) Susan Poizner, Director,

Fruit trees are becoming common in the urban landscape. Some people inherit their trees from the families who previously owned their homes. Others are planting young fruit trees in order to live more sustainably and to grow their own organic fruit. And yet, few new growers realize that in order for fruit trees to thrive, they need hands-on care. Correct annual pruning is a key part of that job.

# 2:00 p.m. – 2:30 p.m. Tending the Next Generation of Arborists and **Urban Foresters**

(KCC – Lecture Hall) Holly Campbell, Extension Associate, Southern Regional Extension Forestry

ISA convened an Industry Workforce Summit including the Tree Care Industry Association, USDA Forest Service and others in 2018 to discuss critical challenges and opportunities for advancing the professions of arboriculture and urban and community forestry (UCF). One challenge included limited youth knowledge of the profession prior to high school graduation. A focus group brainstormed ways to reach the next generation, and UCF and the USDA Forest Service followed up on these

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ideas by funding a project to investigate existing programs for grades K-12 that introduce youth to nature, trees and forests. The goals of the project were to understand what in-school and after-school programs are available at the national, state and local levels; identify the gaps; and, with an advisory team, select which existing programs can best introduce youth to the profession. This presentation highlights the results.

# 2:30 p.m. – 3:00 p.m.

The Role of Nurseries for **Increasing Urban Forest Species Diversity** (KCC – Ballrooms D-G) Justin Morgenroth, Senior Lecturer, University of Canterbury

Tree species diversity helps ensure urban forest resilience to climate change and pest or disease outbreaks. Urban forest managers can increase diversity by testing previously unplanted species in streets, parks and reserves. To do this, local nurseries must carry sufficiently diverse guantities. This presentation looks at tree species diversity in New Zealand's nursery industry and compares it with species diversity in cities. Are cities taking advantage of the full diversity of tree species available at local nurseries, or are they conservatively planting only those species with a record of success? This research explores the role of nurseries in helping cities increase species diversity by raising new species and testing them in local climatic conditions.

# 2:30 p.m. – 3:00 p.m.

# The Unkindest Cut: **Pruning Myths**

(KCC – Ballrooms A-C) Linda Chalker-Scott, Associate Professor, Washington State University

Tree pruning is bread and butter for many arborists. But how do trees react to different types of pruning — and are these reactions desirable? This presentation briefly reviews the shortand long-term effects of pruning, and then applies this information to four common pruning situations: topping young nursery trees, pruning crowns at transplant, pruning laterals on young trees and retrenchment pruning.

# 2:30 p.m. – 3:00 p.m. An Urban Forester in **Botswana: Recruiting the Next Generation** (KCC – Lecture Hall) Eric North

A wildlife conservation course in Botswana is a seemingly unlikely place to recruit students for careers in arboriculture and urban forestry. However, it's not uncommon for individuals to find their interest in arboriculture and urban forestry careers through a single course, internship or first job. Yet, recruiting students in arboriculture and urban forestry programs remains a challenge for many programs. A study abroad course in Botswana provided an excellent opportunity to engage students pursuing education in other fields. Students learned field tree identification and participated in a research project to locate, condition rate, and measure baobabs among lions and elephants. Throughout the course, students gained an interest in the art and science of tree care. This presentation will discuss unique opportunities and successes in recruiting students for careers in arboriculture and urban forestry.

# 3:00 p.m. – 3:30 p.m.

Arbor Day Tree Cities of the World (KCC – Ballrooms D-G) Pete Smith, Urban Forestry Program Manager, Arbor Day Foundation/Dan Lambe, President, Arbor Day Foundation

Join us for a closer look at this new program offering from the Arbor Day Foundation, in partnership with the United Nations Food and Agriculture Organization (FAO). Tree Cities of the World is committed to inspiring cities and towns to care for and celebrate their urban tree canopy. Find out how arborists and urban foresters from all corners of the globe can help communities achieve international recognition for leadership in urban and community forestry.

# 3:00 p.m. – 3:30 p.m. **Pruning to Harm Trees!** (KCC – Ballrooms A-C) Johan Ostberg, Researcher, Swedish University of Agricultural Science

By implementing correct pruning, a tree's character is preserved and developed according to desired goals. Pruning also affects the tree's risk level, its shape and, in the long run, its condition. Similarly, incorrect pruning can destroy the character of a tree, create a tree of trees and reduce the life of a tree. For these reasons, pruning is something that all people who work with trees should understand.

# 3:30 p.m. – 4:00 p.m.

Adaptive Management for Climate Change in the Urban Forest (KCC – Ballrooms D-G) Jason Battles, President, Rooted in Change

Climate change in the Pacific Northwest will impact Snoqualmie, Washington's, urban forest, which the city can document, model and translate into site-level planning and management, with specific consideration for physical, human-influenced and biological factors, as well as institutional, economic, social and biological adaptive capacity factors, and physical and biological vulnerabilities. To mitigate these and ensure a healthy urban forest requires proactive planning, adaptive management and a collaborative imagination. We completed a climate change vulnerability assessment to recommend 10 strategies from an adaptive management continuum of resistance to resilience to transition. This report fulfills the Urban Forest Climate Change Response Framework for developing an Adaptive Management Plan for Climate Change, designed for implementation by Snoqualmie's Urban Forestry Program.

# 3:30 p.m. – 4:00 p.m.

Pruning for Performance and Prevention

(KCC – Ballrooms A-C) Lindsey Purcell, Urban Forestry Specialist, Purdue University

How do I remedy poor branching habits? What do I do with these co-dominant stems? Corrective pruning has many implications, including tree structure,

health, and response to damage and practice. Pruning to improve tree performance and prevent failure is a major consideration for every arborist. This session provides detail on how pruning objectives help the arborist determine the best strategies for promoting sustainable growth consistent with current standards.

# 4:00 p.m. – 4:30 p.m.

Trees and Urban **Development: Understand Development, Protect More Trees** (KCC – Ballrooms D-G) Keith Mars, City Arborist, City of Austin

Urban land development is complicated, and in Texas, large cities are adopting tree protection regulations as part of the land development process. Many pieces of the land development puzzle impact trees directly, such as a driveway or a new office building. Some impact trees in more nuanced and indirect ways, such as density calculations and zoning setback requirements. Why is it important to understand land development? These variables push and pull on how land is developed. Consequently, comprehension of these factors will illuminate new approaches to preserving trees through better site design. During this talk, we dissect some of the common development issues, such as zoning, entitlements, transportation, land uses and parking, to identify opportunities to better protect the urban forest.

# 4:00 p.m. – 4:30 p.m.

Biomechanics Research Week: 2010-2019: Summer **Camp with a Purpose!** (KCC – Ballrooms A-C) Guy Meilleur, Aerial Consultant, Historic Tree Care

The fourth annual Biomechanics Research Week concludes 9 August 2019. As one who has attended all four of these events, I'll review the history, the results, and the promise these events hold for the future of arboriculture.

# 4:30 p.m. – 5:00 p.m.

Managing Urban Forest Calamities — Building Resilience and Good Governance (KCC – Ballrooms D-G)

Cecil Konijnendijk, Professor of Urban Forestry, Faculty of Forestry, UBC

Urban forest calamities, events that lead to a sudden loss of large amounts of trees and canopy cover, are a major challenge to urban forestry programs. This presentation looks at how Canadian cities have been dealing with calamities such as forest fires, pest outbreaks or massive urban development. Research analyses urban forest governance in selected medium-sized cities in Canada to identify success factors and promising governance arrangements for urban forestry programs. Four city case studies are reviewed. Surrey, British Columbia (BC), and Oakville, Ontario, recognized for successful urban forestry programs, are in larger metropolitan areas with dominant first cities (Vancouver and Toronto, respectively), which pose challenges and opportunities. Fort McMurray, Alberta, and Prince George, BC, stand-alone cities in rural areas, have faced recent major urban forest loss due to wildfire and mountain pine beetle infestation, respectively. Findings can inform urban forest governance and management of calamities locally and abroad.

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# 4:30 p.m. - 5:00 p.m. ISA Prescriptive **Pruning Program** (KCC – Ballrooms A-C)

Edward Gilman, Professor Emeritus, Environmental Horticulture

ISA wants to improve the quality of tree pruning worldwide. To achieve that, an ISA Pruning Committee has been formed and is starting to develop ideas on pruning education programs. The purpose of the proposed ISA Prescription Pruning Education Program is to train people who prune trees to use accepted best practices, such as those contained in ISA Pruning Best Management Practices, to improve the quality of tree pruning so that trees are healthier and longer-lived. The program is designed, developed and delivered in two segments (or tiers): one targeting the individual who writes specifications for tree pruning and one targeting the

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# EDUCATIONAL DESCRIPTIONS TUESDAY, 13 AUGUST (As of 9 July 2019 – times and details subject to change.)

# 9:00 a.m. – 9:30 a.m.

Depreciation Using the **10th Edition, Guide for Plant** Appraisal (KCC – Ballrooms D-G) James Clark, Managing Consultant Arborist, HortScience Bartlett Consulting

Depreciation is a downward adjustment due to sub-optimal conditions, as described in the 10th edition of the Guide for Plant Appraisal. The Cost Approach chapter identifies three categories of potential depreciation: physical deterioration (plant condition), functional limitations (interaction of species and site that constrain performance and utility), and external limitations (factors outside the control of the plant owner that constrain performance and utility). This presentation reviews and discusses these three categories.

# 9:00 a.m. – 9:30 a.m.

Oak Decline: A Fight Against the Inevitable (KCC – Ballrooms A-C) Chelsi Abbott, Technical Advisor, Davey Tree Expert Company

Oaks are incredibly desirable trees in urban landscapes; however, in recent years many oak trees have declined. Oak decline is a complex of insects, fungi and environmental factors interacting to cause severe damage and eventual tree loss. Since oak decline is caused by any combination of biotic and abiotic factors, proper diagnosis before management is key. This talk covers the diagnostics of key oak problems, such as two-line chestnut borer, wood decay fungi, foliar pathogens and cultural conditions to understand how these problems interact and attribute to oak decline.We'll discuss management practices and focus on a holistic approach using traditional and experimental methods.

