

# THE BUCKEYE Arborist

○ VOLUME 50, NO. 1    ○ JANUARY/FEBRUARY    ○ 2019

*Ohio Chapter International Society of Arboriculture*  
[www.ohiochapterisa.org](http://www.ohiochapterisa.org)



## Meet the Member



Meet Robert (Bobby) Hammond from Cincinnati. Bobby received one of the Ohio Chapter's scholarships in 2018.

Bobby is an assistant grower at Diefenbacher Greenhouses where their mission, since their beginning in 1983, is to provide customers with the finest quality plant material and delivery service. Diefenbacher is a supplier of annuals and creative green goods to garden centers and

landscapers primarily in the Cincinnati area.

Bobby is pursuing a bachelor in horticulture at the University of Cincinnati. He is doing well in his studies but, like most young students, he struggles financially. Bobby was awarded \$1,000 toward his education as a traditional student scholarship recipient.

When Bobby applied for a job at a local garden center, he could not distinguish an oak from crape myrtle, but the company gave him a shot. He enjoyed the work and likes learning about plants which developed his passion today. He has two favorite trees, *Cryptomeria japonica* because the name is fun to pronounce and *Juniperus virginiana* because the tree is native, very tough, and adaptable.

As you can imagine, his biggest challenge today is juggling work and school. There are times where he does not believe he is the best employee he could be nor does he think he's the best student he could be. However, he enjoys working in this industry and is excited to make it his career. He likes being in a profession where he can be outdoors to work with nature and help sustain the environment. He also likes having new information to learn each day; there are millions of plants which all differ in certain regards. The learning may never end!

*cont. on page 2*

## President's Branch

By Eric Davis



This is my final installment of the "President's Branch" as I soon will be passing the gavel to Tyler Stevenson. While I still will be involved for another year as past president, my role and responsibilities will decrease.

The past several years has been a whirlwind for me. I would not have survived without the support of some very special people. I cannot overstate my appreciation for the Ohio Chapter's management team. The Chapter's finance committee has been an area where potential pit falls existed for me. This certainly isn't an area of my expertise. Treasurer Tom Munn has steered this portion of the Chapter for many years. Without Tom's hard work and diligent leadership, my tenure would have been much harder. Tom is a consummate professional and my appreciation for his hard work could not go without mention. He will be retiring from The City of Hudson and from his Ohio Chapter duties in February. The Ohio Chapter wouldn't be what it is today without Tom's years of dedicated service. Please make sure to take a minute to thank Tom for all his hard work when you see him at the Ohio Tree Care Conference in February!

The Ohio Chapter ISA is a successful and thriving organization. My goal when elected was not to harm the positive momentum the Chapter had going. As I step away from my role as president, I hope we have continued the Ohio Chapter on a positive trajectory.

I have definitely benefited from my involvement with the Chapter. Not only has it improved my professional skills at management and finance, but personally I have gained many friends that will last a lifetime. Being involved with the Ohio Chapter was far more rewarding than I ever imagined when I first stepped on board. I want to thank you for the opportunity to be involved with this wonderful organization.



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# THE BUCKEYE ARBORIST

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## Articles

Submit articles in Word format to the Editor at [info@OhioChapterISA.org](mailto:info@OhioChapterISA.org) for consideration. All articles are subject to technical review. Accepted articles may be edited for brevity, clarity and adherence to Chapter requirements and standards. Submissions must contain original work.

An ISA Certified Arborist in good standing may receive CEUs for work published in *The Buckeye Arborist*.

## Advertising

Acceptance and publication of advertisements, editorial copy or product announcements do not necessarily imply Ohio Chapter ISA's endorsement of said products or techniques, nor does it reflect the opinion of the Chapter regarding any such product or technique. *The Buckeye Arborist* reserves the right to refuse any advertisement that is deemed unsuitable for publication.

For advertising reservations and material deadlines, rates and data – as well as other Ohio Chapter ISA sponsorship and messaging opportunities – please contact the Ohio Chapter at [info@OhioChapterISA.org](mailto:info@OhioChapterISA.org).

## Ohio Chapter ISA

The **Mission** of the Ohio Chapter International Society of Arboriculture is to advance responsible tree care practices through research, technology and education, while promoting the benefits of trees.

The Ohio Chapter **Values** investing in the future of professional arboriculture through education, research, safety and communication, while maintaining integrity and credibility.

### *Meet the Member Cont. from page 1*

Bobby has his skid steer certification and hopes to one day be an ISA Certified Arborist and Ohio Certified Nursery Technician. He enjoys playing basketball with friends and taking long walks in the park with his girlfriend. The one thing most people don't know about Bobby is that he is superstitious. He wears lucky bracelets, has a lucky pencil and bookbag, and of course, a lucky hat.

We hope you enjoyed getting to know Bobby Hammond.



# Education Grant Deadline March 15

Established in 2012 within the Tree Research & Education Endowment Fund (TREE Fund), the Ohio Chapter International Society of Arboriculture Education Grant Program funds arboricultural education programs or projects within the state of Ohio. The purpose of this grant is to increase the public awareness of and support the advancement of knowledge in the field of arboriculture and urban forestry to benefit people, trees and the environment. The grant application process is open to 501(c)(3) organizations including, but not limited to, arboretums, public gardens, high schools, vocational schools, two-year colleges and four-year colleges which serve a target population of 16 years of age or older.

Successful grant applications must:

- Relate to arboriculture, urban forestry or related disciplines
- Serve a target population of 16 years of age or older
- Include a hands-on, interactive or experiential component
- Include a sound evaluation component to demonstrate program outcomes and impact

The grant application process is open to non-profit, charitable, municipal or educational organizations that can demonstrate tax-exempt status, are not engaged in partisan political or religious activity, and whose mission is consonant with TREE Fund's charitable purpose, including but not limited to, arboretums, public gardens, high schools, vocational schools, two-year colleges and four-year colleges which serve a target population of 16 years of age or older.

Previous recipients include:

- 2012 – Tree Germplasm Outreach at Sequest Arboretum
- 2013 – Environmental Tree Awareness Curriculum at Hiram College
- 2014 – Learning Communities Enhancing Urban Forest Communities at Hiram College
- 2015 – Tree Training Intensives at Cuyahoga river Restoration
- 2016 – Forest Immersion XP Camp at Holden Forest & Gardens
- 2017 – Columbus State Community College Arboriculture Education Expansion & Tree Care Academy Project
- 2018 – Setting Young People up for a Future in Arboriculture through the Kent Roosevelt High School Forestry & Landscape Management Program

Projects are expected to be completed within one year. **One \$5,000 grant will be awarded annually.** No project may receive more than one award from this program within a two-year period. Please note that funds cannot be used to pay for overhead expenses or student tuition and fees.

**Applications are accepted January 15 to March 15.** For more information or to apply visit <http://www.treefund.org/grants/education-program-grants/ohio>.

