50th Annual

MINNESOTA SHADE TREE SHORT COURSE

A two-day course for everyone involved in urban forestry and arboriculture.
ISA Certified Arborist CEUs are available for most sessions.

March 20–21, 2012

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

Ensuring Tree Health Since 1963

www.cce.umn.edu/shadetree.

UNIVERSITY OF MINNESOTA
Driven to Discover℠

MINNESOTA SHADE TREE SHORT COURSE 2012: *NUMBER 50 IN A SERIES*

If you would have planted a tree the first year the Minnesota Shade Tree Short Course was held, it would be 50 years old now. Depending on the tree, it could be as tall as 50 feet, shading your patio or touching other tree canopies on your boulevards.

Fifty years ago, a few of you were just beginning your careers in arboriculture, arming yourselves with chainsaws and jousting the evil Dutch elm disease that was just getting a foothold in Minnesota. Many of you were still in elementary school but remember how your neighborhoods were transformed from cool, leafy glades of green to heat and sun. Most of you weren't even born and only have stories and pictures of what Minnesota's communities used to look like. You've grown accustomed to streets lined with crabapples and tree lilacs.

We're lucky. We still have elms to care for and protect from the disease, despite the predictions of many that the tree would be eliminated from the face of the earth. Somehow, we must have done something right! We're lucky that we're still together despite several recessions, budget cuts, and communities eliminating arborist positions. We're also lucky that we have the opportunities to continue learning and become better at our jobs, our chosen professions.

We're still growing after 50 years, in attendance at the Short Course and in our job responsibilities. Arboriculture is only one part of urban forestry now. We're expected to manage altered soils, raging storm water, and the air we breathe. We manage people, complicated budgets, noxious and invasive plants, trails, construction projects, and renewed assaults from introduced insects and pathogens. We're now part engineer, landscape architect, nursery tree grower, social scientist, and arborist! And we have an international program that certifies our competencies as urban forest and tree managers.

One constant has been the annual Minnesota Shade Tree Short Course, a chance for us to learn from each other, experts and students in the professions. It's been our annual chance to introduce new people to the profession and our community, and for many of you it's been the one guaranteed time of the year that you can learn some new technique or piece of information that helps you become a better manager.

Join us again this year to rub shoulders with 900 or more of your colleagues, listen to some of the most popular speakers from the past few years, or maybe attend one of the pre-conference workshops for some real details into topics that may help you become more professional. It's also a good time to think about planting a tree that will be 50 feet tall by the second, 50-year anniversary of the Minnesota Shade Tree Short Course.

Gary Johnson
Department of Forest Resources
College of Food, Agricultural and Natural Resource Sciences
University of Minnesota

TABLE OF CONTENTS

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 18) 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 Short Course, Department of Forest Resources, College of Food, Agricultural and Natural Resource Sciences, University of Minnesota

Mike Bahe, Municipal Arborist, City of Hutchinson

Dave 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

Bob Koch, Minnesota Department of Agriculture

Jeff Loso, City of Bloomington Municipal Forestry

Jean Mouelle, Department of Natural Resources

Gail Nozal, Consulting Urban Forestry, S&S Tree and Horticultural Specialists

Philip Potyondy, Urban Forester/GIS Analyst, Minneapolis Park and Recreation Board Forestry Division

Mark Schnobrich

Mark Stennes, Commercial Arborist, S&S Tree and Horticultural Specialists

Paul Voigt, Agency Urban Forester, Minnesota Department of Transportation

Certification and Credit

- Certified tree inspectors will be recertified for 2012 by attending the entire short course.
- ISA CEUs will be given for most 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 Information

Andrea Dierich
Minnesota Department of Natural Resources
Division of Forestry – Box 44
500 Lafayette Rd.
Saint Paul, MN 55155
651-259-5306

Registration Questions

612-625-2900

For More Information

Heather Dorr or Emily Strong
University of Minnesota
612-624-3492
cceconf3@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

CONFERENCE AT A GLANCE

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: Our Forests: The Past and Future of Forestry in America**
  Katie Fernholz, Dovetail Partners, Inc.
- **GSII: Understanding Wood Decay in Trees and Wood Products**
  Bob Blanchette, University of Minnesota
- **GSIII: Arborists as Athletes: Measuring Performance**
  John Ball, South Dakota State University
- **GSIV: Electrical Touch Potential Exposure Created by Tree Contact with Overhead Power Lines**
  John Goodfellow, BioCompliance Consulting, Inc.
- **GSV: An Overview of Designed Soils for the Integration of Trees, Pavement, and Stormwater Management**
  Jason Grabosky, Rutgers University
- **GSVI: Targeted Stormwater Management**
  Gregg Thompson, City of Edina

Concurrent Sessions (in alphabetical order)

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.