# 9:00 a.m. - 11:00 a.m. TREE FUND

# Looking Backward and Forward Through TREE Fund **Research: Impacts, Practical Research Outcomes, and You** (KCC – Lecture Hall)

J. Eric Smith, President and CEO, Tree Research and Education Endowment Fund/ Rich Hauer, Professor of Urban Forestry, University of Wisconsin-Stevens Point/Andrew Koeser, Assistant Professor of Environmental Horticulture, Landscape Management, UFL/ Arnold Brodbeck, Regional Extension Agent: Forestry and Community Forestry, Alabama Cooperative Extension System/Steve Geist, Consulting Arborist, SavATree, Denver



Vertical Mulching and Worm Technology for **Sustainable Soil De-Compaction** (KCC - 301 A-C)

Glynn Percival, Head of Research, Bartlett Tree Research Laboratory

Soil compaction can result in poor canopy coverage, limited stem extension growth and death. Decompacting soils relies heavily on industrial machinery that use high pressure to break up soils. Such technology can damage root systems and destroy naturally occurring soil ecology. The use of vertical mulching in combination with worms to decompact soils in urban landscapes has not been investigated scientifically. Earthworms loosen compacted soil and improve its structure. They aerate soil and carry organic materials to new locations before eliminating. As a result, organic and inorganic materials are churned throughout the soil profile. Washington State University reports that the movement of earthworms can improve soil porosity by as much as 400 percent. Results of a long-term soil decompaction program in Stockley Park, Uxbridge, London, where over 140,000 trees have been planted and established, will be shared. Participants will gain an understanding of techniques, treatments and efficacy of such on tree health and vitality.

# 9:30 a.m. – 10:00 a.m.

# How Nursery Stock Unit **Cost Affects Trunk Formula Technique Appraisals** (KCC – Ballrooms D-G)

James Komen, BCMA, Class One Arboriculture

When using the Trunk Formula Technique (TFT) to calculate replacement tree cost, arborists must first determine the unit cost-per-square-inch of the trunk crosssectional area so they can find appropriate nursery trees available for sale locally Appraisers may either reference the

Regional Plant Appraisal Committee's guide or manually calculate by locating the largest commonly available nursery tree and dividing its price by its crosssectional trunk area.

# 9:30 a.m. - 10:00 a.m.

Using the Natural World to Combat Pests in Urban Landscapes (KCC – Ballrooms A-C) Cvd E. Hamilton, Owner, Better Nature

Utilization of beneficial microbiota present in soils and plant roots increases a plant's ability to uptake nutrients, resist disease or be more resilient to pests and disease. A brief literature review shows how beneficial these microbes can be to improving plant performance. A complex and rich soil microbial community requires a relatively healthy soil environment to begin with; the microbes can do much of the work to improve soils. However, there are numerous challenges to increasing the quality of the soil environment in the urban landscape. This presentation reviews some of those challenges and discusses potential solutions. Beneficial microbes are not a panacea, but they can be a critical and longterm friend in an integrated toolbox when employing integrated pest management.

# 9:30 a.m. – 10:00 a.m.

# **Reconnecting Trees to** Soils in Our Landscapes (KCC - 301 A-C)

Christopher Fields-Johnson, Technical Advisor, Davey Institute

Forest trees connect to soils through complex relationships with pore space, organic matter, minerals and microbial life. Urban trees often struggle when these relationships break down.We can reconnect trees with soils and reestablish these relationships through practices which loosen the soil and add organic materials. Topdressing, tillage and incorporation with air tools, vertical mulching, liquid injection, and backfilling are five methods of loosening soil while adding organic materials. Composts, mulches, biosolids, and biochars are four organic materials used to increase organic matter. These practices will be described and illustrated in detail with an inside look at various techniques, experiments and case studies.

The advantages and disadvantages of each technique will be discussed. Urban trees can be made to function and thrive like forest trees with the right skills and tool kit. Successful rehabilitation of soils plays a central role in climate remediation. Enhanced practices recycle green waste streams to nourish managed ecosystems and more. Reconnecting trees to soils in our landscapes will play a central role in meeting the converging ecological challenges of our time.

# 10:00 a.m. – 10:30 a.m. The Art of Tree Appraisal (KCC – Ballrooms D-G)

Martin Shaw, Owner, Green Season Consulting

Amenity landscapes and ornamental plants provide valuable aesthetic and functional benefits. The field of professional amenity plant appraisal is more than 100 years old, and it is now broad and varied in practice. This is an important and growing area of specialty appraisal practice that affects broad segments of society.

# 10:00 a.m. - 10:30 a.m. Leveraging People and

# Technology to Cope with **Invasive Pests** (KCC – Ballrooms A-C)

Jessika Mitchell, Project Coordinator, Davey Resource Group/Christopher Shogren

Invasive pests have unfortunately become a fact of life in Southern California. However, urban forest managers do not have to tackle a devastating pest alone. This in-depth presentation demonstrates how land managers, researchers, and public and private entities worked together to develop a strategic partnership to help combat a destructive emerging tree pest. Attendees will gain an understanding of how to use early detection methods, technology, monitoring techniques and strong collaborative relationships to mitigate the impacts of invasive pests.



# 10:00 a.m. – 10:30 a.m. **Urban Tree Establishment Using Structural Soil Lessons** from The Netherlands (KCC - 301 A-C) Henry Kuppen, CEO, Terra Nostra

Reliable infrastructure and the urban forest are in constant battle. A compromise between good infrastructure and healthy trees can be achieved using structural soil. Structural soil consists of a rigid stone base supplemented with organic matter and soil. The load-bearing capacity of structural soil is high enough to be processed as subbase under walkways, roads and parking lots. In the Netherlands this product has been used in tree planting sites for 20 years; results have often been disappointing. Contractors often stick to what they know — designs are inadequate for trees and often another layer of heavily compacted subbase on top of the structural soil is added, completely closing off the surface of the tree site. Caution must be taken when processing structural soils; it's important to assess a tree site with structural soil. Our experience with structural soil in the Netherlands is a basis to introduce a novel technique to measure compaction of structural soil and define recommendations, hence contributing to the quality of tree sites with structural soil that also strengthens the sustainability of the urban forest.

# 10:30 a.m. – 11:00 a.m. The ROI of Healthy **Urban Trees** (KCC – Ballrooms D-G)

Matthew Werle, Consultant, GreenBlue Urban

Including trees in urban landscape plans often comes down to money - with the true value not considered. Mature trees provide significant environmental, social and economic benefits. They improve our health and wellbeing. However, studies indicate that the number of mature trees in cities is declining. Older, large trees are replaced by smaller trees planted in suboptimal conditions with insufficient soil volume, in addition to irrigation and aeration deficiencies with no consideration for root management. Few trees reach maturity. Poor planting results in infrastructure damage, pavement hazards, and no ROI. A tree planted in an engineered tree pit delivers an ROI that steadily increases. This presentation

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examines best-practice urban tree planting using GreenBlue Urban's 27 years of experience, along with research in partnership with Treeconomics, Ltd., to explain how to put a dollar value on healthy urban trees.

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

### Beneficials: How to Identify and Use Them Effectively (KCC – Ballrooms A-C)

A.D. Ali, Manager of Technical Services, Davey Institute

There are a plethora of beneficial predators and parasitoids in the landscape that attack and maintain pest populations below acceptable levels. This presentation examines various groups of beneficial insects and other anthropoids available naturally or from commercial suppliers. Results from a six-year study conducted on implementing successful pest management programs through monitoring and release of beneficial anthropoids will be shared.

# 10:30 a.m. – 11:00 a.m.

# Trees and Green Infrastructure Soils for **Stormwater Management** (KCC - 301 A-C)

Howard Stenn, Consultant, Principal, Stenn Design

What's the latest news on Green Stormwater Infrastructure (GSI) and related uses of amended soil to manage stormwater runoff? Stormwater Management BMPs in many locales recognize the benefits of tree canopies and soil depth/quality for slowing and filtering stormwater flows, and making surface waters habitable for fish and other wildlife. Concerns about nutrient discharges from some GSI applications has muddled the message about the value of compost in green infrastructure and alternatives. Participants receive an update on issues and solutions, including: approaches of stormwater regulators to value healthy soils and the trees they support to help manage stormwater runoff; concerns about GSI soils and nutrient export, and modifications to soils needed to address concerns. Are highly engineered soil essential or beneficial? What assumptions are used and how valid are they?

# 12:00 p.m. – 12:30 p.m. Around the World

With i-Tree (KCC – Ballrooms D-G) Jason Henning, Research Urban Forester, The Davey Institute and USDA Forest Service

I-Tree software tools have helped measure tree benefits for over a decade. Five years ago, the flagship i-Tree Eco tool was available only in the U.S., Australia and Canada. Other international users worked with i-Tree staff for custom project processing that could take more than six months. This model became unsustainable, with long queues and delays in software development. i-Tree Database was introduced, and expansions of i-Tree Eco were created for the United Kingdom, Mexico and European Union. Now, i-Tree Eco is available in 39 countries; and with user-supplied data for 55 cities in another 19 countries. Supporting materials are available in 10 languages. i-Tree Eco is available on every continent with trees. We examine the international evolution of i-Tree and share examples of projects and approaches — an inspiration for i-Tree users, wherever their trees grow.

# 12:00 p.m. – 12:30 p.m.

Connect the Dots: Plant **Diversity, Pollinators and Pest** Management (KCC – Ballrooms A-C) Joe Boggs, Assistant Professor, Ohio State University Extension

Numerous scientific studies confirm the connection between plant diversity and the enhancement and conservation of plant pests' enemies. Arborists struggle with the practical application of this natural line of defense. Popular landscape installations such as butterfly gardens and pollinator gardens are one answer, but are often confined to relatively small areas due to the perception that these gardens benefit only moths, butterflies and bees important to food production. This limited perception ignores the full power of diverse landscapes. How does the abundance of flowering plants translate into fewer plant pests? How does a diverse landscape translate into a reduced need to use insecticides? This presentation connects the dots among plant diversity, pollinators and natural plant pest management. The enemies of my enemies are my friends.