## Mark Your Calendar

**January 22-24**  
Indiana Arborist Association Annual  
Conference  
Indianapolis, IN

**February 4, 11, 18**  
Winter Tree Identification  
Hamilton, OH

**February 7**  
Tri-State Green Industry Conference  
Sharonville, OH

**February 19-22**  
ASCA 2019 Consulting Academy  
Seattle, WA

**February 21-22**  
Kentucky Arborist Association  
Annual Conference  
Boone County, KY

**February 24-26**  
Ohio Tree Care Conference  
Sandusky, OH

**February 24-March 1**  
SMA Municipal Forestry Institute  
Silverton, OR

**February 25**  
ISA Certification Exams  
Columbus, OH

**March 8-May 10 (Fridays)**  
Order of Bloom Study Workshop  
Hamilton, OH

**April 12**  
Oak Wilt Seminar  
Cincinnati, OH

**April 13**  
Ohio Tree Climbing Championship  
Cincinnati, OH

**April 17, 24, May 1, 8**  
Certified Arborist  
Preparation Course  
Columbus, OH

**May 15**  
ISA Certification Exams  
Columbus, OH

**September 9-12**  
Certified Arborist Preparation Course  
Columbus, OH

**September 13**  
ISA Certification Exams  
Columbus, OH

Visit [www.OhioChapterISA.org/Events](http://www.OhioChapterISA.org/Events) for complete details on each event.

# Branching Out

As you know, an ISA credential enables the public the opportunity to make an informed selection of services based on the knowledge and advanced training you demonstrate as a credential holder. Displaying your ISA credential helps consumers identify you as a knowledgeable, experienced tree care professional who is committed to properly caring for and maintaining their trees.

The Chapter receives phone calls and emails from consumers searching for a qualified tree care professional. Consumers are directed to TreesAreGood.org where the search starts with selecting their country. It is a great site with lots of information; however, the search is cumbersome.

This year, the Chapter will focus on a new state-wide search program linked to our consumer site, Trees4Ohio.org. We want to make it easier for consumers to search their area for professional care provided by an Ohio Chapter member. If you are available for hire, take time to update your profile in the new Chapter database. Search options include air excavation services, appraisals, brush removal, consulting, diagnostics, fertilization, land clearing, landscaping services, mulching, plant health care, pruning, removal, tree moving, tree risk assessment, and so much more. Visit www.OhioChapterISA.org and Login (located in the upper righthand corner) then select Services Offered to be included in the search. While you are there, make sure your address, telephone number, etc. are current. If you forgot your password or you are new to the site, an automated 'Forgot My Password' utility will send a new temporary password to your email address on file.

**Do not miss this opportunity to add great value to your Chapter membership.**



# Enjoy Numbers?

## We Need You!

The Chapter's finance committee is an integral part of our organization. The committee consists of four board members and one additional member preferably with a financial background who may or may not be a Chapter member but is familiar with the green industry.

Following many years of service to the Chapter, treasurer Thomas Munn has decided to retire from both the Chapter and the City of Hudson. Greg Mazur with Davey Tree also brought a wealth of information and investment knowledge to the committee as an additional member. Greg has also decided to retire.

The Committee has a monthly one-hour teleconference call with the duty of reviewing financial reports, setting the budget, developing policies and procedures. If you or someone you know would be a good fit for the Finance Committee, please contact the Chapter at info@OhioChapterISA.org or call (614) 771-7494. Isn't it time you stepped up to the plate?!

**We are honored to recognize the following individuals who recently received new credentials. Congratulations to all!**

### ISA CERTIFIED ARBORIST

- |                             |                            |
|-----------------------------|----------------------------|
| Joseph Alexander, Hillsboro | Kenneth Kaufman, Massillon |
| David Cornet, Columbus      | Caleb Miller, Paulding     |
| Ryan Goddard, Lisbon        | Corey Pangborn, Hilliard   |
| Katelyn Johnson, Columbus   |                            |

### TRAQ

- |                               |                                 |
|-------------------------------|---------------------------------|
| Ian Artman, Rock Creek        | Matt Maibach, Rittman           |
| Jason A. Douglas, Columbus    | Jeffrey Ryan Scott, Medina      |
| Matthew C. Guthrie, Dublin    | David J. Tidd, Mount Gilead     |
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# Dollar\$ and \$en\$e

By Thomas Munn, Treasurer

## Sustainability

The sustainable yield of resources is the profit that can be harvested without reducing the initial base of capital (investment or intrinsic value). Sustainable yield is the surplus (profit) created by the ecosystem over a period of time. Sustainable yield may fluctuate during times of crisis when the forest struggles (California extended drought, forest fires, mountain pine beetle, emerald ash borer). Problems and challenges occur. When this happens, the sustainable harvest will be less.

In forestry, urban forestry, utility forestry, and commercial forestry, we manage the resource. Hopefully we add to the ecological capital (resource) as we add to our financial capital. Our business is staying in business, adding to the business, growing the business.

The Ohio Chapter has enjoyed a sustainable harvest of \$14,408.00 each year since July 2012. Yes, market challenges and volatility occur, but a total harvest of \$93,650.00 (Merrill Lynch December 2018) from Chapter investments has funded our activities.

Urban forestry also profitably provides a sustainable yield. The 250-some Ohio Tree City USA's fill out a year end report that calculates how many dollars per capita are spent on urban forestry. We SHOULD BRAG about our numbers like an 800+ good credit rating score. The City of Hudson spent \$16 per capita on urban forestry in 2018. So, if a resident asks, "Do you know how much I spent on taxes for your work?" Yes, I do; \$16 a year. I also know the sustainable yield or profit on your investment. Using my tree inventory and STRATUM / I Tree Tools, my calculated cost benefit ratio for 2018 urban street trees is a forty-seven (47%) return on investment. So, for your \$16 of 2018 tax, the Hudson urban forest returned \$7.52, for a value year-end of \$23.52. We improve your world, one mature shade tree at a time.

## Detective Dendro

Diagnosing tree health problems with the help of a fictional detective was fun. Diagnosing financial problems takes detective work, too. Fortunately, the Chapter has years of budget history to look back on and compare. I look for trends in revenues and expenses based on past performance, a kind of "where's Waldo?" Why were revenues down in this area compared to the last two years? Why are expenses so high for this event? If the budget is increased for this endeavor, will the revenues cover the expense? How can I make this better?

## Help Wanted

The Chapter's Finance Committee has the rare opportunity to see how the Chapter works from the inside out. Arborists have a unique way of viewing balance sheets, profit and loss summaries, and annual budgets. It is rewarding to work with such a wide variety of interesting arborists. Please send an email to [info@OhioChapterISA.org](mailto:info@OhioChapterISA.org) or call (614) 771-7494 and volunteer for a stint. It will add to your skill set and knowledge base. I suppose the hidden secret is that if you would like to be on the Board of Directors and not have to go through the election process, volunteer to be the Chapter Treasurer today! It is an appointed position.

## Rewards

I tended to have tunnel vision as I focused on my small-town urban forestry, not knowing about all the various exciting new areas arborists are exploring. New technologies and opportunities include new Chapter marketing and the bigger picture from our international representatives. I can honestly say that I gained more in perspective than I gave in effort as treasurer. It is a volunteer position, but with benefits.

## Advancing Arboriculture

It is obvious that the Ohio Chapter ISA is one of the best chapters in terms of membership, TREE Fund support, length of operation, and value to its members. The supercharged V8 engine that drives the Chapter has been and will be the Ohio Tree Care Conference. As an arborist, you add value when you attend and confer with your colleagues. Please encourage your co-workers and colleagues to attend wherever or whenever the Ohio Tree Care Conference takes place.

