A two-day course for everyone involved in urban forestry and arboriculture. ISA Certified Arborist CEUs are available for most sessions. Certified Minnesota Tree Inspectors will be recertified for 2014 by attending the entire short course.

March 18–19, 2014
Bethel University, Arden Hills, Minnesota

Program Partners:
College of Food, Agricultural and Natural Resource Sciences, University of Minnesota
Department of Forest Resources, University of Minnesota
Minnesota Shade Tree Advisory Committee
Minnesota Department of Agriculture
Minnesota Department of Natural Resources
Minnesota Department of Transportation
Minnesota Society of Arboriculture
Minnesota Tree Care Advisor Program
University of Minnesota Extension
College of Continuing Education, University of Minnesota

Ensuring Tree Health Since 1963

www.cce.umn.edu/shadetree
“It takes a century to grow a 100-year-old tree.” Beloved bumper sticker.

“Preservation,” incites thoughts of protecting trees from the wrath of construction and development projects. The 2014 Minnesota Shade Tree Short Course will expand on preservation to include not only saving those at-risk trees, but also municipal budgets and support for tree care and urban forest programs, preserving and building private tree care companies, keeping good personnel and nurturing even better ones, preserving and improving the health of humans, bees, and trees.

“It takes 10 years to grow a tree and 100 years to educate a person.” An oft misinterpreted Chinese proverb.

Although the profession of urban forestry has only been named as such for about a century, its origins go back to the New England states in the mid- to late-1800s, beginning with the first ordinances and municipal urban foresters, aka, tree wardens. Not too dissimilar from Minnesota’s current Certified Tree Inspectors. As with those states’ tree warden programs, the Minnesota Tree Inspector program has been challenged over the past few decades, yet has continued to grow and become even more professional through public support and continued education.

Arboriculture has a much longer history, dating back many centuries and cultures. Most of our current practices that develop, cultivate, and care for landscape trees, shrubs, and woody vines can be traced back to far more than 100 years of education. In the early 1700s, John Evelyn, the noted English horticulturist noted that one of the surest ways to kill a tree was to plant it too deep. Three hundred years later, horticulturists are still researching whether deep planting is harmful to tree health.

“The greatest oaks have been little acorns.” Thomas Fuller, 1732

Whether we’re nurturing young trees in the nursery or mature elms in the boulevards, new employees or the faithful current, new companies or storied urban forestry programs, they all had a beginning and it is in our best interest to preserve them. With six diverse general sessions, over 35 concurrent sessions, and a head-spinning educational exhibit area, the annual Minnesota Shade Tree Short Course is your chance to grow, nurture, and preserve. Join us again in 2014…you won’t be disappointed.

Gary Johnson
Minnesota Shade Tree Short Course, Chairperson
Department of Forest Resources
College of Food, Agricultural and Natural Resource Sciences
University of Minnesota
Bethel University
Bethel University offers beautiful facilities inside and out with free and convenient parking in the West Parking Lot and a spacious cafeteria. The campus is located in Arden Hills, a short distance from Snelling Avenue and I-694, (see map on page 16) with an exceptional and varied landscape for outdoor sessions. Make sure that you dress appropriately for the weather if you will be attending the breakout sessions with outdoor activities. Bethel University is a nonsmoking campus (smoking allowed in designated outdoor areas). The program begins at 7:30 a.m. on Tuesday and concludes at 3:45 p.m. on Wednesday.

Minnesota Shade Tree Short Course Steering Committee
Gary Johnson, Chair of the Minnesota Shade Tree Short Course, Department of Forest Resources, College of Food, Agricultural and Natural Resource Sciences, University of Minnesota
Mike Bahe, Municipal Arborist, City of Hutchinson
David Hanson, Minnesota Department of Transportation
Ben Johnson, Commercial Arborist, Rainbow Treecare
Jill Johnson, Coordinator, Midwest Center for Urban Forestry, US Forest Service
Manuel Jordan, Owner, Heritage Shade Tree Consultants
Russell Kennedy, Commercial Arborist, Rainbow Treecare
Jeff Lose, City of Bloomington Municipal Forestry
Jean Mouelle, Department of Natural Resources
Eric North, Department of Forest Resources, College of Food, Agricultural and Natural Resource Sciences, University of Minnesota
Josh Plunkett, Minnesota Department of Agriculture
Philip Potyondy, Urban Forester/GIS Analyst, Minneapolis Park and Recreation Board Forestry Division
Mark Schnobrich, Municipal Forester, City of Hutchinson (retired)
Eugene Anderson, College of Continuing Education, University of Minnesota
Nick McArdle, College of Continuing Education, University of Minnesota
Emily Strong, College of Continuing Education, University of Minnesota

Certification and Credit
• Certified tree inspectors will be recertified for 2014 by attending the entire short course.
• ISA CEUs will be given for all sessions.
• TCIA Certified Treecare Safety Professional credits available for some sessions.

Please Note:
• Recertification for pesticide applicators is not available at this workshop.
• New tree inspector classes and testing are not available at this workshop.

Exhibits
Commercial and agency exhibits will be available each day. Everyone is invited to stop by and exchange information at booths located throughout the center. Exhibit space is coordinated by Ben Johnson, who can be reached by phone or e-mail – 952-252-0527 or bjohnson@rainbowtreecare.com.

Tree Inspector Certification and Information
For questions about Tree Inspector status, contact:
Tami Brue
Minnesota Department of Natural Resources
651-259-5286
tami.brue@state.mn.us
For questions about Tree Inspector training, contact:
Sean Peterson
Department of Forest Resources
College of Food, Agricultural and Natural Resource Sciences
University of Minnesota
612-624-4261
pete7795@umn.edu

Registration Questions
612-625-2900

For More Information
Nick McArdle
University of Minnesota
612-625-5969
ccceconf4@umn.edu

MSA (Minnesota Society of Arboriculture)
Winter Picnic
The Tuesday business meeting will begin at 4:30 p.m., followed by a picnic at 5:30 p.m. The picnic offers great food and is an opportunity to network with speakers and participants. Free to Shade Tree Short Course participants. Maps provided at registration desk.
Location: Como Park Clubhouse
General Sessions (in order of presentation)
The general sessions and track menus listed below enable you to choose sessions of interest from the many that are offered during the conference. Many courses provide information pertaining to multiple tracks. You do not have to stay within a track. Feel free to select sessions among any of the tracks that appeal to you.

- **GSI: When Trees and Wind Collide**  
  Brian Kane, MA Arborists Association Professor
- **GSII: Saving Trees and Money Through Cooperative EAB Management**  
  Jeff Hafner, Director, Municipal Consulting, Rainbow Treecare
- **GSIII: Can Pesticides and Pollinators Coexist?**  
  Marla Spivak, Professor of Entomology, University of Minnesota
- **GSIV: No More Maples (for the next 10 years), and Why**  
  Kris Bachtell, Morton Arboretum
- **GSV: How We Hurt The Trees We Love: A Caregiver’s Dilemma**  
  Joseph Murray, Consulting Arborist
- **GSVI: The Value of Allergy-free Landscapes**  
  Tom Ogren, Allely/Asthma/Horticultural Consultant

Concurrent Sessions (in alphabetical order)

**Introductory**
Introductory sessions are most valuable for people just entering or re-entering the fields of arboriculture, urban forestry, or urban natural resource management. These sessions provide a sound foundation for understanding tree biology, tree I.D., diagnosing problems, soil science, and plant maintenance.