# 12:00 p.m. – 2:00 p.m. **Tree Preservation: Policy, Practice, Research** (KCC – Lecture Hall)

Lara Roman, Research Ecologist, USDA Forest Service/Jason Lubar, Associate Director of Urban Forestry, Morris Aboretum/John O'Neill, Urban Forester, District of Columbia Urban Forestry Division/Deborah Hilbert, Biological Scientist and Ph.D. Student, University of Florida

Tree preservation is a critical strategy for municipalities seeking to grow their urban canopy. Planting programs alone cannot substantially increase net tree cover; the protection of large trees is also needed to ensure longevity of trees that already have large crowns. Such trees play an enormous role in providing ecosystem services, roughly equivalent to several dozen (or more) small trees. Sustainable urban forest management requires development and enforcement of comprehensive tree protection laws and policies. We will examine ordinances and policies surrounding the preservation and protection of large urban trees, including publically and privately owned trees; review tree protection in terms of the consequences of failing to protect trees with examples from Philadelphia, PA, and Worcester, MA; present case studies and discuss ramifications of local tree ordinances on quantifiable tree cover differences across cities. A moderated panel discussion follows.

# 12:00 p.m. – 12:30 p.m.

Educating Stormwater **Engineers About Urban Forest** Management (KCC – 301 A-C)

Eric Kuehler, USDA Forest Service Increasingly more stormwater managers and design engineers are looking to trees and urban forest systems as a component of green stormwater infrastructure (GSI) treatment trains to help mitigate stormwater runoff in cities. However, engineers do not have the technical expertise to adequately understand the needs of trees for growth and health, nor are they able to quantify the benefits that urban trees provide. The USDA Forest Service Technology Science Delivery Team has developed a resource manual for urban foresters and natural resource managers to help them explain the role trees play in stormwater management, and guide them

in management practices to maximize stormwater benefits. This presentation introduces this GSI manual, reviews current research regarding trees and stormwater, and discusses how the manual can be used to engage engineering professionals and encourage the need for urban forest management to mitigate stormwater runoff.



Landowner and Professional **Perceptions of Cost-Share** Funding for EAB Treatment (KCC – Ballrooms D-G)

Peter Stewart/Eric Wiseman, Associate Professor, Virginia Tech

Researchers and urban foresters have developed several strategies for managing the impact of emerald ash borer (EAB; Agrilus planipennis) at the local and regional levels. Untreated EAB typically kills 100 percent of trees in a city within eight years of detection. Management strategies, including insecticidal treatment of a cohort of trees, can reduce costs and increase the long-term benefits of an urban forest, even more so than removing and replanting trees. To slow tree mortality and loss of urban forest benefits, ash tree treatment must be coordinated to include city-owned and private-property trees — either through regulation or incentive.

# 12:30 p.m. – 1:00 p.m.

# Compatibility of **Insecticides and Biocontrol** for EAB Management (KCC – Ballrooms A-C)

Fredric Miller, Senior Scientist, Morton Arboretum

EAB parasitoids are now in many states, parasitism rates are finally increasing and EAB density is declining. Treatment of large ash trees is not economically feasible in most forest settings, but in urban environments city managers often protect a portion of the trees from EAB damage. This presentation shares results of an Illinois study that focuses on the effectiveness of combining insecticide treatments with biological control. Chemical treatments protect the ash tree long enough for parasitoids to disperse and establish to sufficient levels to provide long-term

protection of ash trees. Preliminary findings show that tree condition ratings for treated trees are stabilizing, and that the parasitoids are dispersing, establishing and reproducing in EAB larvae throughout the study site.

# 12:30 p.m. – 1:00 p.m.

# **Growing the Industry:** Public Relations 101 (KCC - 301 A-C)

Stephen Lane, Project Manager/GIS Coordinator, Graf Tree and Natural Resources

How often do we arborists struggle to explain to friends and family what we do for a living? More importantly, how often do we struggle to explain the importance of Arboriculture to politicians, decisionmakers and the general public when our reputation as an industry might be on the line? If you're like most, this is probably a daily struggle. Our perception as arborists, ability to attract talent, and capacity to create a vibrant future for the industry ultimately depends on how we represent ourselves. Join us to learn strategies to represent yourself well and grow our industry in the process by keeping simple concepts in mind when communicating with clients, media, local government and others. We focus on creating an elevator pitch about our industry, maintaining a professional image, tailoring language to our audience, reviewing public relations mistakes, and touch on social media and changing modes of communication.

# 1:00 p.m. – 1:30 p.m.

# Drone-Based Techniques for Detailed Study of Tree Structure and Growth (KCC – Ballrooms D-G)

Charles Cannon, Director, Center for Tree Science. The Morton Arboretum

Trees are difficult to study, because the majority of their biotically active tissue is either buried underground or out of reach overhead. Their dynamic response and biology is difficult for humans to observe. Unmanned Aerial Vehicles, or drones, can access the above ground section. We explored two drone-based observational platforms (visible light and multispectral imagery) to see how this effects growth; then conducted verification tests to

demonstrate that our photogrammetry techniques created accurate and consistent three-dimensional models of species and architectures. This presentation discusses various physical and structural parameters that can be extracted from these models, particularly as a time series analysis.

# 1:00 p.m. – 1:30 p.m.

Managing Bucida Street Tree Staining in Florida and the **Caribbean** (KCC – Ballrooms A-C) A.D. Ali, Manager of Technical Services, Davey Institute

Bucida buceras, aka black olive trees, are planted widely in cities in Florida and the Caribbean. Two arthropod pests commonly attack this tree: An eriophyid mite, Eriophys buceras; and a caterpillar, Garella (Characoma) nilotica. Caterpillar frass (excrement) and mite-induced galls stain sidewalks, streets and vehicles beneath the canopy. The staining may be so severe that homeowners remove the trees. This is alarming in cities where black olive trees comprise as much as 30 percent of the urban forest. We conducted studies at two cities to evaluate systemic insecticides against these pests. During 2013 and 2014 in Naples, trees receiving dinotefuran soil — root drench or acephate trunk injections — exhibited reduced staining likely due to caterpillar suppression. During 2015 and 2016 in Coral Gables, abamectin trunk injections exceptionally reduced gall formation and staining, and reduced property owner complaints and demands to remove the trees.

# 1:00 p.m. – 1:30 p.m.

Deforestation by Design™: Architecture, Engineering, Sustainability and Arboriculture (KCC - 301 A-C) John Palmer, Consulting Arborist, Consultant, Trainer, PlanetCare Landscape and Arboricultural Services

The design and installation of plant material in violation of known plant care standards, resulting in predictable decline or death.

COLOR KEY Beginner General Advanced Climbers' Corner Meeting

# 1:30 p.m. – 2:00 p.m.

The Digital Urban Forest: Map, Access and Share Your Data (KCC – Ballrooms D-G)

Ian Hanou, Owner, Plan-It Geo

Urban foresters, arborists and consultants rely heavily on data and technology, as most industries do. Whether your focus is outreach/awareness or profit and operational efficiency, technology plays a key role in achieving and sustaining goals.

# 1:30 p.m. – 2:00 p.m.

Can We Vaccinate Trees to **Protect Against Root Diseases?** (KCC – Ballrooms A-C)

Glynn Percival, Head of Research, Bartlett Tree Research Laboratory

Urban trees are susceptible to root pathogenic fungi, such as Armillaria and Phytophthora, which can result in high mortality rates. We control diseases with soil applied chemicals. Due to increased tolerance, chemicals don't necessarily control root diseases. We need legislative restrictions around use and application of chemicals so new techniques of disease control can be applied. Induced resistance (IR) is the phenomenon where a plant's defense mechanisms are induced by treatment with either a biological or chemical agent. Recent developments in disease control produced a range of commercially available IR compounds that can be applied as a soil amendment (phosphides, chitin, biochar and mulch derived from willow [salix] trees). Studies using IR compounds find them to be effective in controlling fungal, bacterial and viral leaf, and root pathogens of cereals, vegetables, fruit and ornamentals. A "one off" application provides broad spectrum disease control equal to conventional 8-10 spray applications.



# EDUCATIONAL DESCRIPTIONS **TUESDAY, 13 AUGUST** (As of 9 July 2019 – times and details subject to change.)

# 1:30 p.m. – 2:00 p.m.

# Household Practices and Attitudes Toward Tree Recycling and Wood Products (KCC - 301 A-C)

Eric Wiseman, Associate Professor, Virginia Tech/ Mikaela Schmitt-Harsh, Assistant Professor, Departments of Biology and Interdisciplinary Liberal Studies, James Madison University

Handling tree debris is a major challenge. Approximately 14.5 million tons of tree and woody yard residues are generated annually in the U.S. Initiatives aim to divert tree debris from landfills and low-value landscaping products to high-value wood products. Most research focuses on the quantity and quality of wood generated from removals and its suitability for products. There is little research on citizen attitudes toward tree recycling and demand for urban wood products.Without this, we cannot make rational decisions about tree debris recycling and business enterprises. In Virginia, we conducted a study, then distributed a mail-internet survey to 1,000 single-family dwellings, seeking to understand tree removal practices and attitudes toward recycling. Sixty-eight percent of respondents removed one or more trees from their residence. Common uses were for firewood, followed by wood chip mulch. Twenty percent of respondents considered recycling, but nearly two-thirds were open to recycling if debris was removed quickly through free curbside pickup.

# 3:00 p.m. – 3:30 p.m.

Tree Data Collection Used to Promote Tree Benefits (KCC - Ballrooms D-G)

Craig Hinton, Senior Consultant, ENSPEC Environment and Risk

Tree population data is a common management tool. Yet tree managers still struggle to define its purpose and how to use it effectively.