## A Better Place

2018 saw organizational improvements to help general operations and member services. Our association management company changed from Epicenter who managed many associations and was three time zones away to our existing executive director and past administrative helpers that have served us for many years. So, we have the benefit of proven experience with a more focused and local Ohio management team.

Our new and improved website at [www.OhioChapterISA.org](http://www.OhioChapterISA.org) now provides the ability for quick edits and up to date changes. More value and more service! Check it out!



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# Ohio Tree Care Conference

Hundreds of tree care professionals from throughout the state will gather in Sandusky, February 24-26, for the 2019 Ohio Tree Care Conference (OTCC). Certified arborists have an opportunity to collect 18 ISA continuing education units for attending all three days of the conference.

There's a special group hotel rate of \$119 per night plus applicable taxes (Sunday-Wednesday) available by calling Kalahari at (877) 525-2427. Make sure you mention the Ohio Tree Care Conference to receive the group discount. Bring the family on Saturday to enjoy the waterpark; room rate \$169 plus applicable taxes. Rooms are available on a first come, first serve basis. The group rate cut-off, based on availability, is January 23.

Education includes special tracks for climbers, commercial/residential specialist, municipal employees, and utility professionals. Sunday features an all-day ISA Certified Arborist Review Course designed to provide a quick review for individuals interested in obtaining their ISA Certified Arborist designation or sitting for the exam on Monday. This all-day course is also a great refresher for the seasoned tree care professional who is looking to brush up on their skills and collect ISA credits.

Sunday afternoon offers a special general session with keynote speaker, Dr. John Ball. A professor of forestry at South Dakota State University, Dr. Ball also serves as the extension forestry specialist.

For quality time with industry suppliers, don't miss the grand opening of the exhibit hall on Sunday evening. Visit the Chapter's website to register using our secure on-line credit card processing system.

## OTCC Program

### Sunday, February 24

#### **8:00 am – 5:00 pm** Arboriculture Plus / Certified Arborist Review Course

##### **8:00 am - 9:00 am** **Tree Biology & Tree Identification**

Presenter: Chad Clink, Bartlett Tree Experts

How trees are assembled and function as organisms is a critical part of good arboricultural care. Whether you are a weathered veteran tree or young seedling sprouting in the industry, this session will provide new or refreshing information on tree biology. Being able to identify your patient, or in this case tree species, will also be covered. You cannot provide quality tree care without knowing the species in need of your expertise!

**Available Credits: ISA A-1, U-1, M-1, Bs-1, Bp-1, TWc-1, TWa-1; Pesticide CORE-1**

##### **9:00 am - 10:00 am** **Soil Science and Water Management**

Presenter: Andrew Freeman, Ohio University Zanesville / Zane State College

Overview of what is trending in plant soil science and water management using sound scientific practice rooted in industry standards.

**Available Credits: ISA A-1, M-1, Bs-1**

##### **10:00 am - 11:00 am** **Tree Nutrition, Fertilization and Tree Selection**

Presenter: Andrew Freeman, Ohio University Zanesville / Zane State College

Effective nutrient management for trees begins with an understanding of their natural habitat and how trees obtain their mineral nutrients. Built to thrive in nature, trees draw life from nutrient dense soil, plentiful water, and interactions with wildlife. As such, growing trees in an urban environment may be a challenge, as essential nutrients may not naturally occur. The importance of tree selection – selecting the right tree for a particular site – is one of the most important decisions to ensure long-term benefits, beauty and satisfaction. Key terminology and definition as related to tree nutrition/fertilization and tree selection will also be reviewed.

**Available Credits: ISA A-1, M-1, Bp-1**

##### **11:00 am - 12:00 pm** **Tree Installation/Establishment & Pruning**

Presenter: Andrew Petrarca, Petrarca Landcare, Inc.

Overview of proper tree installation, establishment, and tree pruning.

**Available Credits: ISA A-1, M-1, Bp-1**

##### **12:00 pm - 12:30 pm** **Lunch provided for participants in this all-day session.**

##### **12:30 pm - 1:30 pm** **Diagnosis and Plant Disorder, Plant Health Care**

Presenter: Jim Chatfield, Ohio State University Extension

Overview of the latest trends in plant diagnosis, plant disorder and plant health care in today's industry.

**Available Credits: ISA A-1, M-1, Bp-1; Pesticide 6A-1**

*OTCC continued on page 8*

- 1:30 pm – 2:30 pm**    **Tree Support/Lightning Protection, Climbing and Working in Trees**  
Presenter: Brian Kralovic, LaRoche Tree Service  
Overview of tree support, lightning protection, climbing and working in trees.  
**Available Credits: ISA A-1, M-1, Bp-1, TWc-1, TWa-1**
- 2:30 pm – 3:30 pm**    **Tree Risk Assessment, Risk Management, and Trees and Construction**  
Presenter: Steve Cothrel, City of Upper Arlington  
Overview of tree risk assessment, risk management, and trees and construction based on the ISA Certified Arborist Study Guide.  
**Available Credits: ISA A-1, M-1, Bm-1, TWc-1, TWa-1**
- 3:30 pm – 4:15 pm**    **Urban Forestry**  
Presenter: Thomas Munn, City of Hudson  
Overview of key elements and components of urban forestry practices and methodology.  
**Available Credits: ISA A-.75, M-.75, Bp-.75**
- 4:15 pm – 5:00 pm**    **Tree Worker Safety and First Aid**  
Presenter: Roy Montan, Davey Tree Experts  
Overview of tree worker safety and first aid.  
**Available Credits: ISA A-.75, U-.75, M-.75, Bm-.75, TWc-.75, TWa-.75; CTSP-.75**
- 1:30 pm – 5:00 pm**    **General Session: The New Z: Paragraphs to Live By**  
Presenter: Dr. John Ball, South Dakota State University  
The new Z133 is out and with it, numerous changes in how we perform our arboricultural operations. This session will cover the key changes and incidents that can be prevented if “the Z” is followed.  
**Available Credits: ISA A-3.5, U-3.5, M-3.5, Bm-3.5, TWc-3.5, TWa-3.5; CTSP-3.5**
- 5:00 pm – 7:00 pm**    **Trade Show Grand Opening**

OTCC continued on page 9

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**Monday, February 25****8:00 am – 4:00 pm Trade Show Open****9:00 am – 10:30 am Keynote Presentation: The 5% Solution to Diversity in the Urban Forest**

Presenter: Dr. John Ball, South Dakota State University

ALB, DED, EAB, SOD and TCD are just part of the alphabet soup of current threats to the urban forest. We were all taught that the 10-20-30 “rule” was the criteria for diversifying our landscape and reducing the impact of exotic threats. But it’s not enough. Instead we need to rely more on genera, not species diversity. This presentation will cover the importance of general diversity and what genera we should be expanding use and why.

**Available Credits: ISA A-1.5, M-1.5, Bs-1.5; Pesticide 6A-1, 4A-5****11:00 am – 12:00 pm Static vs. Dynamic Cabling Systems: Looking at where, when & why to install Each (Climbers’ Corner)**

Presenter: Phillip Kelley, Featuring North American Training Solutions

A comprehensive look at the purpose of cabling a tree and which system best fits each possible need of the tree. From structural support of weakened unions to wind dampening and supporting abnormal growth structure. We will look at system construction and installation practices to make sure the system fits the tree.