- **Applied Tree Biology**  
  Doug Courneya, Courneya Horticulture Services, Rochester, Minnesota
- **Caught With Your Plants Down?**  
  Janna Beckerman, Plant Pathologist, Purdue University
- **Chipper Operator Workshop**  
  Mark Rau, Dealer Development Manager (Pre-registration required)
- **Community Gravel Bed Nurseries, from A to Z**  
  Mike Bahe, Gina Hugo, and Judy Gibbs, Representing Hutchinson, Sherburne County, and Duluth, Minnesota
- **Heightening Our Safety Awareness!**  
  Joe Bones, Safety and Training Coordinator, Bartlett Tree Experts
- **These Are the Insect Pests You Should Know**  
  Jeff Hahn, University of Minnesota Extension
- **Tree and Shrub Identification: Plants with Wildlife Value**  
  Dave Hanson, Pretty good dendrologist, MnDOT
- **Understanding Soils**  
  Peter Bierman, University of Minnesota Soil Scientist

**Best Sessions for Tree Inspectors**
Tree inspectors are required to attend six sessions each year to retain their certification status. All of these sessions are particularly valuable for tree inspectors and will supply the most current information on tree selection, diagnosis of the most common disease and insect pest problems, and prepare tree inspectors for the droughts and floods that visit parts of Minnesota every year.

For a detailed outline of sessions approved for Tree Inspectors, see the conference website: www.cce.umn.edu/shadetree

**Technical**
These courses go beyond the introductory courses in tree identification and problem diagnosis. They are all more technical and assume that the attendees have the basic experience and knowledge to appreciate the depth of the topics. In other words, they’re more challenging and require some background to fully appreciate them...and they’re worth it.

- **Applying Firewise Principles to Landscape Management in Minnesota**  
  Linda Gormanson Minnesota DNR Forester
- **Building Around Trees**  
  Dusty Speedsquare, Consulting Arborist and Contractor
- **Caught With Your Plants Down?**  
  Janna Beckerman, Plant Pathologist, Purdue University
- **Community Gravel Bed Nurseries, from A to Z**  
  Mike Bahe, Gina Hugo, Judy Gibbs, Representing Hutchinson, Sherburne County, and Duluth, Minnesota
- **Handling Problem Employees**  
  Patrick McGuiness, speaker, author, and attorney at Zlimen & McGuiness Attorneys at Law
- **Heightening Our Safety Awareness!**  
  Joe Bones, Safety and Training Coordinator, Bartlett Tree Experts
- **Identification and Management of Conifer Diseases in Minnesota**  
  Michelle Grabowski, University of Minnesota Extension
- **Impacts of EAB: Recommended Response for Electric Utilities**  
  Geoff Kempter, Technical Services Manager, Asplundh
- **Improving on What Nature Delivered**  
  Kris Bachtell, Morton Arboretum
- **Managing Soil Nutrients**  
  John Lamb, University of Minnesota Professor and Nutrient Management Specialist
- **Minnesota’s Native Elm Heritage**  
  Chad Giblin, University of Minnesota, Research Fellow
• NEW Urban Forestry Tools in the MN Stormwater Manual and Stormwater Calculator
  Mary Davy and Andrea Wedul, President of MN Stormwater Partnership and Graduate Landscape Architect at Kestrel Design Group
• Pittsburgh’s Urban Forest Master Plan: A Road Map for the Effective Management of the Urban Forest
  Josh Behounek, Urban Forestry Services Coordinator, Davey Resource Group
• Planning Urban Street Tree Infrastructure
  Eric North and Steve Roos, University of Minnesota Research Fellow and Senior Research Fellow, respectively
• Research Update from the University of Minnesota: Sugar Maple Decline; Effects of Street Reconstruction on Boulevard Trees – 20 years of Information; Elm Performance Trials on Olson Memorial Highway
  Dustin Ellis, Ryan Murphy, and Jonathan Fillmore, University of Minnesota Research Assistants
• Soil Compaction – Tree Enemy #1
  Dave Leonard, Consulting arborist, Lexington, Kentucky
• Strengthen Your Assets: Hiring Employees to be Safe
  Patrick McGuinness, speaker, author, and attorney at Zilmen & McGuiness Attorneys at Law
• The Trunk Flare Diameter Calculator: Healthier Trees and Smoother Sidewalks
  Eric North, Research Fellow at the University of Minnesota
• These are the Insect Pests You Should Know
  Jeff Hahn, University of Minnesota Extension
• Tips for a Healthy Backyard Apple Orchard
  Erika Saalau Rojas, Plant Pathologist, Iowa State University
• Tree Survival Factors
  Rich Hauer, Associate Professor, UW-Stevens Point
• What if Asian Longhorned Beetle Comes to Minnesota?
  Dennis Haugen, Entomologist, United States Forest Service
• What Makes THAT Species Invasive?
  Katherine Kromroy, Tim Power, and Laura Van Riper, Research Scientist, MDA; Government Affairs Director of the Minnesota Nursery and Landscape Association; Terrestrial Invasive Species Coordinator, DNR
• What’s Wrong with Urban Forest Management Plans?
  Steve Nicholson, Consulting Urban Forester
• When the Bough Breaks: Managing Risk Related to Trees at the Municipal Level
  Chris Smith, Risk Management Attorney, Minnesota

Community Forestry Sessions
Community forestry sessions are particularly valuable to those urban foresters who work in or with municipalities, nonprofit organizations or agencies…the groups that work most directly with the public. These sessions offer a different perspective than the technical sessions and introduce the human factor into managing urban forests.

• Community Gravel Bed Nurseries, from A to Z
  Mike Bahe, Gina Hugo, Judy Gibbs, Representing Hutchinson, Sherburne County, and Duluth, Minnesota
• Count Us In! Volunteer Accuracy in Community Tree Surveys
  Nick Bancks, Watershed Projects Coordinator
• EAB and Saint Paul’s Health Impact Assessment (HIA) Project: It’s More Than Losing Chlorophyll
  Sarah Rudolf, Project Coordinator, Health Impact Assessment on St. Paul’s Emerald Ash Borer Management Plan, Minnesota Pollution Control Agency
• Living Streets: A Case Study from Maplewood, Minnesota
  Matthew Kunka, Landscape Architect
• NEW Urban Forestry Tools in the MN Stormwater Manual and Stormwater Calculator
  Mary Davy and Andrea Wedul, President of MN Stormwater Partnership and Graduate Landscape Architect at Kestrel Design Group
• Pittsburgh’s Urban Forest Master Plan: A Road Map for the Effective Management of the Urban Forest
  Josh Behounek, Urban Forestry Services Coordinator, Davey Resource Group
• The Effect of Landscape Trees on Residential Property Values of Six Communities in Cincinnati, Ohio
  Kelley C. Dimke, Ph.D.
• Tips for a Healthy Backyard Apple Orchard
  Erika Saalau Rojas, Plant Pathologist, Iowa State University
• What’s Wrong with Urban Forest Management Plans?
  Steve Nicholson, Consulting Urban Forester

Advanced Technical Sessions
The advanced technical sessions are just that: advanced, technical, and challenging. These sessions require that attendees have a strong background in the science and technology of urban forestry and arboriculture. Not for the weak-hearted, but guaranteed to stretch your brains and get you thinking…hard!

• Managing Urban Trees More Efficiently with the Tree Plotter
  Tree Inventory Application
  Ian Hanou, Founder of Plan-it-Geo (Pre-registration required; laptop or tablet device required for session)
• The Cost of Not Caring for Trees
  Jessica M. Vogt, Indiana University
• Using Trees as Remediation and Environmental Forensic Tools
  Steve Rock, Environmental Engineer, U.S. Environmental Protection Agency
• Why are Woody Plants Sometimes Yellow? Understanding, Diagnosing, and Managing Chlorosis in Woody Plants
  Dr. Fredric Miller, Horticulture Professor and Research Scientist
• Why Trees Turn Color in the Autumn…and Sometimes July
  Jeff Dawson, Tree Physiologist, University of Illinois and the Morton Arboretum

Exhibit Area Mini-Sessions
These 15-20 minute classes will be offered in the exhibit area during the open hours.