# 3:00 p.m. – 3:30 p.m.

Which Tree Pests Matter? (KCC – Ballrooms A-C) Joe Boggs, Assistant Professor, Ohio State University Extension

Separating minor from major tree pests is

no easy task. The wrong move costs your reputation and bottom line. Are your pest management decisions driven by the desire to enhance tree health or only to reduce customer complaints? From determining which pests matter to deciding when to pull the pesticide trigger, this presentation uses case studies to illustrate realistic and effective pest management decisions that support tree health while meeting customer expectations.

# 3:00 p.m. – 3:30 p.m.

# Tree Preservation Protocol Based on ANSI A300 Standards (KCC – Lecture Hall)

Ormand Crabtree, Owner, Fifth Element Protocol

The Cheap to Keep Tree and Landscape Protocol is a 10-step tree preservation sequence that gives arborists a structured methodology they can use to document field details of an evaluation for a client. The protocol uses field-tested steps that activate tree preservation based on approximately 8,500 specimens. The first part of the protocol is data collection: Authenticate, Locate and Excavate. These steps answer, "what it is," "where it is" and "target value" — required to answer the most often asked question in a consultation, "Will this tree fall on me?" The next step is proposal development with job cost. This document is essential and offers an opportunity to educate and learn from the customer.

# 3:00 p.m. – 3:30 p.m.

Austin Community Tree Program: Past, Present and Future (KCC - 301 A-C) Margaret Valenti, Senior Planner, City of Austin

The Austin Community Tree program is a neighborhood tree delivery program that focuses on reducing the Urban Heat Island effect by planting trees on private property. The addition of trees can cool daytime temperatures in neighborhoods, which inturn reduces electric demand, utility expenses and heat-related illnesses.

# 3:30 p.m. – 4:00 p.m.

# **Evaluating Tree Species: Diversity in Thirty Parks** (KCC – Ballrooms D-G)

Brian Watkins, City Forester, City of Dallas

The Recreation and Parks Commission of East Baton Rouge Parish (BREC) has more than 180 parks and green spaces covering 6,000 acres. With rising urbanism, BREC needs to sustain the park system and maximize ecological benefits. Trees must be protected. Specialists conducted a 150-plot stratified random sampling inventory of 30 parks. Objectives were to: (1) compare species diversity in parks along the urban to rural gradient; (2) compare species richness; (3) compare species evenness; (4) use data to develop species diversity management strategies; and (5) recommend best management practices. Species diversity and richness were lowest in urban parks. Semi-natural parks (conservation areas) had the highest diversity and richness. Species evenness was highest in urban parks. By increasing diversity and ecological services, managers can select a greater variety of trees to promote heterogeneous green areas.

# 3:30 p.m. – 4:00 p.m.

Managing the Forest not the Trees: Adaptive Management for Oak Wilt in Austin, Texas (KCC – Ballrooms A-C)

April Rose, Urban Forest Health Coordinator, City of Austin

The City of Austin is recalibrating their oak wilt program to focus on forest health; they are scaling services to leverage growth in private sector capacity, public access to natural resource data, GIS technology and diverse modes of communication. During this presentation, participants will learn about their process for change, new partnerships, tools launched in 2018 and lessons learned to date.

# 3:30 p.m. – 4:00 p.m.

# Managing Trees and **Construction** (KCC – Lecture Hall) Ian Gray, City Forester, Parks and Open Space

This Rocky Mountain case study is based on an urban forester's first year in a new job, and the trials and tribulations of balancing tree preservation and development pressures in an expensive real estate market. It covers: I) aspects of urban forestry critical to best management practice for municipal specialists; 2) construction activity and techniques which particularly impact trees chosen for retention on a development site; and 3) the importance of defending tree protection zones with enough fencing, signage and monitoring.

# (KCC – 301 A-C) University of Melbourne

Fifteen tree risk assessment methods were subjected to two methods of sensitivity analysis to determine which assessment factors most influenced the output of each method. The analyses indicate for each method the relative influence that the input variables exert on the final risk value. One method used Excel to create a simple  $\pm 25\%$ or ± one rank change (depending on the method) for each criterion. The change to the output score was recorded as a percentage change. The second used Palisade's @Risk software to undertake a Monte Carlo (with Latin Hypercube sampling) simulation of 5000 iterations based on the input variables and output formula. From the simulation, multivariate stepwise regression was undertaken to determine the influence of each method's input variables in determining the output values.

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COLOR KEY	Beginner	General	Advanced	Climbers' Corner	Meeting
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# 3:30 p.m. – 4:00 p.m.

# Comparing 15 Different Tree **Risk Assessment Methods Using Only Sensitivity Analyses**

Gregory Moore, Senior Research Associate,



# **Indicates researchers** funded by TREE Fund since 2002.



# EDUCATIONAL DESCRIPTIONS WEDNESDAY, 14 AUGUST

(As of 9 July 2019 – times and details subject to change.)

# 9:00 a.m. – 9:30 a.m.

Measuring **Ecosystem Services by Urban Species: the LIFE Urbangreen Project** (KCC – Ballrooms D-G) Alessio Fini, Associate Professor,

Universita' di Milano

There is growing interest in how urban green areas use ecosystem services to improve human well-being. Trees produce a wide range of ecosystem services, including the provisioning of resources (timber, food) and non-material goods (cultural, social), the maintenance of key ecological processes (carbon and water cycles), and the regulation of climatic events (flash floods, heat waves). Just planting a tree does not provide these benefits. There must be proper species selection, a quality nursery stock, and sound management, or they prematurely decline, becoming a source of atmospheric CO2. Ecosystem services are often implicit and hard to quantify, but should be considered when planning urban green areas.

# 9:00 a.m. – 10:00 a.m.

Safety Job Briefings: Not Just for Compliance (KCC – Ballrooms A-C) Gerry Breton, Lucas Tree

# 9:30 a.m. – 10:30 a.m.

Arboricultural Research and Education Academy (AREA) **Student Presentations** (KCC – Ballrooms D-G)

Jamie Lim: Arboriculture Safety Standards Around the World

Riley Rouse: Improving Root Systems of Container-Grown Trees Through Pre-Plant Root Modification

Francisco Javier Garcia Monroy: Structure and Distribution of Urban Street Trees, Towards Understanding of Ecological and Performance Values

Zach Wirtz: Factors of Success in Canadian Urban Forest Governance

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

Trees and Storms: Improved **Estimates of Tree Debris Following Storms** (KCC – Ballrooms D-G)

Richard Hauer, Professor of Urban Forestry, University of Wisconsin-Stevens Point

The largest expansions across North America, the industrial revolution and the transcontinental railroad, both required cutovers of virgin forests. The first global conservationist movement was formed as a reaction; the U.S. created the first national park system in the world and groups such as American Forests and Sierra Club followed. The World's Columbian Exposition (1893 World's Fair) in Chicago inspired the City Beautiful movement, a surge of beautification and the birth of urban planning. This meant investing in public trees and greenspaces, championing them as necessary infrastructure. In many ways, this is the direct ancestor of modern arboriculture and urban forestry. Learn the full context of how history has led us to our relationship with trees and greenspace.

10:00 a.m. – 11:00 a.m. Worker Retention (KCC – Ballrooms A-C) Will Nutter, Wright Tree Service

# 12:00 pm. – 12:30 p.m. The Dynamics of Urban Tree

**Death** (KCC – Ballrooms D-G) Deborah Hilbert, Biological Scientist and Ph.D. Student, University of Florida

Understanding what factors contribute to urban tree death, and what mortality rates are common for different species and conditions can aid urban forest managers. Our research: (1) summarized mortality and survival rates and (2) categorized biophysical and human factors using data from 56 studies. For cohort studies, annual mortality is highest during the first five years. Commonly cited biophysical factors were species, tree size/age and site characteristics. Human-related factors were stewardship, maintenance and vandalism. Analyses of mortality rates provide insight into how trees die and potential management actions. This requires well-organized data. Future research can examine microclimate, soil characteristics, planting program characteristics, household level social factors and resident behaviors. Human decision making is essential, so interdisciplinary research is needed to understand the dynamics of urban tree death.

# 12:00 p.m. – 1:00 p.m.

Education Panel (KCC – Ballrooms A-C) Philip Charlton, Executive Director, UAA, Alex Miller, Sharon Jean-Phillippe, Brian Sprinkle

# 12:30 p.m. – 1:00 p.m.

Examining Strain **Propagation in the Lateral** and Codominant Branch (KCC – Ballrooms D-G) Gregory Dahle, Assistant Professor, West Virginia University

Static load testing of branches is one well-established method for examining attachment strength of trees. Information gathered from these experiments helps us understand how branches fail, and predicts how they are attached to their parent stem. Digital image correlation (DIC) is used during static load trials to examine how strain (tissue deformation) moves through the branch attachment of subordinate lateral branches and co-dominant branches. Strain in co-dominant branches is found to propagate further into the surrounding stem wood than in lateral unions. The DIC system allows us to examine changes in branch angle (fork separation) in both types and is a predictor of maximum compressive strain on the underside of branches during static loading. By examining branch failures, the study found a close relationship between aspect ratio and different failure types.

# 1:00 p.m. – 1:30 p.m.

# Effect of Plant Growth **Regulator Paclobutrazol on Laurel** Wilt Pathosystem

(KCC – Ballrooms D-G) Stephanie Adams, Ph.D. Student and Research Fellow, University of Florida and the Morton Aboretum

Laurel wilt is a vascular wilt disease affecting several members of Lauraceae. Hosts in the United States range from native agronomic crops, ornamentals, and native forest shrubs and trees. As of 2016, 13 species are identified as host plants in the United States: avocado (Persea americana); redbay (P. borbonia); swamp bay (P. palustris); silk bay (P. humilis); viñátigo (P. indica); sassafras (Sassafras albidum); northern spicebush (Lindera benzoin); pondberry

(L. melissifolia) (federally endangered); pondspice (Litsea aestivalis) (state endangered); camphortree (*Cinnamomum camphora*); bay laurel (Laurus nobilis); California laurel (Umbellularia californica); and gulf licaria (Licaria triandra). As of September 2018, laurel wilt has been found in North Carolina, South Carolina, Georgia, Florida, Mississippi, Alabama, Louisiana, Arkansas and Texas.