- Biology and Management of Bur Oak Blight, a Newly Recognized Disease in Iowa and Minnesota
- Conifer Defoliators in Minnesota
- Diagnosing Tree Diseases
- Drought: Physiology, Ecology, and Why I Should Care
- Invasive Tree Pests Threatening Minnesota's Trees
- Native Trees of Minnesota
- Small-Stature Trees for the Upper Midwest
- Spots, Casts, Blights, and Other Frights: Common Plagues of Pine
- Thousand Cankers Disease: Biology, Distribution, Detection, and Management
- Urban Wildlife Management
- Water, Water, Everywhere! The Impacts of Flooding on Tree and Shrub Health

Best Sessions for ISA Certified Arborist Exam Preparation

For those conference attendees who are also preparing to take the ISA Certified Arborist exam in the near future, these sessions correlate to the topics that the examination addresses. It's impossible to take them all, but select from the topics that will strengthen those weak spots.

- Blowing in the Wind: Wind-Resisting Features of Trees
- Current Trends, Standards, and BMPs for Tree Risk Assessment
- Diagnosing and Correcting the "Physical Problems" of Urban Soils
  Only offered one time
- Diagnosing Tree Diseases
- Diagnosing the "Underground World" of Tree and Shrub Abiotic Stress
  Only offered one time
- Drought: Physiology, Ecology, and Why I Should Care
- Invasive Exotics: The Michigan Experience
- Preserving Boulevard Trees in Milwaukee by Minimizing Construction Damage
- Support Systems for Mechanically Challenged Trees
- Water, Water, Everywhere! The Impacts of Flooding on Tree and Shrub Health

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.

- A Review of UAA's New Best Management Practice Establishing a Closed Chain of Use in the Utility Vegetation Management Industry
  Only offered one time
- Biology and Management of Bur Oak Blight, a Newly Recognized Disease in Iowa and Minnesota
- Common Decay Problems in Landscape Trees
  Only offered one time
- Current Trends, Standards and BMPs for Tree Risk Assessment
- Deicing Salts and the Decline of Pines in the Dakotas
  Only offered one time

- Diagnosing and Correcting the "Physical Problems" of Urban Soils
  Only offered one time
- Diagnosing the "Underground World" of Tree and Shrub Abiotic Stress
  Only offered one time
- Drought: Physiology, Ecology, and Why I Should Care
- Paths in the Landscape
- Preserving Boulevard Trees in Milwaukee by Minimizing Construction Damage
- Spots, Casts, Blights, and Other Frights: Common Plagues of Pine
- Support Systems for Mechanically Challenged Trees
- Thousand Cankers Disease: Biology, Distribution, Detection and Management
- Water, Water, Everywhere! The Impacts of Flooding on Tree and Shrub Health

Only Offered One Time

These sessions are a "once-in-a-lifetime opportunity," so if they look really interesting and useful, make sure they get scheduled in your course plan on the day and time they're offered.

- A Review of UAA's New Best Management Practice Establishing a Closed Chain of Use in the Utility Vegetation Management Industry
  Only offered one time
- Common Decay Problems in Landscape Trees
  Only offered one time
- Diagnosing and Correcting the "Physical Problems" of Urban Soils
  Only offered one time
- Diagnosing the "Underground World" of Tree and Shrub Abiotic Stress
  Only offered one time
- Deicing Salts and the Decline of Pines in the Dakotas
  Only offered one time
- Developing an Urban Context for the Assignment of Site Index for Better Urban Practices
  Only offered one time
- Maintenance Issues with Vegetated Stormwater BMPs 8
  Only offered one time
- Tree City USA: Recipients, Banner Awards, Personal Tales
  Only offered one time
  Pre-registration required

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.

- An Update on the Transplanted Grandfather Oak of Eagan
- Connecting People with Their Trees: Turning Tree Biology into Art
- Invasive Exotics: The Michigan Experience
- Preserving Boulevard Trees in Milwaukee by Minimizing Construction Damage: The Rationale and Practice of Funding Community Forestry Through Municipal Infrastructure Budgets Tree City USA: Recipients, Banner Awards, Personal Tales
- What Builds Community Capacity?

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!

- Blowing in the Wind: Wind-Resisting Features of Trees
- Developing an Urban Context for the Assignment of Site Index for Better Urban Practices
  Only offered one time
- Invasive Exotics: The Michigan Experience
- Maintenance Issues with Vegetated Stormwater BMPs
  Only offered one time
- Problematic Pests of Tilia Species: What you Need to Know The Scientific Basis for Emerald Ash Borer Management and The Scientific Basis for Emerald Ash Borer Management and Ash Conservation in Urban Forests and Landscapes
- Through the Trees: How Tree Rings Can Help Us Understand Environmental Change in Minnesota

New This Year: One-Day Workshops

How to Fell a Tree

March 20, 2012 – One-Day Workshop

Just about anyone can fell a tree - even a rodent using only its teeth. But tree felling is much more than making a couple cuts with a saw and hollering "Timber!" as you run for your life. In this hands-on workshop Jeff will discuss and demonstrate a variety of methods to consistently fell a tree where you want it without killing, injuring, or panicking people and without damaging property. Dress for the weather and bring a helmet.

- Pre-registration is required; no on-site registration is available.
- Limited to 10 participants.
- Six-hour workshop, lunch provided.
- No refunds will be issued.

Equipment
Participants do not need to bring additional equipment. Please dress for work outdoors.