Jeff Jepson: The Beauty of the Bowline and book signing
Processing Urban Logs
Electrical Hazard Awareness Safety Demonstration
Tree House of Horrors
Diagnosing Plant Problems: Quiz and ISA CEUs
Community Gravel Bed Nursery
Student Research Poster Session

And more to come!
Workshops

Chipper Operator Workshop
Wednesday, March 19, 2014, 8:00 a.m. – 11:30 a.m.

Instructor
Mark Rau, Dealer Development Manager

Accidents involving brush chippers are a significant concern for tree care and landscape employers, the employees who operate the equipment, and manufacturers alike. For crew members who often do not receive formal training opportunities, the program will increase employee involvement with overall safety compliance and self-policing and provide crew members with an opportunity to earn a nationally recognized credential.

This is a 3.5 hour workshop, offered only one time.
Pre-registration required; additional fee of $25 per person.

You must attend the full 3.5 hours to become certified and get any credit for this workshop. The workshop will be held on the Bethel campus.

Managing Urban Trees More Efficiently with the Tree Plotter Tree Inventory Application
Wednesday, March 19, 12:15-2:00 p.m.

Instructor
Ian Hanou, Founder of Plan-it-Geo

Plotter® is a comprehensive, versatile, accessible, user-friendly, and customizable web-based tree inventory program. Learn how to collect, search, and summarize tree data, create maps and planting plans, track trends in real-time, engage volunteers, inform decision-makers, and customize the app. Plotter LITE, the free version, will be demonstrated followed by the complete subscription application.

Pre-registration required; no additional fee.

Workshop participants must bring a laptop or tablet device to the session.

INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA)
CONTINUING EDUCATION UNITS (CEUs)

Attendance sheets will be offered immediately after each session. Detailed credit information is available on the conference website: www.cce.umn.edu/shadetree. For more information regarding ISA CEUs, please visit: http://www.isa-arbor.com.

CERTIFIED TREECARE SAFETY PROFESSIONAL (CTSP)
CONTINUING EDUCATION UNITS (CEUs)

The following sessions have been approved for TCIA Certified Treecare Safety Professional CEUs:

When Trees and Wind Collide, Brian Kane
Heightening Our Safety Awareness! Joe Bones
Handling Problem Employees, Patrick McGuiness
Strengthen Your Assets: Hiring Employees to Be Safe, Patrick McGuiness
When the Bough Breaks: Managing Risk Related to Trees at the Municipal Level, Chris Smith

Attendance sheets will be offered immediately after each session.
The early registration fee, received by March 2, is $180 per person. The regular fee after March 2 and at the door is $195 per person. The registration fee includes general session, breakouts, breaks, lunches, and handouts.

**Student Rate**
Student registration is $40 per student.

*To obtain the student rate, a statement from the student’s academic adviser must accompany the registration form. The statement must confirm the student’s current enrollment in a post-secondary, degree program, along with the institution’s name, the adviser’s name, and the adviser’s signature.*

**Tree Board or Park Board Member Rate**
Tree Board or Park Board member registration is $95 per person.

*To obtain the tree board/park board member rate, documentation from the city that the person is a member of the tree or park board must accompany the registration form.*

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**TREE HOUSE OF HORRORS**

Each year, the Tree House of Horrors displays both the “worst-of-the-worst,” the “best-of-the-best,” and everything in between. 2014 features:

- The Tree Inspector “one-stop” with the recertification drop box
- An opportunity for 1.0 ISA CEU
- The Community Gravel Bed display - larger and even more information
- Tree diagnostics-A problem solving exercise
- Short lessons from local tree health experts
- Firewood, disease, and damage I.D.
- Bad things that good people do to helpless trees
- Presentation area
- New tech for arborists

Stop by. Drink your coffee and eat your cookies while learning in a different, relaxed way.

The Tree House of Horrors is organized by Sean Peterson, Department of Forest Resources, University of Minnesota.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>6:45 a.m.</td>
<td>Registration Begins – Benson Great Hall Foyer</td>
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<tr>
<td>7:30</td>
<td>Welcome and Opening Remarks</td>
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<td></td>
<td>Gary Johnson, Department of Forest Resources, College of Food,</td>
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<td>Agricultural and Natural Resources Science, University of Minnesota</td>
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<td>When Trees and Wind Collide</td>
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<td>Saving Trees and Money Through Cooperative EAB Management</td>
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<td>Jeff Hafner, Director Municipal Consulting, Rainbow Treecare</td>
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<tr>
<td>9:35</td>
<td>Can Pesticides and Pollinators Coexist?</td>
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<td>Marla Spivak, Professor of Entomology, University of Minnesota</td>
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<td>10:00</td>
<td>Exhibits and Tree House of Horrors</td>
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<td>11:00</td>
<td>Group 1 Lunch Break – Dining Center</td>
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<td>11:20</td>
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<td>The Trunk Flare Diameter Calculator: Healthier Trees and Smoother Sidewalks</td>
<td>Eric North, Research fellow at the University of Minnesota</td>
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<td>What Makes THAT Species Invasive?</td>
<td>Katherine Kromroy, Tim Power, and Laura Van Riper, Research Scientist, MDA; Government Affairs Director of the Minnesota Nursery and Landscape Association; Terrestrial Invasive Species Coordinator, DNR</td>
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<td>Chad Giblin, University of Minnesota, Research Fellow</td>
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**Lunch Breaks**

- 11:00 Group 1 Lunch Break – Dining Center
- 11:20 Group 2 Lunch Break – Dining Center
- 11:45 Group 3 Lunch Break – Dining Center

**Advanced Technical Session**

- The Cost of Not Caring for Trees
- What Makes THAT Species Invasive?
Tuesday, March 18, 2014 (Continued)

**Pittsburgh’s Urban Forest Master Plan: A Road Map for the Effective Management of the Urban Forest**
Josh Behounek, Urban Forestry Services Coordinator, Davey Resource Group
Community Forestry Session, Technical Session, Only offered one time

**Soil Compaction – Tree Enemy #1**
Dave Leonard, Consulting arborist, Lexington, Kentucky
Technical Session

**Tips for a Healthy Backyard Apple Orchard**
Erika Saalau Rojas, Plant Pathologist, Iowa State University
Community Forestry Session, Technical Session

**Tree City USA: What Is it and How Can a City Become One?**
Jennifer Teegarden, Forestry Outreach Specialist, Department of Natural Resources
Community Forestry Session, Only offered one time

**Tree Survival Factors**
Rich Hauer, Associate Professor, UW-Stevens Point
Technical Session

**Understanding Soils**
Peter Bierman, University of Minnesota Soil Scientist
Introductory Session

**What if Asian Longhorned Beetle Comes to Minnesota?**
Dennis Haugen, Entomologist, United States Forest Service
Technical Session

**2:00-2:45**
**EXHIBITS AND “MINI-SESSIONS”**

- Jeff Jepson: The Beauty of the Bowline and book signing
- Processing Urban Logs
- Electrical Hazard Awareness Safety Demonstration
- Tree House of Horrors
- Diagnosing Plant Problems: Quiz and ISA CEUs
- Community Gravel Bed Nursery
- Student Research Poster Session

**2:45-3:45**
**CONCURRENT SESSIONS**

**Caught With Your Plants Down?**
Janna Beckerman, Plant Pathologist, Purdue University
Introductory Session, Technical Session

**Count Us In! Volunteer Accuracy in Community Tree Surveys**
Nick Bancks, Watershed Projects Coordinator
Community Forestry Session

**Heightening Our Safety Awareness!**
Joe Bones, Safety and Training Coordinator, Bartlett Tree Experts
Introductory Session, Technical Session

**Impacts of EAB: Recommended Response for Electric Utilities**
Geoff Kempter, Technical Services Manager, Asplundh
Technical Session