# I:00 p.m. – 2:00 p.m.

Increasing Ecological Stewardship in Utility Vegetation Management (KCC – Ballrooms A-C) Colby Tisdale, Arbor Metrics

Utility vegetation management (UVM) has a rich history of integrated vegetation management (IVM) and ecological stewardship. Incorporating IVM and ecology into UVM programming is a sound business practice and provides partnership and outreach opportunities within the communities that we serve. Columbia Gas has trialed various methods of establishing pollinator plots and is working toward enhancing biodiversity on our larger right-of-way network. This presentation provides a brief overview of IVM and ecological stewardship within UVM programming, discusses lessons learned on the ground, and closes with how other utilities are engaging in ecological stewardship and how to get involved.

# 1:30 p.m. – 2:00 pm.

The Urban Visual Vitality Index: **A Numerical Visual Assessment** Method (KCC – Ballrooms D-G) Denise Johnstone, Lecturer, University of Melbourne

Urban tree management measures climatic factors causing stress and defoliation, and how they relate to shade provision and carbon sequestration. This presentation describes the mature tree visual assessment method of crown condition, and how it evolved into the Urban Visual Vitality Index (UVVI). Originally a tool for evaluating forest eucalypts, it was modified and applied to plantation eucalypts. It was further modified, creating an UVVI later verified by comparing results with drought measurements in Ulmus procera and Ulmus x hollandica. UVVI uses numerical values for relative mature crown size, mature crown density and epicormic growth to rank the tree vitality. UVVI was tested again in urban Ficus macrophylla, Plantanus x acerifolia and Ulmus parvifolia trees by comparison with chlorophyll fluorescence methods. UVVI evaluated visual vitality in five species of urban trees. Results suggest that with proper training, it can visually assess trees without need for specialized equipment.

# 2:00 p.m. – 2:30 p.m. Measuring Multi-stemmed **Street Trees** (KCC – Ballrooms D-G) Lara Roman, Research Ecologist,

**US Forest Service** 

Practical forest mensuration applies the principle that we cannot properly manage that which we cannot accurately measure. Foresters have used diameter at breast height (DBH) since the 19th century to estimate standing volumes of timber, quantify ecosystem services and predict other difficult-to-measure biometrics. Although the standard height for DBH is 137 centimeters (4.5 feet) in the United States, a range of "breast heights" are used in research and practice, and there are challenges with applying DBH to divergent tree forms. For instance, mangroves, savannah trees and ornamental short-stature multistemmed urban trees have forms that make it difficult to measure trunk diameter at 137 cm. Urban forestry researchers identified these trees as particularly difficult for consistent measurements across space and time; they also make it difficult for us to develop allometric equations (which relate DBH to total tree height, crown width and biomass).

# 2:00 p.m. – 3:00 p.m.

**EAB:** Dealing With Ash Trees: When to Climb and What to do if You Can't (KCC – Ballrooms A-C) Tim Walsh, Corporate Safety Director, Davey Tree Care

Ash trees impacted by Emerald Ash Borer (EAB) pose increased risks for arborists who are in, on or near them. This presentation will cover some basic information about the insect and its impacts on the tree and safety of those who work around them. It will address some of the scientific research on EAB as well as some of the ways to assess and mitigate these dangers.

# 2:30 p.m. – 3:00 p.m.

The Effects of Root Pruning on Mature Quercus virginiana (KCC - Ballrooms D-G)

COLOR KEY	Beginner	General	Advanced	Climbers' Corner	Meeting

# Andrew Benson, Ph.D. Candidate, The University of Canterbury

Root pruning is commonplace. Roots are often removed on development sites or in streets during utility trenching. While we must understand the "dos and don'ts" of root pruning, little research has been done. This presentation outlines two experiments undertaken on Quercus virginiana trees in central Florida. Trees were exposed to either circumferential root removal treatments to mimic traditional tree protection zones, or to linear root removal treatment to mimic utility trenching. Half the trees in the experiment had existing root zone interactions with an asphalt road surface. We contrasted the responses of trees adjacent to a road to trees which were not. Both experiments suggest traditional tree protection zones are insufficient to protect *Q*. virginiana from short-term stress effects of root loss. The utility trenching experiment indicated that roads have a negative effect on trunk diameter growth after two growing seasons.

# **Education Sessions** Sponsored by:





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# EDUCATIONAL DESCRIPTIONS **CLIMBERS' CORNER**

# POSTERS

# **Poster Presenters**

# **Trees as Medicine**

**Alex Klein** Mountain Gardens Burnsville, NC, US

# **Results from Research** on Regenerative Pruning: **Biomechanics and** Longevity

**Guy Meilleur** Historic Tree Care New Hill, North Carolina, US

# Tree Care for **Fire-Resistant Landscapes**

Holly Campbell Southern Regional **Extension Forestry** Athens, Georgia, US

# **Tree Condition in Street-**Side Bioswales: Results of a Four-Year Study

Igor Lacan UC Cooperative Extension Half Moon Bay, California, US

# **Soil Moisture:** The Most Important Factor for Young Tree Survival

Wei Zhang Zynnovation, LLC Ashland, Virgina, US

# Maintenance of Trees for **Bioretention**

Hailing Yang Zynnovation, LLC Ashland, Virgina, US

# Finding Urban Trees for a Changing World: Exploring to Urban Forestry

Jehane Samaha University of British Columbia, Canada

# Trees?

Ryan Fawcett University of Massachusetts Amherst, MA, US

# Monday, 12 August

# 9:30 a.m. - 11:00 a.m.

**Gear Inspection-Approval** for Competition Phil Kelley



**Climbers' Corner** 

Sponsored by:

# 1:00 p.m. – 2:30 p.m. **Climbers/Judges Meeting**

Phil Kelley

# 2:45 p.m. – 3:45 p.m.

**Biomechanics for Tree Climbers** Alexander Laver

# 4:00 p.m. – 5:00 p.m.

**Climber Health and Wellness** Phil Kelley

# **Climbers'** Corner

(KCC – Exhibit Halls A&B, Booth #928)

# Tuesday, 13 August

# 8:30 a.m. – 9:30 a.m.

**Aerial Rescue From a Competition Standpoint** Phil Kelley

# 10:00 a.m. – 11:00 a.m.

**Advancements in Modern Chainsaw Technology and Ergonomics to Extend Climber** Longevity, Safety and Productivity Megan Bujnowski

This session reviews the benefits of battery technology in an emerging green space professional environment, purposeful ergonomic design and affect on the arborist profession. Topics include: inboard versus outboard clutches, gyroscopic forces, center of gravity, seven-degree offset handles, dropped front handles, separation of rear handle from top handle, rubber inlay handle and boot/bore grip. Potential demonstrations include: saw center of gravity model, bike wheel and side-by-side cutting.

# 12:00 p.m. – 2:00 p.m. From Tree to Truck Phil Kelley

Transitioning from production worker to supervisor manager is a major life change. Too often we are not given the training to succeed in this new role. This discussion will focus on the different areas affected by this transition and tools to help a successful transition.

KCC = Knoxville Convention Center

# **ISA Presents** including **Poster Displays**

Monday, 12 August

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

(KCC – Trade Show Floor, Booth #621)

**Public Garden Contributions** 

**Can Volunteers Learn to Prune** 



# **TRADE SHOW**

# Trade Show Hours

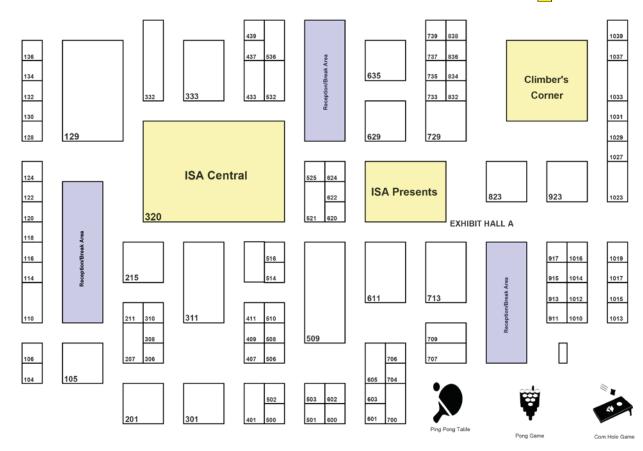
Sunday	7:30 p.m. – 9:30 p.m.		
Monday	9:30 a.m. – 5:00 p.m.		
Tuesday	7:30 a.m. – 3:00 p.m.		



Happenings on the Trade Show Floor		
Sunday, I I August		
7:30 p.m. – 9:30 p.m.	(KCC – Trade Show Floor)	
Monday, 12 August		
9:30 a.m. – 5:00 p.m.	ISA presents Poster Display (KCC – Exhibit Halls A&B, Booth #621)	
9:30 a.m. – 5:00 p.m.	Climbers' Corner (KCC – Exhibit Halls A&B, Booth # 928)	
I I:00 a.m. – I:00 p.m.	Break (KCC – Trade Show Floor)	
3:00 p.m. – 4:00 p.m.	Break (KCC – Trade Show Floor))	
4:00 p.m. – 5:00 p.m.	Educational/Research: Poster Presentations	
	(KCC – Trade Show Floor, Booth #621)	
Tuesday, 13 August		
7:30 a.m. – 9:00 p.m.	Breakfast (KCC – Trade Show Floor	
7:30 a.m. – 3:00 p.m.	ISA presents Poster Display (KCC – Exhibit Halls A&B, Booth #621)	
8:00 a.m. – 8:30 a.m.	ISA Annual Business Meeting at Climbers' Corner (KCC – Exhibit Halls A&B, Booth #928)	
8:30 a.m. – 3:00 p.m.	Climbers' Corner (KCC – Exhibit Halls A&B, Booth #928)	
11:00 a.m. – 12:00 p.m.	Break (KCC – Trade Show Floor)	
2:00 p.m. – 3:00 p.m.	Break (KCC – Trade Show Floor)	

# Trade Show Floor Map

# **ISA Annual International Conference** and Trade Show 2019 (KCC - A&B)







ENTRANCE

Monday

ENTRANCE

3:00 p.m. – 4:00 p.m.