**Available Credits: ISA A-1, M-1, Bp-1, TWc-1, TWa-1****11:00 am – 12:00 pm The Rise of the Machine (Commercial Track)**

Presenter: Dr. John Ball, South Dakota State University

It’s hard to imagine a time when we did not have lightweight saws, chippers, and aerial lifts. These are all tools that have made our work easier and safer. However, this only applies if these tools are used and maintained properly. This session will cover some of the basics.

**Available Credits: ISA A-1, U-1, M-1, Bm-1, TWc-1, TWa-1; CTSP-1****11:00 am – 12:00 pm Sidewalk Repair and Enforcement (Municipal Track)**

Presenter: Steve Cothrel, City of Upper Arlington

Learn how an arborist was chosen to manage a city-wide sidewalk maintenance program. We will discuss the program’s organization and operation as well as the challenges and solutions to tree and sidewalk conflicts.

**Available Credits: ISA A-1, M-1, Bp-1****11:00 am – 12:00 pm Success Begins with Safety (Utility Track)**

Presenter: Mimi Rose, Ohio State University Extension

To many people, “successful pesticide application” probably implies an effective application, but safety is the cornerstone of every successful arborist practice. In this update we’ll discuss how to lower the risk to you, the environment, and others when using pesticides, and we will address some current issues for pesticide applicators.

**Available Credits: ISA A-1, U-1, M-1, Bm-1; CTSP-1; Pesticide CORE-1****12:00 pm – 1:30 pm Lunch with Exhibitors****12:30 pm – 4:00 pm ISA Certification Exams****1:30 pm – 2:30 pm Aerial Rescue & Emergency Response Part 1 (Climbers’ Corner)**

Presenter: Phillip Kelley, Featuring North American Training Solutions

Review emergency response planning and define the 5 steps in a rescue. Discuss first aid practices and CRN. Demonstrate and practice techniques for MRS and SRS climbing systems.

**Available Credits: ISA A-1, U-1, M-1, Bm-1, TWc-1, TWa-1; CTSP-1****1:30 pm – 2:30 pm Injuries Related to Tree Care (Commercial Track)**

Presenter: Deb Bailey, Ohio Bureau of Workers’ Compensation

Learn about injuries that the Ohio BWC has seen as it relates to tree care workers.

**Available Credits: ISA A-1, U-1, M-1, Bm-1, TWc-1, TWa-1; CTSP-1****1:30 pm – 2:30 pm Bat Management in the Urban Forest (Municipal Track)**

Presenter: Levi Miller, Ohio Department of Natural Resources/DNAP Boch Hollow

Bats: A guide to the myths and facts of Ohio’s most misunderstood mammal. Brief natural history of bats in Ohio with up to date population status resulting from White Nose Syndrome. A discussion of the importance of bats to local communities, not only environmental but direct economic benefits as well, and ways urban forestry can benefit bats.

**Available Credits: ISA A-1, M-1, Bp-1; Pesticide 7-1***OTCC continued on page 10*

- 1:30 pm – 2:30 pm    How My Career Almost Ended (Utility Track)**  
Presenter: Keith Pancake, ACRT, Inc.  
A first-person account in which Keith reflects on his accident that occurred after a major New England winter storm, which led to the eventual loss of his arm. Keith takes a deep dive into the small, intangible events that can mean the difference between a life-altering injury and going home safe each day.  
**Available Credits: ISA A-1, U-1, M-1, Bm-1, TWC-1, TWa-1; CTSP-1**
- 1:30 pm – 2:30 pm    Aerial Rescue & Emergency Response Part 2 (Climbers' Corner)**  
Presenter: Phillip Kelley, Featuring North American Training Solutions  
Part 2 – Continued review of emergency response planning and defining the 5 steps in a rescue. Discuss first aid practices and CRN. Demonstrate and practice techniques for MRS and SRS climbing systems.  
**Available Credits: ISA A-1, U-1, M-1, Bm-1, TWC-1, TWa-1; CTSP-1**
- 2:30 pm – 3:30 pm    ODOT Tree Work Zone Traffic Safety Controls (Commercial Track)**  
Presenter: Scott Lucas, Ohio Department of Transportation  
This presentation will be very beneficial to those who are looking to gain a better understanding or enhance their skill sets of Tree Work Zone Safety Controls.  
**Available Credits: ISA A-1, U-1, M-1, Bm-1, TWC-1, TWa-1; CTSP-1**
- 2:30 pm – 3:30 pm    You Can Take the Tree Out of the Forest, But Not the Forest Out of the Tree (Municipal Track)**  
Presenter: Dr. John Ball, South Dakota State University  
We call it the urban forest, but it has very little resemblance to how a forest ecosystem functions. This session will chronicle the lives of two trees, one growing in the forest and one in the urban forest, to illustrate the numerous stresses “city life” imposes on trees, stresses they have not evolved to expect. The session will also discuss what we can do to help reduce these stresses.  
**Available Credits: ISA A-1, M-1, Bp-1**
- 2:30 pm - 3:30 pm    Herbicide Innovations and Stewardship (Utility Track)**  
Presenter: David Kraus, Asplundh  
Herbicides have been an integral tool for vegetation management for over 60 years. Innovations with chemistry and application techniques provide vegetation managers with many options to achieve their goals while promoting environmental stewardship. Research has shown that utilizing best management practices of integrated vegetation management, make rights-of-way corridors excellent habitat for many animals, especially pollinators. Creating early successional habitat also aligns vegetation management practices with sustainability objectives. It also serves to combat unnecessary regulatory burdens that could have a negative impact of this important tool for maintaining rights-of-way infrastructure. Environmental benefits for pollinators and other wildlife can be achieved utilizing herbicides in a prescription program approach to vegetation management.  
**Available Credits: ISA A-1, U-1, M-1, Bm-1; Pesticide CORE-1**
- 4:00 pm – 5:00 pm    Historic Tree Preservation Techniques (Climbers' Corner)**  
Presenter: Phillip Kelley, Featuring North American Training Solutions  
In this session Phillip will share results and lessons learned while working with Historic Greenwood Cemetery on a 2-year ongoing study on pruning techniques for historic trees. We will look at climber safety and risk mitigation through tree response to techniques such as retrenchment and re-fracture pruning as well as creative options for cabling and bracing.  
**Available Credits: ISA A-1, U-1, M-1, Bp-1, TWC-1, TWa-1**
- 4:00 pm – 5:00 pm    The Tree Risk Assessment Process - Taking It To the Next Level (Commercial Track)**  
Presenter: Alan Siewert, Ohio Department of Natural Resources  
Historically, arborists identified a defect in a tree as a hazard and condemned the tree without considering the consequences. The new tree risk assessment process used in ISA TRAQ evaluates not only the defect and its probability of striking the target but also the consequences that follow. The new process allows arborists to provide valid risk ratings in line with the risk assessment industry including the insurance and the legal industry. Alan will discuss the process and how it can be used.  
**Available Credits: ISA A-1, M-1, Bm-1, TWC-1, TWa-1; CTSP-1**
- 4:00 pm – 5:00 pm    Selling, Designing, Installing and Maintaining Streetscapes (Municipal Track)**  
Presenter: Richard Webb, Logan Tree Commission  
At the recommendation of our America In Bloom evaluation we removed sections of our 15 foot wide sidewalks in our downtown. These sections have been planted with trees, shrubs and flowers. I will discuss how we did this and the positive economic impact this has had on Logan and on other communities that have done similar projects.  
**Available Credits: ISA A-1, M-1, Bp-1**

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**4:00 pm – 5:00 pm Leadership, Unlocking Your Teams Greatest Potential (Utility Track)**

Presenter: Robert Flores, PennLine Services

In today's competitive market, every company, large and small, is or should be actively searching for that which will set them apart from their competition. If your company invests its energy into the development of its leaders, they will reap the rewards of time and money well spent. It has been said that leadership is the "key to success". If you put forth the effort and energy necessary to develop your team, then and only then will your team truly be among the greats. This presentation is designed to motivate and inspire individuals to not only achieve their goals, but to perform beyond expectations. The process of team building will be identified and explained throughout the program, shining a spotlight on some of the world's greatest motivational teachers and their time-tested methods.