**Living Streets: A Case Study from Maplewood, Minnesota**
Matthew Kumka, Landscape Architect
Community Forestry Session

**Planning Urban Street Tree Infrastructure**
Eric North and Steve Roos, University of Minnesota Research Fellow Senior Research Fellow
Technical Session

**The Effect of Landscape Trees on Residential Property Values of Six Communities in Cincinnati, Ohio**
Kelley C. Dimke, Ph.D.
Community Forestry Session

**These Are the Insect Pests You Should Know**
Jeff Hahn, University of Minnesota Extension
Introductory Session, Technical Session

**Using Trees as Remediation and Environmental Forensic Tools**
Steve Rock, Environmental Engineer, U.S. Environmental Protection Agency
Advanced Technical Session

**What’s Wrong with Urban Forest Management Plans?**
Steve Nicholson, Consulting Urban Forester
Community Forestry Session, Technical Session

**When the Bough Breaks: Managing Risk Related to Trees at the Municipal Level**
Chris Smith, Risk Management Attorney, Minnesota
Technical Session

**Why Trees Turn Color in the Autumn…and Sometimes July**
Jeff Dawson, Tree Physiologist, University of Illinois and the Morton Arboretum
Advanced Technical Session

**3:45**
Adjourn

**4:30**
Minnesota Society of Arboriculture (MSA) Business Meeting – Como Park

**5:30**
MSA Winter Picnic – Como Park (food and drink compliments of MSA)
Wednesday, March 19, 2014

7:45 a.m.
No More Maples (for the next 10 years), and Why
Kris Bachtell, Morton Arboretum

8:40
How We Hurt The Trees We Love: A Caregiver’s Dilemma
Joseph Murray, Consulting Arborist

9:35
Cold Weather Impacts on Emerald Ash Borer: State of the Science
Rob Venette, United States Forest Service

10:30-12:15 p.m.
Exhibits and Tree House of Horrors

11:00
Group 1 Lunch Break — Dining Center

11:20
Group 2 Lunch Break — Dining Center

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12:15-1:00 p.m.
CONCURRENT SESSIONS

Applying Firewise Principles to Landscape Management in Minnesota
Linda Gormanson, Minnesota DNR Forester
Technical Session

Caught With Your Plants Down?
Janna Beckerman, Plant Pathologist, Purdue University
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Minnesota’s Native Elm Heritage
Chad Giblin, University of Minnesota, Research Fellow
Technical Session

Research Update from the University of Minnesota: Sugar Maple Decline; Effects of Street Reconstruction on Boulevard Trees — 20 years of Information; Elm Performance Trials on Olson Memorial Highway
Dustin Ellis, Ryan Murphy, Jonathan Fillmore, University of Minnesota Research Assistants
Technical Session, Panel Session, Only offered one time

The Trunk Flare Diameter Calculator: Healthier Trees and Smoother Sidewalks
Eric North, Research fellow at the University of Minnesota
Technical Session

Tree Survival Factors
Rich Hauer, Associate Professor, UW-Stevens Point
Technical Session

What Makes THAT Species Invasive?
Katherine Kromroy, Tim Power, and Laura Van Riper, Research Scientist, MDA; Government Affairs Director of the Minnesota Nursery and Landscape Association; Terrestrial Invasive Species Coordinator, DNR
Technical Session

When the Bough Breaks: Managing Risk Related to Trees at the Municipal Level
Chris Smith, Risk Management Attorney, Minnesota
Technical Session

12:15-2:00 p.m.
EXTENDED CONCURRENT SESSIONS

Managing Urban Trees More Efficiently with the Tree Plotter Tree Inventory Application
Ian Hanou, Founder of Plan-it-Geo
Advanced Technical Session
Pre-registration required; laptop or tablet device required for session

Tree and Shrub Identification: Plants with Wildlife Value
Dave Hanson, Pretty good dendrologist, MnDOT
Introductory Session

1:15-2:00
CONCURRENT SESSIONS

Building Around Trees
Dusty Speedsquare, Consulting Arborist and Contractor
Technical Session

Community Gravel Bed Nurseries, from A to Z
Mike Bahe, Gina Hugo, Judy Gibbs, Representing Hutchinson, Sherburne County, and Duluth, Minnesota
Community Forestry Session, Introductory Session, Technical Session, Panel Session

EAB and Saint Paul’s Health Impact Assessment (HIA): Project: It’s More Than Losing Chlorophyll
Sarah Rudolf, Project Coordinator, Health Impact Assessment on St. Paul’s Emerald Ash Borer Management Plan, Minnesota Pollution Control Agency
Community Forestry Session, Only offered one time

Managing Soil Nutrients
John Lamb, University of Minnesota Professor and Nutrient Management Specialist
Technical Session
Planning Urban Street Tree Infrastructure  
Eric North and Steve Roos, University of Minnesota Research Fellow Senior Research Fellow  
Technical Session

Soil Compaction – Tree Enemy #1  
Dave Leonard, Consulting Arborist, Lexington, Kentucky  
Technical Session

Tips for a Healthy Backyard Apple Orchard  
Erika Saalau Rojas, Plant Pathologist, Iowa State University  
Community Forestry Session, Technical Session

Using Trees as Remediation and Environmental Forensic Tools  
Steve Rock, Environmental Engineer, U.S. Environmental Protection Agency  
Advanced Technical Session

What if Asian Longhorned Beetle Comes to Minnesota?  
Dennis Haugen, Entomologist, United States Forest Service  
Technical Session

Why Are Woody Plants Sometimes Yellow? Understanding, Diagnosing, and Managing Chlorosis in Woody Plants  
Dr. Fredric Miller, Horticulture Professor and Research Scientist  
Advanced Technical Session

2:00-2:45  
EXHIBITS AND "MINI-SESSIONS"  

Jeff Jepson: The Beauty of the Bowline and book signing  
Processing Urban Logs  
Electrical Hazard Awareness Safety Demonstration  
Tree House of Horrors  
Diagnosing Plant Problems: Quiz and ISA CEUs  
Community Gravel Bed Nursery  
Student Research Poster Session

2:45-3:45  
CONCURRENT SESSIONS

Applied Tree Biology  
Doug Courneya, Courneya Horticulture Services, Rochester, Minnesota  
Introductory Session

Handling Problem Employees  
Patrick McGuiness, Speaker, author, and attorney at Zilmen & McGuiness Attorneys at Law  
Technical Session, Only offered one time

Heightening Our Safety Awareness!  
Joe Bones, Safety and Training Coordinator, Bartlett Tree Experts  
Introductory Session, Technical Session

Identification and Management of Conifer Diseases in Minnesota  
Michelle Grabowski, University of Minnesota Extension  
Technical Session

Living Streets: A Case Study from Maplewood, Minnesota  
Matt Kumka, Landscape Architect  
Community Forestry Session

NEW Urban Forestry Tools in the MN Stormwater Manual and Stormwater Calculator  
Mary Davy and Andrea Wedul, President of MN Stormwater Partnership and Graduate Landscape Architect at Kestrel Design Group  
Community Forestry Session, Technical Session

The Cost of Not Caring for Trees  
Jessica M. Vogt, Indiana University  
Advanced Technical Session

The Effect of Landscape Trees on Residential Property Values of Six Communities in Cincinnati, Ohio  
Kelley C. Dimke, Ph.D.  
Community Forestry Session

These are the Insect Pests You Should Know  
Jeff Hahn, University of Minnesota Extension  
Introductory Session, Technical Session

Understanding Soils  
Peter Bierman, University of Minnesota Soil Scientist  
Introductory Session

Why are Woody Plants Sometimes Yellow? Understanding, Diagnosing, andManaging Chlorosis in Woody Plants  
Dr. Fredric Miller, Horticulture Professor and Research Scientist  
Advanced Technical Session

What’s Wrong with Urban Forest Management Plans?  
Steve Nicholson, Consulting Urban Foreseter  
Community Forestry Session, Technical Session

Why Trees Turn Color in the Autumn…and Sometimes July  
Jeff Dawson, Tree Physiologist, University of Illinois and the Morton Arboretum  
Advanced Technical Session
Bachtell, Kris
Kris has participated in seven germplasm collecting and evaluation expeditions to the northeastern regions of the People’s Republic of China to continue to add new wild collected germplasm. His interests include evaluating plants suitable for the harsher climate of the Upper Midwest, and introducing these plants through the nursery trade.