Booth #509

Booth #532

32



Aisle signs sponsored by



# Check out these exhibitors and grab a free brew on the Trade Show Floor during afternoon breaks!



# **EXHIBITOR DIRECTORY**

# 2019 Featured Exhibitors

Altec Industries, Inc. (129) www.altec.com Jeannie.Harrison@altec.com

Arborjet (709) www.arborjet.com lbehringer@arborjet.com

**Asplundh Tree** Expert Company (516) www.asplundh.com dkemmerer@asplundh.com

**Bandit Industries, Inc. (215)** www.banditchippers.com blenahan@banditchippers.com

**Bartlett Tree Experts (713)** www.bartlett.com nbelhumeur@bartlett.com

**BIK Boom Trucks (509)** bikboomtrucks.com nicole@bikboomtrucks.com

# **2019 Exhibitors**

ACRT, Inc. (832) www.acrtinc.com mwalker@acrtinc.com

Ahlborn Equipment Inc. (501) www.ahlbornequipment.com james@ahlbornequipment.com

All Access Equipment (611) www.allaccessequipment.com holly@allaccessequipment.com

American BioChar (601) www.ambiochar.com info@pgmstgr.com

ArborMax (600) www.arbormax.net Brian.Tunge@eydent.com

ArborMetrics (506) www.arbormetrics.com rbarker3@arbormetrics.com

ArborPro, Inc. (603) www.arborprousa.com cconlee@arborprousa.com

ArborSystems (521) www.arborsystems.com chip@arborsystems.com

Arbortech (1010) www.arbortechchipbodies.com jhalpin@stahltruckbodies.com

The Davey Tree Expert Company (301) www.davey.com sandra.reid@davey.com

Environmental Design, Inc. (211) www.treemover.com paulcox@treemover.com

Freightliner Trucks (332) www.freightliner.com sarah.carrick@daimler.com

Husqvarna (823) www.husqvarna.com Sherri.Gasparon@husqvarnagroup.com

J.J. Kane Auctioneers (128) www.jjkane.com jeannie.harrison@altec.com

The Kenerson Group (624) www.kenersongroup.com apriestley@kenersongroup.com

Arborwear (729) www.arborwear.com bweber@arborwear.com

> **Arrowhead Aerial Products (439)** www.arrowheadaerial.com smccarty@arrowheadaerial.com

ASCA (911) www.asca-consultants.org jclarke@mgmtsol.com

Bandit Knives (310) www.zenithcutter.com dougl@zenithcutter.com

**BioForest (913)** www.bioforest.ca jmooney@lallemand.com

**Brightview Tree** Care Services (1023) www.brightview.com rick.shepard@brightview.com

Clogger (409) www.gocloggercom alienor@clogger.co.nz

Cranes 101 (836) www.cranes101.com kyle@cranes101.com

DeepRoot (707) www.deeproot.com leah@deeproot.com

Updates can be found on the conference app or printed addendum.

Leonardi Manufacturing Company, Inc. (1019) www.leonarditreecare.com trudy@leonardimfg.com

Morbark, LLC (201) www.morbark.com brad.canute@morbark.com

**Preformed Line Products (407)** www.preformed.com thaic@preformed.com

Dinolift (629) dinolift.com teemu.ristela@dinolift.com

Eijkelkamp (915) www.Eijkelkamp-usa.com m.savill@eijkelkamp.com

Fanno Saw Works (622) www.fannosaw.com info@fannosaw.com

Forestry Suppliers, Inc. (602) www.forestry-suppliers.com sonyaw@forestry-suppliers.com

**Green Manufacturing (532)** www.greenteeth.com chrisp@greenteeth.com

Greenwell (706) www.greenwellwatersavers.com tlutes@myerslgg.com

Haix North America (834) hwww.haix.com s.longarzo@haix.com

Herbert College of Agriculture (122) ag.tennessee.edu/herbert/Pages/default.aspx cbanks6@utk.edu

HMI: Horticultural Asset Management, Inc. (514) www.hmiadvantage.com slauer@hmiadvantage.com

ISA Central (320) www.isa-arbor.com isa@isa-arbor.com

ISA Rocky Mountain (120) natalie.mcneill@davey.com

ISA Southern Chapter (118) www.isasouthern.org dcarter@isasouthern.org

Jarraff Industries, Inc. (415) www.jarraff.com mara@jarraff.com

Jobber (110) getjobber.com rebecca.k@getjobber.com

The KnifeSource, LLC (500) www.knifesource.com thalloran@knifesource.com

Navitas Credit Corp (formerly known as Liberty Financial) (1013) www.libertyfg.com jodi@libertyfg.com

Nicelob (106) www.nicejob.co lars@nicejob.co

North American Training Solutions (1029)northamericantrainingsolutions.com/ Karen@natstraining.com

Northeastern Arborist Supply (536) www.northeasternarborist.com sales@northeasternarborist.com

**Oakmont Capital** Services, LLC (733) oakmontfinance.com marketing@oakmontfinance.com

OG Wellness (503) www.og-wellness.com ogwellnessllc@gmail.com

Plan-It Geo, LLC (502) www.planitgeo.com elizabethdierickx@planitgeo.com

**Progress Rail**, a Caterpillar Company (525) www.progressrail.com nloveland@progressrail.com

**Rotam North America (308)** www.arbormectin.com lindakhan@rotam.com

Saluting Branches (1031) www.salutingbranches.com bhughson@treecarescience.com SavATree (1016) www.savatree.com mkaplan@savatree.com

Sennebogen, LLC (124) www.sennebogen-na.com sales@sennebogenllc.com

ServicePro (401) www.servicepro.com mike@servsuite.net

SingleOps (105) www.singleops.com taylor@singleops.com

www.eforester.org pariolao@safnet.org

**Society of Commercial** Arboriculture (SCA) (116) www.sca-trees.org kathleen@epicentermgmt.us

www.urban-forestry.com UrbanForestry@prodigy.net

www.bartlettman.com sheree@bartlettman.com

Speak Easy Communication Solutions, LLC (1027) www.speakeasycommunication.solutions alex@speakeasycommunication.solutions

Supersonic Airknife (510) www.dlarborist.com dave@dlarborist.com

The Elite Machine Group (433) theelitemachinegroup.com corydurell@gmail.com

TimberWarriors (1017) www.timberwarriors.com gingerleonard@timberwarriors.com

Tipco Sponsored by Mauget (700) www.mauget.com mpeters@jjmauget.com

Tracked Lifts, Inc. (333) www.trackedlifts.com jeff@trackedlifts.com

www.tcia.org dlee@tcia.org

TREE Fund (605) www.treefund.org bduke@treefund.org

# **Q** KCC = Knoxville Convention Center



### Society of American Foresters (306)

# Society of Municipal Arborists (SMA) (114)

### Solidur/Bartlett Arborist Supply (1033)

# Tree Care Industry Association (TCIA) (923)

# TreeDiaper (1014)

www.treediaper.com hailingyang@treediaper.com

# UP Equip (311)

www.upequip.ca chantal@upequip.ca

#### Urban Forest Innovative Solutions (1012) www.ufis.ca

mikeufi@rogers.com

# **USDA's Animal and Plant Health**

Inspection Service (917) www.aphis.usda.gov rhonda.j.santos@usda.gov

# Utility Arborist Association (UAA) (508)

www.gotouaa.org dneeser@gotouaa.org

# **Vermeer Corporation (207)**

www.vermeer.com astevenson@vermeer.com

# Weaver Arborist (411)

www.weaverarborist.com dickk@weaverleather.com



# **VISITOR INFORMATION**

Learn more about Knoxville: www.visitknoxville.com



# **TREE FUND**

# TREE Fund Activities at the 2019 ISA International Conference

# Sunday, I | August (KCC – Booth #605)

- Explore the future of tree research and education.
- Register for FREE admission to Tuesday night's TREE Fund After Hours.

# Monday, 12 August and Tuesday, 13 August (KCC – Booth #605)

- 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.
- Register for FREE admission to Tuesday night's TREE Fund After Hours.

# Tuesday, August 13

### 9:00 a.m - 11:00 a.m., Knoxville Convention Center

Symposium — Looking Backward and Forward Through TREE Fund Research: Impacts, Practical Research Outcomes, and You. Presented by J. Eric Smith, Rich Hauer, Andrew Koeser, Arnold "Beau" Brodbeck, and Steve Geist.

### 6:00 p.m., Jackson Terminal

- TREE Fund After Hours
- 205 West Jackson Avenue, (15 min. walk from Convention Center) Join us for fun, food and friendraising as we celebrate TREE Fund successes and those who make it all possible. All ISA Conference registrants and spouses are welcome!
- Free admission\* Free appetizers Free drink tickets (2)
- Ken Ottman Volunteer Award winner announcement
- Opportunity to Support your favorite Tour des Trees Teams and Riders!

\* If you didn't pre-order an admission ticket through ISA registration, stop by booth #605 before 3:00 pm on Tuesday.



# **Conference Venue**

# **Knoxville Convention Center**

**Knoxville Convention Center** 701 Henley Street Knoxville, TN 37902, US

# **ITCC Venue**

Lakeshore Park 5930 Lyons View Pike Knoxville, TN 37919, US

# **Conference Host Hotel**

# **Hilton Knoxville**

501 West Church Avenue Knoxville, TN 37902, US

# Parking fees:

Complimentary for hotel guests (One car per guest room based on availability.) \$9.60 per day (Self-park – Conference attendees) \$16<sup>\*\*</sup> per day (Self-park) \$22\*\* per day (Valet) \*\*Parking rates subject to change.