**Available Credits: ISA A-1, U-1, M-1, Bm-1; CTSP-1**

**5:00 pm – 5:30 pm UAA Member Meeting**

**Tuesday, February 26**

**7:30 am – 9:00 am Annual Member Meeting Breakfast**

**9:00 am – 1:00 pm Trade Show Open**

**9:30 am – 10:30 am Evolution of Modern Tree Climbing Part 1 (Climbers' Corner)**

Presenter: Phillip Kelley, Featuring North American Training Solutions

Looking at systems and techniques that have had the greatest impact in our industry over the last twenty years. Discuss how the changes have occurred and what has driven the change. Also look at how products come to the market and how climbers help evolve and influence change.

**Available Credits: ISA A-1, U-1, M-1, Bp-1, TWc-1, TWa-1; CTSP-1**

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**9:30 am – 10:30 am Tree Defects and What Do They Mean To You (Commercial Track)**

Presenter: Alan Siewert, Ohio Department of Natural Resources

So, there's a defect in that tree, what does it mean to you as a climber, as an arborist or as an urban forester? Whether it's your life or the life and property of your customer or resident, arborists are asked to interpret tree defects and determine how bad they are. Alan will discuss the common tree defects observed in the urban forest and what it means to the tree and the people and property around it.

**Available Credits: ISA A-1, U-1, M-1, Bm-1, TWc-1, TWa-1; CTSP-1**

**9:30 am – 10:30 am Managing Non-Native Invasive Species in Urban Areas (Municipal Track)**

Presenter: Joe Puperi, Advanced Tree Health, Ltd.

Concepts from forest management known to be effective at controlling invasive species; after a brief overview of why National Nosocomial Infections Surveillance System (NNIS) degrades the quality of even small "wild areas" within urban settings.

**Available Credits: ISA A-1, U-1, M-1, Bp-1; Pesticide 6A-5, 4A-5**

**9:30 am – 10:30 am Circuit Reliability Improvement (Utility Track)**

Presenter: Virginia Bowman, The Illuminating Co.

This presentation will discuss the results of several small studies, specifically the electrical reliability results, of several tree pruning methods, the tree reliability results associated with several electrical system design plans and upgrades, and the challenges associated with each project.

**Available Credits: ISA A-1, U-1, M-1, Bm-1**

**9:30 am – 10:30 am Evolution of Modern Tree Climbing Part 2 (Climbers' Corner)**

Presenter: Phillip Kelley, Featuring North American Training Solutions

Part 2 will continue to look at systems and techniques that have had the greatest impact in our industry over the last twenty years. Discuss how the changes have occurred and what has driven the change. Also look at how products come to the market and how climbers help evolve and influence change.

**Available Credits: ISA A-1, U-1, M-1, Bp-1, TWc-1, TWa-1; CTSP-1**

**10:30 am – 11:30 am Bucket Truck Safety & Inspection (Commercial Track)**

Presenter: Roy Montan, Davey Tree Experts

Sharing of best safety practices for operation and compliance inspections of bucket trucks and related fall protection for use in the arborist industry.

**Available Credits: ISA A-1, U-1, M-1, Bm-1, TWc-1, TWa-1; CTSP-1**

**10:30 am – 11:30 am Life After Ash: Re-establishing Natives in Spite of Invasives (Municipal Track)**

Presenter: Joe Puperi, Advanced Tree Health, Ltd.

Native arborist – a vacuum. Removing non-native plants without a plan to re-establish more desirable species is a recipe for failure. We will discuss challenges and potential solutions to helping native plants thrive.

**Available Credits: ISA A-1, U-1, M-1, Bm-1**

**10:30 am – 11:30 am Customer Service vs. Customer Experience (Utility Track)**

Presenter: Wes Tregilgas, Wright Tree Service

We will focus on the upcoming disruptions in the utility markets and why the customer has to be at the center of what we do. Whether you are in the utility vegetation management industry or not, attending this session will provide a new way of looking at customer service.

**Available Credits: ISA A-1, U-1, M-1, Bm-1**

**11:30 am – 1:00 pm Lunch with Exhibitors**

**1:00 pm – 2:00 pm ALB Presentation (All Tracks Combined)**

Presenter: Jonathan Shields, Ohio Department of Agriculture, Division of Plant Health

Ohio ALB Program Update

**Available Credits: ISA A-1, M-1, Bs-1; Pesticide 6A-5, 4A-5**

**2:00 pm – 3:00 pm What Can Drones Do for You? (All Tracks Combined)**

Presenter: David Bienemann, City of Hamilton

Discuss the definitions of unmanned aerial system (UAS) or drones. Cover the FAA requirements for UAS or drones. What training is required for the FAA Remote Pilot Certification. Urban forestry and utility forestry applications. New technologies using FLIR (infrared cameras) and multi-spectrum (tree species by chlorophyll).

**Available Credits: ISA A-1, U-1, M-1, Bm-1**

**Legend for CEUs**

ISA credits approved for each session. • A = Arborist • M = Municipal • U = Utility • TWc = Tree Worker-Climber Specialist

• TWa = Tree Worker-Aerial Lift Specialist • B (spm) = BCMA Science, Practice, Management

Program submitted for OCNT and NJTE credits.

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## Meet the Presenters

**Deb Bailey** is a safety consultant with the Ohio Bureau of Workers' Compensation. She has worked for the Ohio BWC since December 2006.

**John Ball, Ph.D.** is a professor of forestry at South Dakota State University, where he also serves as the extension forestry specialist. Dr. Ball earned his masters and doctorate in forest entomology from Michigan State University, where he also taught turf entomology courses. He has a special interest in the relationship between trees and turfgrasses and has consulted with golf courses for more than 30 years in this topic. He currently serves as the education chair for the South Dakota Arborist Association and as a representative for the International Society of Arboriculture on the Z133 committee. Dr. Ball is also on the safety committee for the Tree Care Industry Association (TCIA). He has served on the board for the Midwestern chapter, once in the 1980s again in the 1990s and just recently completed his third term.