Bahe, Mike
Mike, formerly the University of Minnesota Twin Cities’ campus arborist, serves as Hutchinson, Minnesota’s, urban forester and has several years of experience working with community gravel beds.

Bancks, Nick
Nick is a graduate student in the Natural Resource Sciences and Management program at the University of Minnesota. Currently, he works as the watershed projects coordinator for Sibley County. In a past life, he was a school librarian.

Beckerman, Janna
Janna Beckerman is a plant pathologist at Purdue University, with a focus on the diseases of horticultural crops. Her research focuses on apple scab and fungicide resistance. She only left Minnesota so she could grow peaches, Japanese maples, and Cornelian cherries.

Behounek, Josh
The Urban Forestry Services coordinator for the Davey Resource Group, assisting communities, nonprofits, commercial clients, and state agencies in the eastern U.S. to proactively and sustainably manage their tree and other natural resources. Josh graduated from Southern Illinois University at Carbondale, the Society of Municipal Arborist’s Municipal Forester Institute and is a Certified Arborist municipal specialist.

Bierman, Peter
Peter has degrees in soil science and horticulture from the University of Minnesota. Worked in research, Extension, and teaching at Ohio State University, University of Alaska, and University of Minnesota. Major focus has been in the area of soil fertility for horticultural crops and water quality.

Bones, Joe
Joseph Bones has been employed by The F. A. Bartlett Tree Expert Company for over 40 years. Serving as this company’s Mid-Atlantic Division’s safety and training coordinator, Joe has the responsibility to develop and present safety and training programs for his co-workers. Joe currently serves on many industry committees including the ASC Z 133.

Courneya, Doug
Doug has a bachelor’s and master’s degree in horticulture with an emphasis on arboriculture and landscape maintenance. He has 27 years of combined experience teaching and providing arboriculture and landscape maintenance services.

Davy, Mary
Mary was a member of the MPCA’s Minimal Impact Design Standards (MIDS) stakeholder process and participated in and led a number of the technical teams. She is president of the MN Stormwater Partnership and co-founder of No-Stress Gardening and Landscapes. She is trained by the MPCA on as Super-Users of the MN Stormwater calculator.

Dawson, Jeff
Professor Emeritus, tree physiology. Jeff Dawson is a retired professor of forest biology at the University of Illinois and a research associate at Morton Arboretum. His research and teaching have focused on tree physiology, forest ecology, symbioses of nitrogen fixing trees, soil microbiology, and urban forest communities.

Dimke, Kelley C., Ph.D.
Kelley received her M.S. and Ph.D. degrees from The Ohio State University. Her research on the effect of landscape trees on residential property values as well as research on overwintering of perennials has appeared in multiple publications. She has taught courses in plant ID, shade trees selections, and garden design.

Ellis, Dustin
Dustin is a senior urban forestry major at the University of Minnesota, a seasoned Minnesota tree inspector and assistant city forester, and an employee of the University of Minnesota Urban Forestry, Outreach, Research and Extension lab.

Fillmore, Jonathan
Jonathan Fillmore is simultaneously working on his last year of undergrad in landscape design and starting his first year in the master’s of landscape architecture program at the University of Minnesota. Jonathan has worked for the Urban Forestry Outreach, Research and Extension nursery and lab, primarily with fieldwork, data collection, and GIS map making.

Giblin, Chad
Chad is a research fellow in the Department of Forest Resources at the University of Minnesota. His primary work is focused on researching and selecting Minnesota-native elms for Dutch elm disease tolerance. He is also involved with outreach programs and research at the Urban Forestry Outreach & Research Extension Nursery in St. Paul, Minnesota.

Gibbs, Judy
City of Duluth’s Trees, Trails, and Bikeways coordinator. Judy has spear-headed the construction and use of Duluth’s community gravel bed nursery.

Gormanson, Linda
Minnesota DNR Regional Fire Prevention representative, Little Falls.
Speakers (Continued)

Grabowski, Michelle
Michelle has been an extension educator with the University of Minnesota Extension since 2006. She studied plant pathology at Michigan State University and North Carolina State University. Her work focuses on identification and management of current and emerging plant disease problems of horticultural crops in Minnesota.

Hafner, Jeff
As director of Municipal Consulting at Rainbow Treecare, Jeff Hafner helps cities develop, adopt, and implement emerald ash borer management plans.

Hahn, Jeff
Jeff has a master’s degree in entomology and has worked for the University of Minnesota Extension for over 29 years as an extension entomologist. Jeff specializes in urban insects, especially those found in landscapes, gardens, and structures. He provides insect information through educational programs, publications, diagnostic modules, and newsletters.

Hanou, Ian
Ian Hanou founded Plan-It Geo and has 13 years of private industry consulting and software experience. As a forester, GIS/remote sensing analyst, and project manager, Ian has completed 75+ geospatial projects involving urban forestry, forest health and wildfire risk assessment, green infrastructure, water conservation planning, energy, and stormwater management.

Hanson, Dave
As an urban forester at the University of Minnesota, Dave taught plant identification skills to anybody listening, including a classroom full of dendrology students. Now, as a vegetation management specialist with MnDOT, Dave still teaches identification skills and hones his skills daily – on questions from every corner of Minnesota.

Hauer, Rich
Rich is an associate professor of urban forestry at the University of Wisconsin-Stevens Point (UWSP) teaching courses in the urban forestry, landscape design, nursery management, woody plants, and dendrology. He has also published over 90 popular and peer-reviewed papers and presented over 200 professional talks.

Haugen, Dennis
Dennis has been with the USFS St. Paul Field Office, since 1993. He works with Indiana, Iowa, and Missouri on forest insects. He assisted with the ALB eradication project in Chicago. Dennis has B.S. and Ph.D. degrees from Iowa State University and an M.S. from University of Arkansas.

Hugo, Gina
Gina is a forester serving as the resource conservationist with the Sherburne Soil and Water Conservation District. Gina has extensive experience working with community forestry, community tree inventories, and a county-wide “community” gravel bed nursery.

Kane, Brian
Brian Kane is the Massachusetts Arborists Association professor of arboriculture at UMass-Amherst. He studies tree biomechanics and tree worker safety and is currently on the ISA Board of Directors. He started climbing trees in 1989.

Kemper, Geoff
Geoff Kempter is manager of Technical Services for Asplundh. He is a member of the ISA Board and the ANSI A300 Tree Care Standards Committee, and is author of the ISA Utility Pruning BMP, and many more articles and papers. Geoff is an ISA TRAQ instructor, and a 1981 graduate of the University of Michigan School of Natural Resources.

Kromroy, Kathy
Kathy is a plant pathologist for the Minnesota Department of Agriculture, with graduate degrees from the University of Minnesota. In 2005, Kathy moved from research to MDA’s Plant Protection Division, focusing on prevention and early detection of new and emerging plant pathogens, and oversees the division’s federal permit review program.

Kumka, Matt
Matthew Kumka is a landscape architect with Barr Engineering who specializes in green infrastructure, low impact development, and ecologically restorative design. Working with local municipalities, Matt focuses on maintaining and growing a diverse and thriving urban forest through thoughtful species selection and soil protection and remediation.

Lamb, John
John Lamb is a native of Nebraska. Dr. Lamb has been with the University of Minnesota since 1984. He currently teaches Basic Soil Science and Plant Nutrients in the Environment and conducts research in sugar beet cropping systems.