# Additional Conference Hotels

# Holiday Inn Knoxville Downtown

525 Henley Street Knoxville, TN 37902. US

# Parking fees:

Complimentary for hotel guests \$12\*\* per day (Self-park) \$15\*\*+ per car (Overnight) Pets allowed (\$50\*\* deposit) \*\*Parking rates subject to change

# **Crown Plaza**

401 W. Summit Hill Drive Knoxville, TN 37902, US

### **Parking fees:**

Complimentary for hotel guests \$10<sup>\*\*</sup> per day (Self-park) \$20\*\*\* per day (Valet) \*\*Parking rates subject to change.

# Four Points by Sheraton Knoxville **Cumberland House Hotel**

1109 White Avenue Knoxville, TN 37916, US

# **Parking Fees:**

Complimentary for hotel guests \$10<sup>\*\*</sup> per day (Self-park) \$16\*\* per day (Valet) \*\*Parking rates subject to change.

### an underground bowling alley (Maple Hall), live music (free on the square every Tuesday), a Farmers Market (Wednesday and Saturday), and

around for free.)

**Local Attractions** 

great backdrop for selfies)!

• Gay Street at night: See the iconic

Tennessee Theatre sign (makes a

• Cycle of Life at the Knoxville

Museum of Art: Home to the

**Glass-Blowing at Pretentious** 

Cummings serves craft beer in high

quality beer glasses made on-site at

this one-of-a-kind studio/brewery.

• Hike, bike or spend quiet time

**Explore Downtown Knoxville:** 

Market Square, the Old City, and

historic Gay Street have wonderful

shops, restaurants, galleries, museums,

more. (Protip: trolleys will take you

(Start at liams Nature Center,

home to Navitat Knoxville.)

in Knoxville's Urban Wilderness:

Glass and Beer Co.: Matthew

world's largest figural glass installation

(Free to the public; closed Mondays.)

Must See

Must Do

**Transportation** 

To and From Airport: The closest airport is McGhee Tyson Airport (airport code TYS), approximately 12 miles south of downtown Knoxville. Public transportation does not currently serve McGhee Tyson Airport - only taxis, chartered services, and Uber and Lyft shared ride service.

Charter Bus: If in need of a charter bus, one can get easy rides through Affairs of Style, as well as Rocky Top, both of which can be arranged for pickup or drop off online.

# Parking

Abundant parking is available near the Convention Center. A covered pedestrian sky bridge, one block away, connects Locust Street Garage over Henley Street. There are additional pay lots within walking distance, as well as free sites.

# **Sales Tax Information**

The combined sales tax rate for Knoxville, TN is 9.25%. This is the total of state, county and city sales tax rates. The Tennessee state sales tax rate is currently 7%. The Knox County sales tax rate is 2.25%. Knoxville sales tax rate is 0%.

• Take in a 360-degree view from the Sunsphere: Visit Knoxville's iconic skyline feature (free to the public daily)! Must Eat Breakfast at Pete's Coffee Shop: Located on Union Avenue, just off Market Square.

• **BBQ** at Sweet P's Downtown Dive: If the weather is nice, opt for the patio (closed Mondays).

Anything at Balter Beerworks: Once a gas station, now one of Knoxville's many breweries offering an amazing menu.

• Ice Cream at Phoenix Pharmacy or Cruze Farm: Both conveniently located on Gay Street.

**Taxi**: There are several taxi services waiting outside of the airport's entrance, including 1-n-Only Airport Taxi, AAA Taxi and All Access Taxi. The estimated cost for a taxi between the airport and downtown Knoxville is between \$10 and \$25.

**Trolley:** Free trolleys are available and service downtown Knoxville and the University of Tennessee campus. Trolleys run until 8:00 p.m. on weekdays and 10:00 p.m. on weekends.



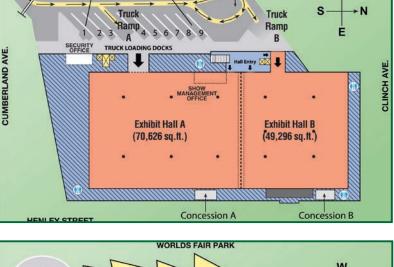


# **Greater Knoxville Knoxville Convention Center Floor Plans**

Underground Loading Docks

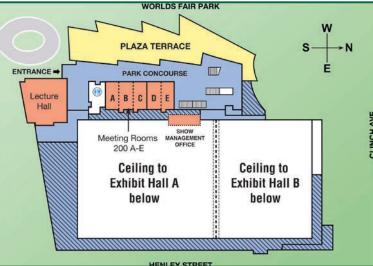
Loading Dock Gate

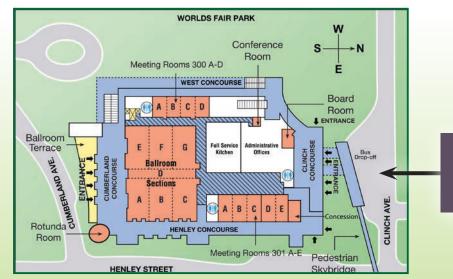
**First Floor** 



Truck Turnaround

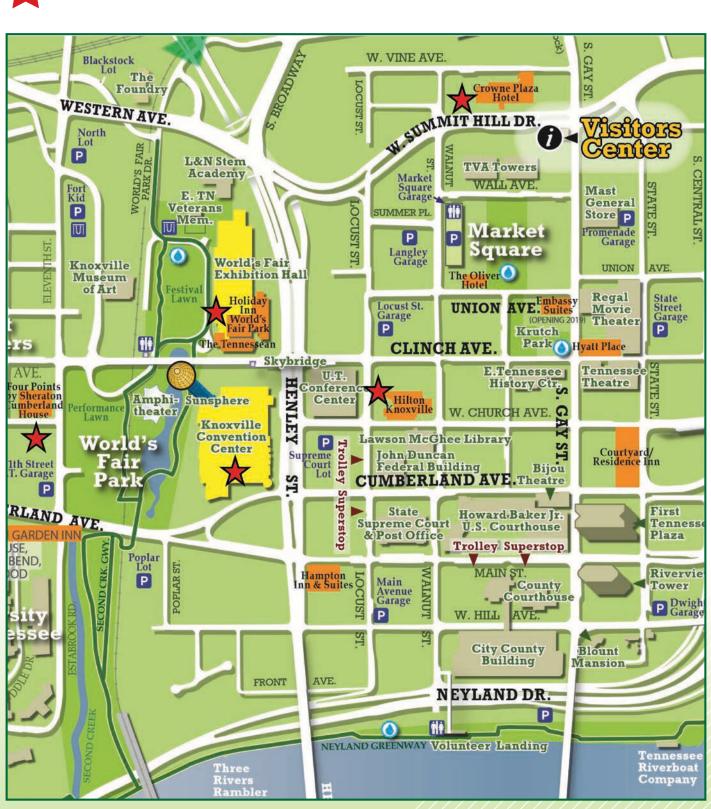
ORLDS FAIR PARK





Main

Entrance



**Second Floor** 

**Third Floor** 



# Map of Downtown Knoxville, TN

# = Conference Hotels and Knoxville Convention Center

# 2018–2019 ISA BOARD OF DIRECTORS



L-R Seated: Paul Johnson (President-Elect 2018 - 2019/President 2019 - 2020), Anne Beard (Vice President 2018 - 2019/President-Elect 2019 - 2020), Pedro Mendes Castro (President 2019 - 2020), Jim Flott (Treasurer 2018 - 2019), Russ Carlson (Secretary 2018 - 2019) L-R Standing: Gail Nozal, Gordon Mann, Skip Kincaid (resigned), Dana Karcher, Tim Wolf, Nicolaas Verloop, Chris Walsh, Cecil Konijnendijk, Scott Prophett, John Gathright

elcome, dear friends, to Knoxville, Tennessee, for the greatest Arboriculture fraternization in the world: the 2019 ISA Annual International Conference and Trade Show, where hundreds of people from across the globe unite to improve our quality of life with the indispensable support of trees.

This year, ISA team members and invaluable volunteers have organized a renewed event to create an even more rewarding experience for all attendees. Our hope is that you will be inspired by the people you meet and the knowledge and best practices you learn.

ISA is continuing to grow and evolve its programs, together with sister organizations like The Arbor Day Foundation, represented here by its President Dan Lambe. We are also expanding our footprint and reaching out to worldwide organizations like the United Nations Food and Agriculture Organization to help humankind face the profound challenge of mitigating the adverse effects of climate disruption, caused largely by our cities where we are experts in growing healthy trees.

Together, our passion and knowledge will lead us to a better future for generations to come.

Thank you all for joining this celebration. Have an amazing time in hospitable and beautiful Knoxville.

**Pedro Mendes Castro** President, ISA Board of Directors

# 2018 – 2019 ISA COMMITTEES

Thank you to those who have served on ISA committees in 2018-2019 The programs and services of ISA would not be possible without the support of our dedicated volunteers.

### **ISA Board Committees**

#### **Executive Committee**

Pedro Mendes Castro (President and Chair), Paul Johnson (President-Elect), Anne Beard (Vice President), Jim Flott (Treasurer), Russell Carlson (Secretary), Caitlyn Pollihan (Executive Director, non-voting)

#### **Finance/Audit Committee**

Jim Flott (Chair), Anne Beard, Kris Josey, Gordon Mann, Mike Marshall, Dave Scharfenberger, John Signorini and Caitlyn Pollihan

#### Governance and Bylaws Committee

Dana Karcher (Chair), Anne Beard, Paul Johnson, Gail Nozal, Scott Prophett

#### Arboriculture and Urban Forestry Editorial Board

Jason Grabosky (Editor-in-Chief), Laurence Costello, William Elmendorf, Francesco Ferrini, Daniel Herms, C.Y. lim, 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, Richard Rathjens, Ellen Vincent

#### **Awards Committee**

Lauren Lanphear (Chair), Del Cressman, Ray Henning, Andrew Hillman, Sharon Jean-Philippe, Alan Jones, de Gourét Litchfield

#### **Credentialing Council**

Norman Easey (Chair), Russell Ball, Adrienne Cadle, Louise Cohn-Still, Craig Johnson, Choi Kingsley, Shane Lanigan, Eric North, Dixie Russell, Philip Ruiz

#### **Conference Program Committee**

Johan Östberg (Chair), Chris Ahlum, Christine Balk, Amy Murray, Eric North, Anand Persad, Jessica Sanders, Aaron Schauer, Iris Magaly Zayas

#### **Hispanic Committee**

de Gourét Litchfield (Chair), Tomás Martínez-Trinidad (Vice Chair), Andrés Vernengo (Secretary), Carlos Anaya, Luis González Osorio, Diana Marchal, Sofia Paredes, Jorge Ismael Polo Abad, Mauricio Ponce-Donoso, Adolfo Sánchez García, Ángela Villademoros, Iris Zayas

#### **International Safety Committee**

John Ball, Edgar Carpenter, Stephen Genua, John Hendricksen, Eduardo Medina, Dwayne Neustaeter, Don Picker, Don Roppolo

ONE TREE

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.