**David Bienemann** serves as the municipal arborist/utility forester for the City of Hamilton, Ohio. He is responsible for planning, organizing and directing all activities related to the acquisition, planting and growing of trees on city properties and rights-of-way. David also coordinates and directs the utility line clearance program for the city's electric division. He has partnered with the American Chestnut Foundation on a seed orchard research project and an international pollinator project on transmission rights-of-way. David previously served as the municipal arborist for the City of Bowling Green and the manager of forestry for Ohio Edison Company in Akron. He holds a BS in forestry from Iowa State University and a BS in labor economics from the University of Akron. He is an ISA Certified Arborist, ISA TRAQ, USFS Urban Forestry Strike Team, ODA Commercial Operator License and FAA UAS Remote Pilot Certified.

**Virginia Bowman** is manager of forestry services for The Illuminating Company, a FirstEnergy utility that serves more than 750,000 customers in northeast Ohio. After graduating from Kent State University in 2004, Virginia joined the Davey Resource Group as a transmission forester. Two years later, she took a job with The Illuminating Company in its forestry services department and learned the importance of always being respectful to customers no matter how tough the situation. A key accomplishment was developing and executing a multimillion-dollar project from 2012 to 2014 to proactively remove trees affected by the emerald ash borer before they caused damage to the company's electrical equipment. In 2016, Virginia was honored by and featured in SmartBusiness magazine as one of northeast Ohio's "Progressive Women" of the year. Virginia is an ISA Certified Arborist/Utility Specialist and holds an Ohio Herbicide/Pesticide Applicators license. She has served as a member of FirstEnergy's speaker's bureau since 2012.

**Jim Chatfield** is an associate professor and extension specialist at The Ohio State University Extension. He provides extensive green industry extension workshops throughout the United States. Topics include but are not limited to plant problems, diagnostics, plant materials, plant selection, and plant pathology.

**Chad Clink** works for Bartlett Tree Experts. He has a passion for trees and providing high quality care towards their preservation. As a student at Kent State University studying horticulture, Chad took arboriculture and urban forestry classes refining his career pathway

to the tree care industry. Upon graduating from Kent State with an associate and bachelors' degree in horticulture, Chad worked across the country as an arborist and urban forester providing expertise to various communities. During this time, Chad was able to achieve the ISA Board-Certified Master Arborist and complete his master's degree from the University of Idaho in natural resource management. His most recent accomplishment was becoming a Registered Consulting Arborist with the American Society of Consulting Arborists. Chad is also an ISA Municipal Specialist and Tree Risk Assessment Qualified with the International Society of Arboriculture and a Licensed Commercial Applicator with the Ohio Department of Agriculture.

**Steve Cothrel** is the superintendent of parks/forest for the City of Upper Arlington (29 years). He is responsible for the management of 28 parks and many facilities as well as the urban forestry and horticulture program and the parks capital improvement program. He is an instructor of landscape arboriculture at Columbus State Community College, past president of the Society of Municipal Arborists, and urban forester with Ohio Department of Natural Resources, where he provides comprehensive technical and organizational urban forestry consulting services to local government agencies.

**Robert Flores** with PennLine Services, has 25 years of experience in the arboricultural industry. His current position as an assistant training manager has been both challenging and rewarding. He enjoys helping others to develop the skills that they will need to succeed. He is recognized by the Tree Care Industry Association as a Certified Tree Care Safety Professional and by the ISA as a Certified Arborist.

**Andrew Freeman** is the director of facilities management and campus safety for Ohio University Zanesville and Zane State College. Andrew has been actively involved in the green industry for nearly 30 years. Andrew has a bachelor's degree in landscape contracting from the Pennsylvania State University, Landscape Industry Certified in hardscapes and softscapes from the National Association of Landscape Professionals; a Certified Arborist from the International Society of Arboriculture as well as the Tree Risk Assessment Qualification. Some of Andrew's specialties include large tree transplanting and preservation, specialty pruning of ornamental trees, teaching, project management, tree risk assessments and tree inventory as well as landscape design and installation.

**Phillip Kelley** is a leader of team development at Wright Tree Service and a lead instructor with North American Training Solutions (NATS). In addition, Phillip is a contract climber and owner of Samara Tree Preservation and Training based in Washington state. He has 25+ years in the industry including serving as head judge of the North American Tree Climbing Championship (2014-present) and served as the head judge/technician for multiple ISA chapter tree climbing championships.

**Brian Kralovic** is an ISA Certified Arborist and Municipal Specialist. He was formerly with the City of St. Clairsville, as their city arborist where he managed the city vegetation in the public right-of-ways. He is currently employed by LaRoche Tree Service. Brian is skilled in public speaking, contracting, tree trimming, tree removal, stump removal, storm cleanup and plant healthcare.

**David Kraus** is a technical services manager with Asplundh. He has 41 years in rights-of-way and industrial vegetation management as herbicide applicator, field supervisor, sales, training, marketing manager and now

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currently provides technical service, training and field support across the US for utility, roadside and pipeline rights-of-way on best management practices for integrated vegetation management and arboriculture practices. He has years of experience dealing with the many challenges facing our industry in finding solutions through training (improved knowledge), equipment technology and operational efficiency. David is a Certified Pesticide Applicator (PA & WV), UAA, TREE Fund trustee, Mountain Lake Vegetation Management Council (board member and past president), WV Vegetation Management Council (past president), National Roadside Vegetation Management Association and a member of R.I.S.E. He received the UAA Education Award in 2008 for Industry leadership in providing training in stewardship and Best Management Practices for rights-of-way IVM.

**Scott Lucas** works for the Ohio Department of Transportation (ODOT), Office of Maintenance Operations as the assistant administrator. Job duties include oversight of ODOT's vegetation management program, snow and ice control, maintenance research projects and liaison between district and central office operations. Scott has been employed with ODOT for over 27 years at both the district and central office levels. He is a Certified Public Manager, licensed pesticide applicator and an ISA Certified Arborist.

**Levi Miller**, Ohio Department of Natural Resources, DNAP Boch Hollow, is the regional preserve manager for the southeast district of the natural areas preserves. Since 2011, Levi is a Federally permitted bat biologist.

**Roy Montan** is a senior regional safety specialist with The Davey Tree Expert Company. He has over 29 years of service with the past 13 years in safety. Roy is a Certified Tree Care Safety Professional (CTSP) and a Certified Red Cross First Aid/CPR Instructor.

**Thomas Munn** is the public work superintendent for the City of Hudson. He is an ISA Board-Certified Master Arborist and Tree Risk Assessment Qualified. Tom works to keep the more than 14,000 trees along Hundon's 350 lane miles and the thousands of acres of green space in a safe, healthy condition. He has a wide range of experience in urban forestry.

**Keith Pancake** is operations manager for ACRT, Inc. Responsibilities include development and oversight of utility vegetation management projects for ACRT throughout New England. He manages training and supervision of the team on contract forestry and tree inventory projects, monitors quality and productivity of fieldwork performed by employees and contractors and develops programs for communities and utilities in cooperative vegetation management practices. Keith also manages customer relationships for stability and growth.

**Andrew Petrarca**, Petrarca Landcare, Inc., is an ISA Certified Arborist. He is skilled in cabling/bracing, landscape services, tree pruning, tree protection, pruning and tree removal.

**Joe Puperi**, Advanced Tree Health, Ltd., has a BS in industrial forest operation from Virginia Tech. He spent nearly 20 years as a traditional forester running woodland management. In 2006, he started Advanced Tree Health. He is an SAF certified forester, ISA Board-Certified Master Arborist and Tree Risk Assessment Qualified.