Leonard, Dave
Dave is a consulting arborist who graduated from the University of Kentucky before there was soil. He has been caring for and planting trees for 40 years and is now climbing the ones he planted. He supports the TREEFund as liaison and by riding in the Tour des Trees 14 times, totaling 7,800 or 2.9 times the distance across the continental U.S., so far…

McGuiness, Patrick
Patrick McGuiness is a speaker, author, and attorney. He writes and speaks extensively about how the law affects green industry organizations. In addition to being an attorney, McGuiness is a captain in the U.S. Army Reserve, and an adjunct representation professor at William Mitchell College of Law.

Miller, Dr. Fredrik
Dr. Miller is professor of horticulture in the Department of Horticulture at Joliet Junior College (JJC), Joliet, Illinois, and a Senior Research Scientist, The Morton Arboretum, Lisle, Illinois. Dr. Miller received his Ph.D. in entomology with a minor in plant pathology from Iowa State University. He is a Board Certified Master Arborist (BCMA).
Speakers (Continued)

**Murray, Joe**
Joe has a master of science degree in plant pathology from Virginia Tech, master’s in teaching from the University of Richmond, and a bachelor of arts in biology from Radford University. Joe, a former college biology professor, is a trainer for the Mid-Atlantic Chapter of the ISA and a consulting arborist.

**Murphy, Ryan**
Ryan Murphy is currently pursuing a master of professional studies in horticulture degree through the University of Minnesota, and an employee of the University of Minnesota Urban Forestry, Outreach, Research and Extension lab.

**Nicholson, Steve**
Steve is a University of Missouri graduate and certified forester® with staff experience in communities from St. Louis, Missouri, to Minnetonka. He has functioned as a contract forester for several communities in Minnesota and is active in MnSTAC.

**North, Eric**
Eric currently works at the University of Minnesota as a research fellow, researching various issues in urban forestry and teaching classes.

**Power, Tim**
Tim Power is government affairs director for the Minnesota Nursery & Landscape Association (MNLA). Tim was an employee and co-owner of shade tree grower Law’s Nursery for 35 years. He served as committee member, committee chair, 14-year board member, and president of MNLA and the MNLA Foundation.

**Rau, Mark**
Mark has been involved in the Tree Care Industry for over 35 years, with experience in manufacturing, sales, and distribution of wood chipping, harvesting, and recycling equipment. He is accredited through the Tree Care Industry Association as a trainer for its Chipper Operator Specialist program.

**Rock, Steve**
Steve has worked for the U.S. Environmental Protection Agency in the Office of Research and Development for 20 years. He specializes in phytoremediation and phytoforensics, evapotranspiration landfill covers, brownfield agriculture, and waste to energy technologies.

**Roos, Steve**
Steve is a senior research fellow in the Center for Rural Design at the University of Minnesota. His work focuses on issues related to land use planning in rural and exurban landscapes.

**Rudolf, Sarah**
With a background in public policy, community engagement, and social change, Sarah is now steering the EAB HIA project for her native St. Paul at the Minnesota Pollution Control Agency. Sarah is fast becoming a hardcore tree advocate and is learning to think in “tree time.”

**Saalau Rojas, Erika**
Erika is a plant pathologist and extension specialist at the Iowa State University’s Plant and Insect Diagnostic Clinic. Erika earned her Ph.D. in plant pathology at ISU. Erika is currently responsible for diagnosing a wide range of plant problems as well as transferring technology and outreach education through Iowa State’s IPM program.

**Smith, Christopher**
Chris Smith has been the Risk Management Attorney with the League of Minnesota Cities Insurance Trust for the past six years where he assists cities with loss control and contractual issues. Prior to joining LMCIT, Chris was in private practice serving as bond counsel for municipalities throughout Minnesota.

**Speedsquare, Dusty**
Dusty has been building around trees since he was 15 years old. Killed a bunch of them early-on. Learned a bunch of lessons from those early, bad experiences. Studied tree biology a lot and learned to have the best of both worlds: functional structures and trees that please Dusty.

**Spivak, Marla**
Marla is a MacArthur Fellow and McKnight Distinguished Professor in Entomology at the University of Minnesota. Her research efforts focus on breeding bees for their natural defenses against diseases and parasites, promoting sustainable beekeeping practices, and propagating floral rich and pesticide-free landscapes to support the nutrition, health and diversity of bee pollinators.

**Teegarden, Jennifer**
Jennifer earned her forestry degree from the University of Minnesota and is employed by the Department of Natural Resources as their forestry outreach specialist and the go-to person for all things Tree City USA in the state of Minnesota.

**Van Riper, Laura**
Laura Van Riper is the terrestrial invasive species coordinator for the Ecological and Water Resources Division of the Minnesota Department of Natural Resources. Previously, Laura earned a Ph.D. in ecology from the University of Minnesota. Her position at the DNR focuses on terrestrial invasive species prevention, management, policy, and outreach.

**Venette, Rob**
Rob Venette conducts research for the US Forest Service on exotic, invasive insects, pathogens, and weeds that can affect trees and forests. Many of the pests he studies are not found in our state (yet!). He is also an adjunct associate professor of entomology at the University of Minnesota.

**Vogt, Jessica M.**
Jess is a doctoral candidate in environmental science (emphasis: urban ecology and urban forestry) at the School of Public and Environmental Affairs (SPEA) at Indiana University, Bloomington. Vogt is also a 2012 Garden Club of America urban forestry fellow.

**Wedul, Andrea**
Andrea is part of the Kestrel Design Group Team responsible for developing NEW content for the MN Stormwater Manual including sections on Urban Forestry, Bioretention and Green Roofs. She is trained by the MPCA on as Super-Users of the MN Stormwater calculator.
General Sessions

Can Pesticides and Pollinators Coexist? Marla Spivak
How do we protect trees and other plants from insect damage while protecting beneficial insect pollinators from pesticides? Becoming familiar with the lifestyles and floral preferences of managed honey bees and wild, native bees can help solve this conundrum. Protecting trees or protecting bees does not have to be an either/or decision: We need both!

How We Hurt The Trees We Love: A Caregiver’s Dilemma, Joe Murray
Perhaps it’s time for us to roll back on our preventative practices until we truly understand how trees do that thing that they do. In this presentation, we will examine how trees deal with less than desirable growing situations and how being parsimonious with your “care” may be in the best interest of trees.

No More Maples (for the next 10 years), and Why, Kris Bachtell
Strong tree diversity is our best protection to help avoid catastrophic losses due to pandemic disease and/or insects. Minnesota’s urban landscapes are dominated by three genera: Acer >20%, Picea >18%, Fraxinus >15%. Increased tree diversity is critically important. Learn a new list of trees options for your use.

Saving Trees and Money through Cooperative EAB Management, Jeff Hafner
As communities manage their ash trees with varying strategies, each management decision affects their neighbor’s results. A recent model predicts greater net benefits for all cities if a centralized strategy is adopted. This presentation explores how this could be done and looks at current examples of environmental cooperation.

Cold Weather Impacts on Emerald Ash Borer: State of the Science, Rob Venette
The speculation is that temperatures within known EAB-infested areas in Minnesota have been cold enough to cause a moderate to high level of larval mortality. Will this winter’s cold temperature mortality slow EAB population growth in these areas and if so, for how long? Is it enough to justify changing management plans? There’s one way for you to find the answers to these questions and more...stay for this outstanding session.

When Trees and Winds Collide, Brian Kane
Arborists prune trees for different reasons; one of the most important is to reduce the risk of failure. Can you really reduce the risk of failure by pruning? There are some competing factors at work, and it’s not as straightforward as you might think.

Concurrent Sessions

Applied Tree Biology, Doug Courneya
Understanding tree biology is critical to the arborist for making management decisions in the field. This class will discuss tree biology and how it relates to our daily practices in caring for trees. You will learn how common tree care practices affect physiological process and long term health of trees.