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### International Tree Climbing **Championship Committees**

# **ITCC Operations**

Eduardo Medina (Chair), Jon "Didj" Coles, Phil Kelley, Kasey Krouse (2019 Liaison)

### **Rules Committee**

Warren Williams (Chair), Tim Bushnell, Jon "Didj" Coles, John Gauthier, Doug Sharp, Rip Tompkins

European Tree Climbing Championship Operations de Gourét Litchfield (Chair), Max Broeckmann, Marcin Leszczynski, Frank Rinn, Rip Tompkins, Jan von Hofmann (2019 Liaison)

North American Tree Climbing Championship Operations Philip Ruiz (Chair), John Gauthier, Taylor Hamel, Rose Epperson (2019 Liaison)

Asia Pacific Tree Climbing Championship Operations David lames (Chair), Andy Neverman, Doug Sharp, Chris Walsh (2019 Liaison)

# **Membership Committees**

### **Committee Members**

Jeremy Barrick (Chair), Arnold Brodbeck, Luiz Octavio de Lima Pedreira, Shirley (Shirl) McMayon, Thomas Mugridge, Johan Östberg, lan Scott, 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), Francesco Ferrini, Zhu Ning, Mark Roberts, Jessica Sanders, Jim Zwack, Pedro Mendes Castro (Board Liaison)

# **Past Presidents Committee**

Paul Ries (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 Anand Persad (Chair), Alessio Fini, Richard Hauer, Jake Miesbaue, Johan Östberg, Eric North





Honored Partner



# 2019 LOCAL HOST COMMITTEE

# Thank you to the ISA Southern Chapter

# **S**OUTHERN

Thank you to the ISA Southern 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. Southern Chapter Executive Director Skip Kincaid St. Louis, Missouri, US

Southern Chapter Recent Past Executive Director Dwayne Carter Mount Airy, North Carolina, US

**Committee Chair David Vandergriff** Griff Arbor|Hort Sharps Chapel, Tennessee, US

Assistant Committee Chair Sam Adams University of ennessee Knoxville, Tennessee, US

Exhibits/Sponsorship Coordinator Southern Chapter ISA Mount Airy, North Carolina, US

Hospitality/Decorations Coordinator Andy Pulte, Ph. D. University of ennessee Knoxville, Tennessee, US

**Program Committee Representative Bruce Fraedrich, Ph. D.** Bartlett Tree Experts Charlotte, North Carolina, US Southern Chapter President Jimmy Walters Greenwood, South Carolina, US

ITCC Local Arrangements Coordinator Kasey Krouse City of Knoxville Knoxville, Tennessee, US

Arbor Fair & Expo Coordinators Nicholas St. Sauveur Cortese Tree Specialists Knoxville, Tennessee, US

Robert Corum City of Knoxville Knoxville, Tennessee, US

Mariah Lowery City of Knoxville Americorps Knoxville, Tennessee, US

**Volunteer Coordinators** *Tom Welborn* Trees Knoxville Knoxville, Tennessee, US

Hilary Gallegos Knoxville, Tennessee, US

# Thank you to the 2019 Annual Conference Program Committee



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

**Chris Ahlum** Ahlum and Arbor Tree Preservation Columbus, Ohio, US

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

Wendy Chen University of Hong Kong Hong Kong

**Amy Murray** Integrity Tree Services Crab Orchard, West Virginia, US **Jessica Sanders** Casey Trees Washington, DC, US

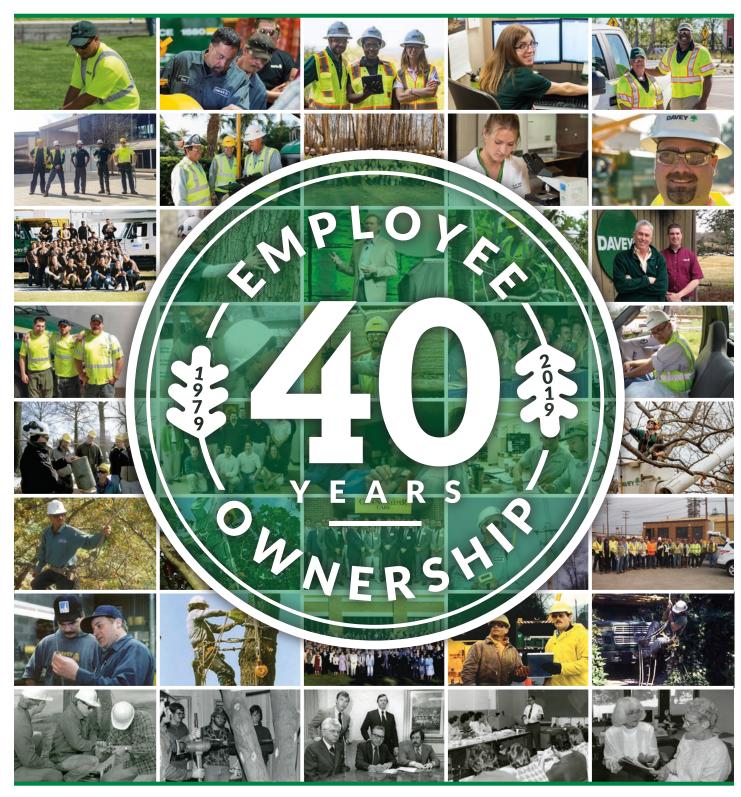
Aaron Schauer Gateway Technical College Kenosha, Wisconsin, US

**Iris Magaly Zayas** USDA Forest Service Atlanta, Georgia, US

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

**Robert Benjamin** Madison, Wisconsin, US

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New – PM 65 w/Jib – 104' Vert Reach **On New Peterbilt Cab-Over 3-axle** SG-280 Grapple Saw, Remote w/Top seat, Cont rotation, 4-stab's, 18.5' Steel Deck, 380 hp Cummins, Allison Automatic, Loaded Ready to Work - \$ 4,510 / MONTH\*

\*Lease payment estimates are in USD, based on 15% down payment, 7 year lease with 20% residual at 5.50% Interest Rate for US based customers and on New Equipment only - OAC. State tax is extra. Call or Email our Sales Dept for Details

# Visit our Booth #509 at ISA Expo 2019 - Aug 11 to 13, 2019 - Knoxville, TN View the PM 100 and Pm 48.5 Grapple Saw Tree Removal Video on our web site or YouTube



ves the right to make changes in engineering, design and specifications; add improvements; or discontinue manufacturing at any time without notice or obligation. Equi only and may display optional accessories or components specific to their global region. Please contact your local Vern neer dealer for mor arks of Vermeer Manufacturing Company in the U.S. and/or other countries. Vanguard is a trademark of Briggs & Stratton Corporation. © 2019 Vermeer (

standard four-wheel drive and the optional front blade, this model is the full package for stump cutting from start to finish.

Notes

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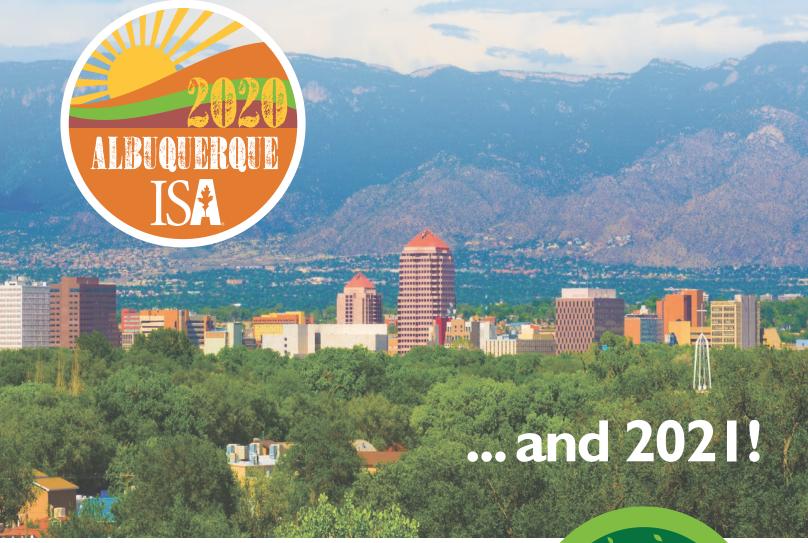


New – PM 100 w/Jib – 126' Vert React On New Western Star 4800 4-axle SG-280 Grapple Saw, Radio Remote, Lifting winch to end of jib, 5th wheel w/removable 16' Deck, 470 hp, Auto 18 spd, Loaded Ready to Work - \$ 5,980 / MONTH\*



# See you in 2020

Join us in Albuquerque, New Mexico, 9 – 12 August 2020, for the **ISA Annual International Conference and Trade Show ... with ITCC and Arbor Fair**, 7 – 9 August 2020.







Mark your calendars for the **ISA International Conference and Trade Show**, Malmo, Sweden, 12 – 15 September 2021... with ITCC and Arbor Fair, Copenhagen, Denmark, 10 – 12 September!