**Mary Ann (Mimi) Rose** received her MS and Ph.D. degrees in horticulture from Penn State University. She has worked as a research scientist for TruGreen Chemlawn, landscape and nursery specialist for OSU, and container nursery manager for Studebaker Nurseries in New Carlisle, Ohio. Currently, Dr. Rose directs the pesticide safety

education program, part of the Ohio State University Extension. This program provides pesticide recertification and new applicator training to approximately 4,000 Ohio applicators every year.

**Jonathan Shields** is a plant health supervisor with the Ohio Department of Agriculture, working on the Asian longhorned beetle cooperative eradication program. His responsibilities include directing survey crews of both contract and internal program staff, handling regulatory issues, and program planning. Jonathan got his start in invasive pest eradication work when the Emerald Ash Borer was discovered in Michigan in 2003. He worked with the Michigan Department of Agriculture in numerous positions, eventually managing program data and planning survey and trapping efforts statewide. Jonathan earned both Bachelor of Science and Master of Science degrees in biology from Bowling Green State University. As a graduate student there, he researched alternate mating strategies in fish and taught introductory environmental science laboratory courses.

**Alan Siewert** is a native of Wisconsin where he earned his Bachelor of Science degree in urban forestry from the University of Wisconsin-Stevens Point in 1984. In 1987 he came to northeast Ohio for an internship at the Holden Arboretum. Following the internship, he worked as a project manager with ACRT Inc. then of Kent, Ohio. In 1990 Alan became the regional urban forester for the Ohio Department of Natural Resources, Division of Forestry. In this position Alan assists communities in 11 counties of northeast Ohio in managing their urban forest resource. Alan is a member of the International Society of Arboriculture and the Ohio Chapter. He has served as chairman of the Tree Academy for the 1996 international convention in Cleveland and is a past president of the Ohio Chapter Board of Directors. He has served as Ohio's ISA certification liaison and as a board member to the ISA's certification board of directors. Alan is a Board-Certified Master Arborist. Recently Alan was named the most plagiarized arborist in the country. Alan is an accomplished speaker and educator. He is the co-author of the national award-winning Tree Commission Academy. Alan has spoken on various urban forestry and arboriculture topics. He has appeared at ISA international conferences and is a regular speaker at the Ohio Tree Care Conference, North Coast Urban Forestry Conference and The OSU Short Course as well as many other programs.

**Wes Tregilgas** is the safety manager for Wright Tree Service and has worked for large investor owned utilities and vegetation management contractors after operating a commercial arboriculture company he started in 1999. He has received outstanding customer service awards from industry organizations and recognition from utility executives for finding new methods of creating an innovative customer experience.

**Richard Webb** received a BA in agriculture from The Ohio State University with a focus on business and horticulture. He serves as president of the Logan Tree Commission, Logan in Bloom, and has been active on boards for the Chamber of Commerce, tourism, hospital and downtown redevelopment.

All sessions have been submitted to the ISA for continuing education credits, as well as the Ohio Department of Agriculture, SAF, OCNT, CTSP, and New Jersey Tree Experts.

See enclosed registration form or visit [www.OhioChapterISA.org](http://www.OhioChapterISA.org) for secure on-line processing.

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— Bill Miller, Buckley Tree Service



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## Line Clearance and the New Z

By Dr. John Ball

Electricity and trees, not a good combination. Electricity, while essential for the comfort and convenience to our daily life, is unforgiving when safety is concerned. Electrocution, death from an electrical shock, is one of the most common fatal incidents to tree trimmers and represents about 16 percent of all tree worker deaths. However, electrical contact is not one of the most common nonfatal incidents, in fact it accounts for less than five percent of all nonfatal incidents involving hospitalization. The reason? When you touch a conductor, either directly or indirectly, the passage of electrical current through the body and the associated deep thermal burns are serious medical conditions that result more often in death than injuries.

Most of the electrical contact incidents are indirect, where the worker touches a conductive object that is in contact with the energized conductor. The two most common conductive objects are metal pole pruners and cut branches. A metal pole pruner held by a climber is the most common indirect contact incident followed by a climber having a cut branch fall on them while also in contact with the conductor. While these represent most of the indirect contact incidents, the industry has numerous other electrocutions including ground workers touching an aerial lift in contact with a wire and even workers tossing a climbing line over a service drop to flick a fallen branch off the wire.

About a fourth of all incidents are direct contact where a part of the body touches an energized conductor. The most common direct contact incident involves aerial lift operators. These incidents are often due to a falling branch or tree striking the boom and pushing the operator into the phase wires. Another is a ground worker contacting a wire that was pulled from the pole during a felling operation.

Until last year, the Z133, the American National Standard for Arboricultural Operations – Safety Requirements had simple requirements for working near electrical conductors. You were either qualified to work near conductors, a qualified line-clearance arborist, or you weren't. The new Z133, published in the fall of 2017, has complicated the distinction a bit with a new category. While the inclusion of this category will hopefully reduce incidents, the new requirements are a little confusing.

First, no tree worker can work near conductors unless their employer can document that they have the training and experience to do the work safely (a worker is a trainee, under the direct supervision of a qualified worker, until they have the necessary experience). The training must include:

- 1) safe work practices to protect the worker from direct or indirect contact with electrical conductors
- 2) how to distinguish the energized conductors from other parts of the system
- 3) skill and knowledge to determine the nominal voltage of wires
- 4) the knowledge of the corresponding minimal approach distances

If a worker does not have the prerequisite training and experience, they may not work in a tree from an elevated position – aerial lift, climbing, or even from a ladder – if any part of the tree is within 10 feet of a conductor.

This means if the tip of a branch is within 10 feet of even a service drop, an arborist cannot be in the trees canopy unless they are qualified. The tree trimmer cannot even be climbing in a wide-spreading tree, perhaps 30 feet or more from the wire, if a single branch tip is within 10 feet of the conductor. Why? Because the tree is a conductive object.

This is a significant limitation for performing tree work. It is not a barrier, however. A tree service or grounds maintenance company can either choose not to bid on trees close to conductors or ask the utility to make the work safe by de-energizing or isolating these conductors. There are companies that are going this route and just avoiding working on trees near conductors.

There are also residential tree service or ground maintenance companies that find this restriction too limiting. Their tree pruning or removal operations are often near conductors. So how to do the work? Their workers must become qualified incidental line-clearance arborists.

The term, qualified line-clearance arborist, has been around for a couple of decades, but incidental line-clearance arborist is a new one to most arborists. What is the difference between a qualified line-clearance arborist and an incidental line-clearance arborist? It comes down to a very simple distinction, who is paying for the work.

If the arborist has the training and experience to work near conductors and is working for the utility, or one of its contractors, to conduct line clearance operations, they are a qualified line-clearance arborist. If the same arborist is working for Mr. or Ms. Smith to prune their tree, the arborist is NOT a qualified line-clearance arborist.

So, the qualification follows the work, not necessarily the worker. As an example, if an arborist is working for utility 'X' or its contractor to clear wires on Monday to Thursday (four 10-hour days) and on Friday and Saturday works for a residential tree care company. Monday to Thursday the worker is a qualified line-clearance arborist and on Friday and Saturday an incidental line-clearance arborist.