Applying Firewise Principles to Landscape Management in Minnesota, Linda Gormanson
As more homes are built in the woods and fields of Minnesota, the existing firefighting resources are less able to protect everyone’s property while trying to control a wildfire. Homes close to evergreens and the tall grasses of prairies or marshes are most at risk. Making your home able to survive an approaching wildfire is the goal of the Firewise program.

Building Around Trees, Dusty Speedsquare
Why take the time to build around trees if they’re only going to die in a few years? It’s not that hard to create the structure a client wants and preserve the natural shade they’ve been blessed with. This session will focus on a few practical suggestions to keep a few more mature trees.

Caught with Your Plants Down? Janna Beckerman
Diagnosing plant problems is one of the most difficult aspects of an arborist’s job. However, new technologies can assist in this process, and when coupled with a solid strategy provide better outcomes for your trees and your clients. In preparation for this session, download and explore the Purdue Tree Doctor Application for iOS or Android.

Chipper Operator Workshop, Mark Rau
Accidents involving brush chippers are a significant concern for tree care and landscape employers, the employees who operate the equipment, and manufacturers alike. For crew members who often do not receive formal training opportunities, the program will increase employee involvement with overall safety compliance and self-policing and provide crew members with an opportunity to earn a nationally recognized credential. This is a 3.5 hour workshop, offered only one time, Wednesday morning from 8-11:30. Pre-registration required; additional fee of $25 per person. You must attend the full 3.5 hours to become certified and get any credit for this workshop. The workshop will be held on the Bethel campus. See other notes on this workshop for further details.

Community Gravel Bed Nurseries, from A to Z, Mike Bahe, Gina Hugo, Judy Gibbs
Community gravel beds represent an alternative to store, maintain, and plant a variety of size bare root trees. This is an easy alternative to digging heavy B&B trees or hauling potted material and will be a game changer for business models related to logistics and community preparedness programs.

Count Us In! Volunteer Accuracy in Community Tree Surveys, Nick Bancks
In 2009 the University of Minnesota’s Forest Resources Department implemented an engagement program that drew solely on community volunteers. This program sought to help greater Minnesota communities to assess and mitigate the potential damages brought upon by the arrival of emerald ash borer. An evaluation of the community tree surveys was begun in 2011 and has provided some promising preliminary assessment of volunteer accuracy in regards to survey data collection.

EAB and Saint Paul’s Health Impact Assessment (HIA) Project: It’s More Than Losing Chlorophyll, Sarah Rudolf
Find out how this project is examining the human health impact of EAB and the projected loss of St. Paul’s ash trees. Through GIS, modeling, and review of existing data, we are assembling a body of evidence to portray to decision makers how the urban forest benefits not only the environment, but us.
Session Descriptions (Continued)

Handling Problem Employees, Patrick McGuiness
Problem employees can be a drain on productivity and morale. While you may not always be able to change their behavior, it is important to learn how to follow your employee handbook procedures and document problems as they occur. Finally, find out how to terminate employees in a legal manner.

Heightening Our Safety Awareness! Joe Bones
No aspect of tree care is more important than safety. In this session we will review safety related tools and activities that will help guide your approach to creating a safer work environment for you and your co-workers.

Identification and Management of Conifer Diseases in Minnesota, Michelle Grabowski
Learn how to identify common and emerging disease problems of coniferous trees in Minnesota landscapes. Find out what management strategies are effective for preventing and managing disease outbreaks.

Impacts of EAB: Recommended Response for Electric Utilities, Geoff Kempfer
EAB poses major reliability, cost, and safety challenges for utilities. The session presents strategies to reduce the effects of EAB, including resource sampling, cooperating with municipal and state agencies, removing trees early, communicating internally and externally, and training front-line personnel. The presentation includes suggested answers to frequently asked questions from the public.

Improving on What Nature Delivered, Kris Bachtelte
Selective plant breeding for improved traits has occurred for hundreds of years. Many attractive new plant selections host increased hardiness and better resistance to pests and diseases. This lecture addresses useful and improved woody plant selections developed from their “wild form” and describes how these selections are created and perpetuated. This session only offered one time.

Living Streets: A Case Study from Maplewood, Minnesota, Matt Kumka
With the goal of stormwater quality improvement, Ramsey-Washington Metro Watershed District, the City of Maplewood and Barr Engineering implemented Maplewood Living Streets in 2012. While narrowing 1.5 miles of residential street, the project bioretention features 160 street trees. This presentation will discuss the design and implementation of the project.

Managing Soil Nutrients, John Lamb
This presentation will explore how soil nutrient availability is affected by soil properties.

Managing Urban Trees More Efficiently with the Tree Plotter Tree Inventory Application, Ian Hanou
PlotterLITE is a comprehensive, versatile, accessible, user-friendly, and customizable web-based tree inventory program. Learn how to collect, search, and summarize tree data, create maps and planting plans, track trends in real-time, engage volunteers, inform decision-makers, and customize the app. Plotter LITE, the free version, will be demonstrated followed by the complete subscription application. Double session (one hour and 50 minutes), one-time offering (Wednesday, March 19), pre-registration required (no additional costs).

Minnesota’s Native Elm Heritage, Chad Giblin
Minnesota is home to three outstanding native elm species: American, red, and rock elm. All three are now the focus of a new selection and disease screening program at the University of Minnesota. This presentation will discuss the characteristics of these trees and specimens of interest currently under evaluation.

NEW Urban Forestry Tools in the MN Stormwater Manual and Stormwater Calculator, Mary Davy and Andrea Wedul
Introduction to the NEW online MN Stormwater Manual with demonstration of interactive capabilities with a focus on the NEW Urban Forestry Section. Demonstration of the NEW MN Stormwater Calculator and Urban Forestry Applications.

Pittsburgh's Urban Forest Master Plan: A Road Map for the Effective Management of the Urban Forest, Josh Behounek
An Urban Forest Master Plan is a road map, providing detailed information, recommendations, and resources needed to effectively and proactively manage and grow a city’s tree canopy. More importantly it provides a shared vision for the future of the urban forest to inspire and engage stakeholders in the care and protection of trees. Josh will provide an overview of the urban forest master planning process, from conception to fundraising to roll out. This session only offered one time.

Planning Urban Street Tree Infrastructure, Eric North and Steve Roos
A holistic approach to designing and managing living (vegetation) and non-living (roads, sidewalks, bridges) infrastructure elements. The goal is a more productive, longer-lived community asset rather than a series of ongoing liabilities.

Research Update from the University of Minnesota. Sugar Maple Decline; Effects of Street Reconstruction on Boulevard Trees – 20 years of Information; Elm Performance Trials on Olson Memorial Highway, Dustin Ellis, Ryan Murphy, Jonathan Fillmore
Three case studies of tree health, survival, and performance (respectively). The 2013 sugar maple decline survey was conducted in Saint Paul to determine what if any common factors are associated with the decline in health of sugar and Norway maples. In the years 1993-1994 the Kenwood neighborhood in Minneapolis, Minnesota, underwent a total street and utility infrastructure renovation. A study was initiated to determine how these construction activities would affect the existing boulevard trees. Data obtained from the 20-year study is reported. Finally, the Olson Memorial Highway tree trials will explain the research and findings from the long-term elm selection research at Olson Memorial Highway. The study looks at caliper and condition rating data to discover if other hybrid and American elm selections are feasible for use in the urban forest besides the classic Acolade and Princeton elm.

Soil Compaction, Tree Enemy #1, Dave Leonard
Soil compaction is the most harmful practice common to trees in the urban area. Session will cover the basics of compacted soil, its effects, and remediation.

Strengthen Your Assets: Hiring Employees to Be Safe, Patrick McGuiness
Employees are one of the most important assets at your Organization. In this humorous and interactive seminar, learn how to take steps to hire the right people the first time around. Find out how to structure your hiring process to consistently narrow down which employees will be safety conscious. This session only offered one time.
Session Descriptions (Continued)

The Cost of Not Caring for Trees, Jessica M. Vogt
Join this sobering discussion on the costs of maintaining and not maintaining trees, the results of a literature review commissioned by the International Society of Arboriculture.

The Effect of Landscape Trees on Residential Property Values of Six Communities in Cincinnati, Ohio, Kelley C. Dimke, Ph.D.
Presentation will focus on my research findings as published in Arboriculture & Urban Forestry March 2013. Impact of shade trees on property values in Cincinnati, Ohio, will be presented.

The Trunk Flare Diameter Calculator: Healthier Trees and Smoother Sidewalks, Eric North
Trees impact sidewalks and sidewalks impact trees but not all in the same way to the same degree. The Trunk Flare Diameter Calculator helps to predict size of trunk flare with the goal of reducing damage to sidewalks and trees. Based on research conducted in Minnesota by the University of Minnesota, Department of Forest Resources.

These are the Insect Pests you Should Know! Jeff Hahn
There are 100s of insect pests that you may encounter in the landscape. But which are the most important to know? This program will discuss the insects that attack trees and shrubs with which you should be sure to be familiar. We’ll learn how to identify these insects, know their biology, the injury they cause, and the best non-chemical and pesticide options to manage them.

Tips for a Healthy Backyard Apple Orchard, Erika Saalau Rojas
This presentation will focus on identifying common home apple orchard diseases and managing them successfully with minimal need for pesticides.

Tree and Shrub Identification: Plants with Wildlife Value, Dave Hanson
An elusive skill that slips away without practice, plant identification. So, truth in advertising, we’ll talk basics of plant identification. Second, want to talk shrubs? Trees? Maybe we’ll talk about lianas, okay vines. Whatever the plant form, your safety and what plants mean to wildlife will be a focus.

Tree Survival Factors, Rich Hauer
From abiotics to zyzyva affecting plants, urban trees are subjected to a multitude of stress factors. This presentation will portray a cohort of street trees studied since 1979 in Milwaukee, Wisconsin. Learn insights from this tree population and the on-going tree longevity research area to keep streets green.

Understanding Soils, Peter Biernacki

Using Trees as Remediation and Environmental Forensic Tools, Steve Rock
An overview of the use of trees as tools for environmental work. Trees have been used to clean surface soil and groundwater, and by tapping tree sap chemistry to track environmental spills back to their source.

What if Asian Longhorned Beetle Comes to Minnesota?
Dennis Haugen
ALB is still a concern for Minnesota. Since 1996, infestations have been found in New York, Illinois, New Jersey, Massachusetts, and Ohio. Early detection of a new infestation is key to successful eradication. Urban tree-care specialist can assist with detecting and reporting new infestations.

This panel presentation with Kathy Kromroy, Tim Power, and Laura Van Riper will focus on the factors and issues involved in determining which species are considered “invasive.” The presenters will (respectively) bring the perspectives for identifying invasive species according to the Minnesota Department of Agriculture, the Minnesota Nursery and Landscape Association, and the Minnesota Department of Natural Resources.

What’s Wrong with Urban Forest Management Plans?
Steve Nicholson
Management plans are a common element in urban forestry, but are they hitting their target? Are they relevant? Are communities asking the correct questions? We’ll explore the big picture and the details. You might be surprised by an incident retold earlier in the presentation, so don’t be late!

When the Bough Breaks: Managing Risk Related to Trees at the Municipal Level, Christopher Smith
Learn what types of claims municipalities face related to trees and how those claims can be reduced. Find out how good tree policies can reduce liability. Understand loss control issues when trees are in the right-of-way and on private property. Learn about the risks of using volunteers to manage trees.

Why are Woody Plants Sometimes Yellow? Understanding, Diagnosing, and Managing Chlorosis in Woody Plants, Dr. Fredric Miller
This session will focus on proper nutrient diagnosis, the reasons behind why trees are chlorotic, and best management practices for mitigating chlorosis of woody plants. Proper plant selection and siting, soil sampling and tissue analysis, relationship between soil pH and nutrient availability, and effective nutrient management will be discussed.

Why Trees Turn Color in the Autumn...and Sometimes July, Jeff Dawson
Media articles often describe “how” but not “why” deciduous tree leaves color in the autumn. Are these colored pigments of fall foliage and other senescing leaves just a waste product? This presentation delves into the biological basis of “why” leaf coloration occurs in deciduous trees.
From the North: Take I-35W south to the County Road E2 exit. Go east to Old S.T.H. 10 (Snelling Ave.), turn right, and take the first left into campus. Or take I-694 east to the Snelling Ave. (Highway 51) turnoff and proceed to campus entrance on the right, one-quarter mile south. Note that Old U.S. Highway 10 connects with I-694 just west of the Snelling Ave. (Highway 51) turnoff.

From the West: During daytime hours, take I-694 east to the Snelling Ave. (Highway 51) turnoff and proceed to campus entrance on the right, one-quarter mile south. During evening hours, take I-694 east; turn south onto I-35W. Take I-35W to the County Road E2 exit. Go east to Old S.T.H. 10 (Snelling Ave.), turn right, and take first left into campus.

From the East: During daytime hours, take I-694 west to Snelling Ave. (Highway 51) exit, then make immediate left at the turn-around to go south onto Snelling Ave./Highway 51. Campus entrance is one-half mile on the right. During evening hours, take I-694 west; turn south onto I-35W. Take I-35W to the County Road E2 exit. Go east to Old S.T.H. 10 (Snelling Ave.), turn right, and take first left into campus.

From the South: Take Snelling Ave. north and exit at County Road E. Turn left, proceed to Old S.T.H. 10 (Snelling Ave.), and turn right. Campus entrance is on the right. Or take I-35W north to the County Road E2 exit. Go east to Old S.T.H. 10 (Snelling Ave.), turn right, and take first left into campus.

**REGISTRATION INFORMATION**

Register:
1. Online at [www.cce.umn.edu/shadetree](http://www.cce.umn.edu/shadetree)
2. Fax your registration along with credit card number or purchase order number to 612-624-5359.
3. Mail registration form to:
   CCE Registration Center
   University of Minnesota
   201 Coffey Hall
   1420 Eckles Avenue
   Saint Paul, MN 55108-6069

Please Note:
1. Please print or type when you fill in the registration form.
2. Use separate forms for each individual. Registration form may be photocopied.
3. We may be working outdoors so dress appropriately.
4. Cell phone etiquette – please remember to turn off your cell phones during all course sessions. Cell phone ringing and talking is disruptive to other participants.

Cancellations
If you need to cancel your registration, a refund, minus $30, will be issued if you cancel by March 7, 2014. Cancellations after this date will not be eligible for a refund.
# Registration Form

**Minnesota Shade Tree Short Course – March 18-19, 2014**

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### Registration Fees:

- $180  **Registration fee by March 2, 2014**
- $195  **Registration fee after March 2, 2014**
- $40   **Student registration fee**
- $95   **Tree board/park board member fee**
- $0    **Student poster presenter**

### Attendance Plans

- $25   **Chipper Operator Workshop (Wednesday, March 19, 8-11:30 a.m.)**
- **Tree Plotter Tree Inventory Session (laptop/tablet device required)**
- **I will attend the MSA picnic on Tuesday evening, March 12 (Como Park)**

- **I request vegetarian lunches.**
- **I request gluten-free lunches.**

### Payment Method

- Enclosed is a check or purchase order payable to the University of Minnesota
- Please bill my organization (purchase order or letter of authorization attached)
- Please charge my U of M EFS#:

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**Name as it appears on card**

**Signature**

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**NOTE:** Registrations without payment will delay processing.

The information on this form is private data, used to identify and locate you, obtain payment, and enable instructors to better know their audience. Name, address, and method of payment are mandatory.

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