The training and experience requirements for both are similar and are determined by the employer. Every arborist working within 10 feet of conductors must have training and experience. So, what are some of the differences in doing the work?

The minimum approach distances (MAD) differ. MAD is the closest distance a worker may approach, either by person or a conductive object, to an energized object. MAD is based on the worker's qualification, the nominal voltage of the wires, and the elevation (altitude). Interestingly the MAD only varies with elevation for the qualified line-clearance arborist, not the incidental line-clearance arborist. However, this is not a concern in Ohio as none of the state is above 5,000 feet.

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The nominal voltage, what it is designed to carry for voltage, not necessarily what is carrying at a given time, is based on two primary factors: the height of the wire on the pole (generally the higher the wire, the higher the voltage) and the size of the insulator (the larger the insulator, the higher the voltage). A qualified line-clearance arborist and an incidental line-clearance arborist are both supposed to have the training and experience to look at the pole and determine the MAD from these factors, among others.

The difference between the two categories of arborists is the MAD for a given voltage. A voltage range of 5.1 to 15 kV (phase-to-phase), a common distribution voltage range, has a MAD of two feet three inches for the qualified line-clearance arborist and two feet 10 inches for the incidental line-clearance arborist. For all other workers? 10 feet.

Remember too that this MAD, two feet 10 inches, is the total reach of the body and any conductive tool. This means an arborist holding a chain saw may need to be as much as six or seven feet away from the conductor once the arm reach (a little over two feet), the length of the chain saw (perhaps one and a half feet or more), and the MAD (two feet 10 inches) is considered.

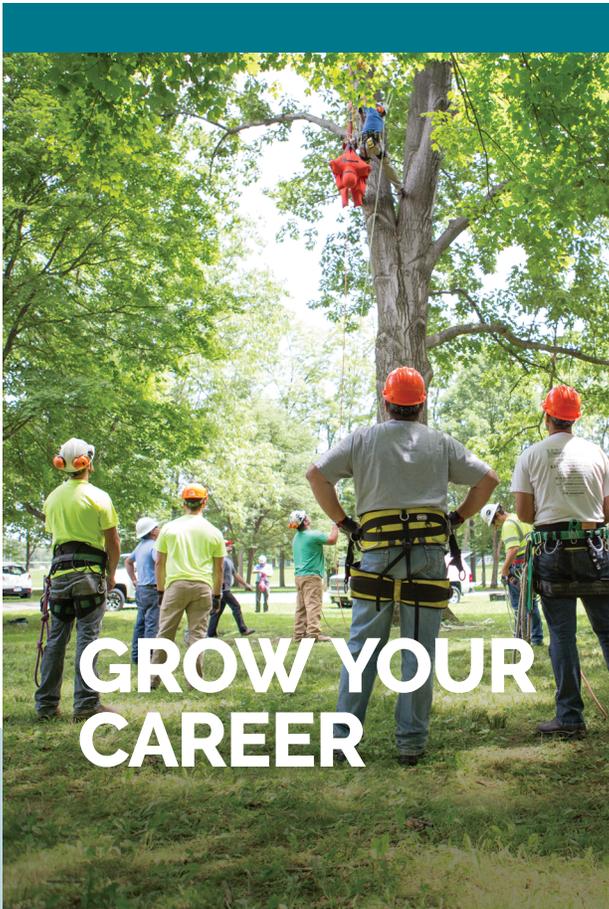
The lowest voltage range identified for qualified line-clearance arborists is 0.050 to 0.300 kV, for the incidental line-clearance arborists it's 0.300 kV or less. This lowest voltage range for both workers defines the MAD with the phrase, avoid contact. This means the worker can get

very close to the conductor if contact by their person or a conductive object is avoided – and that means it does not happen, not just you should try.

Note that this means NOTHING on the pole can be touched, not the neutral wires, service wires, the fiber optic, the phone, or even cable lines. This also means the worker cannot use a rope to pull the phone line away since our climbing and rigging lines, regardless of manufacturer, are considered conductive. If the tree work must be performed by an incidental line-clearance arborist without insulated tools, then the energized lines must be de-energized by the utility.

This is just a highlight of the new changes for working near electrical conductors. Everyone working on or in trees near conductors should obtain a copy of the new ANSI Z133 – 2017 and follow the standards for electrical hazards.

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## Test Questions

To receive continuing education unit (CEU) credit for home study of this article after you have read it, circle the appropriate answers on the test below. A passing score is 8 correct answers. Next, complete the registration information above, *including your certification number & signature*, on this answer form and send it to **Ohio Chapter ISA, P.O. Box 267, Baltimore, OH 43105-9998**. The answer form must be postmarked no later than **February 28, 2019** to be valid. **You may also submit CEU Test Questions on-line at [www.OhioChapterISA.org](http://www.OhioChapterISA.org) under myProfile**. Only one test will be accepted. Please do not mail the test page if you submit it on-line.

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- Electrocution is one of the most common fatal incidents to tree trimmers and represents about \_\_\_\_\_ percent of all tree worker deaths.
  - 6
  - 11
  - 16
  - 24
- Electrical contact is not one of the most common nonfatal incidents, in fact it accounts for less than \_\_\_\_\_ percent of all nonfatal incidents involving hospitalization due to the associated deep thermal burns that result more often in death than injuries.
  - 1
  - 5
  - 8
  - 10
- Most of the electrical contact incidents are \_\_\_\_\_, where the worker touches a conductive object that is in contact with the energized conductor.
  - Indirect
  - Direct
- About a fourth of all incidents are \_\_\_\_\_ contact where a part of the body touches an energized conductor.
  - Indirect
  - Direct
- If a single branch tip is within \_\_\_\_\_ feet of the conductor an arborist must be either a qualified line-clearance arborist or an incidental line-clearance qualified arborist to perform work according to the ANSI Z133?
  - Two feet three inches
  - Two feet 10 inches
  - 5
  - 10
- If an arborist has the training and experience to work near conductors and is working for the utility, or one of its contractors, to conduct line clearance operations, they are a \_\_\_\_\_. If the same arborist is working for Mr. or Ms. Smith to prune their tree, the arborist is a \_\_\_\_\_.
  - Qualified line-clearance arborist, incidental line-clearance arborist
  - Incidental line-clearance arborist, qualified line-clearance arborist
  - Utility arborist, residential arborist
  - None of the above
- The minimum approach distance (MAD) is the closest distance a worker may approach, either by person or a conductive object, to an energized object.
  - True
  - False
- The Minimum approach distance (MAD) for a voltage range of 5.1 to 15 kV is \_\_\_\_\_ for a qualified line-clearance arborist, \_\_\_\_\_ for an incidental line-clearance arborist, and \_\_\_\_\_ for all other workers?
  - Two feet 10 inches, Two feet three inches, 10 feet
  - 10 feet, two feet 10 inches, Two feet three inches
  - Two feet three inches, 10 feet, two feet 10 inches
  - Two feet three inches, two feet 10 inches, 10 feet
- The minimum approach distance (MAD) is the total reach of the body and any conductive tool.
  - True
  - False
- Both qualified line-clearance and incidental line-clearance arborists may use a rope to pull the phone line away with their climbing and rigging lines?
  - True
  - False

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# The Buckeye Arborist

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