Participants must have their own Personal Protective Equipment (PPE)

Location
Participants will check in at the Short Course registration in the Great Hall Foyer, at Bethel University. Then, participants will be transported to an off-site location for the workshop. Off-site location to be determined.

Instructor
Jeff Jepson

Registration Fee

$120 by March 6, 2012
$135 after March 6, 2012

Schedule

6:45 a.m.	Registration begins at Bethel University
7:30	Bus transportation to workshop location
8:00-11:00	Workshop
11:00-12:00 noon	Boxed lunches provided
12:00-3:00 p.m.	Workshop continues
3:00	Bus transportation to Bethel University

Updating Your Climbing Practices: Useful Techniques for Production Arborists and Any Climber in Need of a Refresher

March 20, 2012 – One-Day Workshop

Tree climbing techniques have evolved greatly over the last decade... especially over the last few years. Improvements in manufacturing technology have opened the door to previously unavailable hardware and textile configurations. These improvements, along with constant innovation by hard working arborists around the world, are springing forth new techniques as well as streamlining and simplifying existing systems and practices. This climbing session is hands on and will cater to climbers of all skill levels. Whether you are a highly experienced climber at the top of your game, an upstart in your first year, or anyone in between... you are guaranteed to learn something new in this climbing session!

- Pre-registration is required; no on-site registration is available.
- Limited to 20 participants.
- Six-hour workshop, lunch provided.
- Climbers assume ultimate responsibility for the condition of their gear.
- Rain or shine barring steady rain, blizzard, or high winds (excess of 25 mph).
- No refunds will be issued.

Topics Covered
- Brief overview of rope and hardware types; applicable standards.
- Discussion of compatibility and configuration of gear.
- Brief discussion of friction and mechanical advantage, and how this affects climbing systems.
- Ascending systems and configurations; discussion of rescue preparedness.
- Climbing line and lanyard use in work positioning; multiple anchor points.
- Counterbalance rescue method.

Equipment
Participants must have their own Personal Protective Equipment (PPE) and climbing gear. Please dress for work outdoors.

Location
Participants will check in at the Short Course registration in the Great Hall Foyer, at Bethel University. Then, participants will be transported to an off-site location for the workshop.

Instructors
Nick Grebe
Taylor Hamel
Pierce Wasmund

Registration Fee

$120 by March 6, 2012
$135 after March 6, 2012

Schedule

6:45 a.m.	Registration begins at Bethel University
7:30	Bus transportation to workshop location
8:00-11:00	Workshop
11:00-12:00 noon	Boxed lunches provided
12:00-3:00 p.m.	Workshop continues
3:00	Bus transportation to Bethel University

SPEAKERS

Conference Workshop Speakers

Nick Grebe has a bachelor of science degree in horticulture from the University of Minnesota. While attending college, he began his climbing career by working for Campus Landcare. The summer after graduation, he worked for Meixner Tree Service in southern Minnesota. In 2007, Nick began climbing for Rainbow Treecare and now serves as a crew foreman. He has participated four times in the Minnesota Tree Climbing Competition; and this summer was fortunate enough to compete in the International Tree Climbing Competition in Sydney, Australia. Nick is very passionate about his work, and finds it important to stay informed on the latest pruning and safe climbing techniques.

Taylor Hamel is an ISA certified arborist and contract climber residing St. Paul, Minnesota. He provides educational outreach and product support, including video user's guides, for Treemagineers, DMM, Teufelberger, and New England Ropes. Taylor travels in the US, UK, and Europe working as a contract climber involved in arboriculture, dismantling and felling, seed collection, leaf sampling, workshops, product demonstrations, and climbing competitions.

Jeff Jepson is a certified arborist and has owned Beaver Tree Service in Longville, Minnesota, since 1989. He has been climbing, cutting, chipping, chopping, and caring for trees for more than 25 years.

He has written two valuable books for the tree care industry. His first book, *The Tree Climber's Companion*, was published in 1997 and has sold more than 100,000 copies. His second book, *To Fell a Tree*, was released in 2009 and is already becoming a best-seller among tree cutting professionals (as well as the weekend woodcutter).

Pierce Wasmund is a production climber for Northern Arborist. He is an ISA certified arborist and certified tree worker climber specialist. Pierce is the past president of the Minnesota Society of Arboriculture and active in outreach and education for arborists in the Upper Midwest. He has 15 years experience in tree care and is also a graduate of the University of Minnesota urban forestry program.

General Session Speakers

John Ball is a professor of forestry (and campus arborist) at South Dakota State University. Dr. John Ball works from the "ground up" conducting extensive research in tree worker safety and arboricultural topics. He also instructs some of the emergency medical technician course work on campus. John has long been on the list of the Minnesota Shade Tree Short Courses' Favorite Speakers, and is sure to relate research and information to you that you can readily use.

Bob Blanchette is a professor in the Department of Plant Pathology at the University of Minnesota. He teaches classes on forest and shade tree diseases and is involved with research on microorganisms that attack trees and wood, how trees defend themselves, selecting resistant trees to pathogens, biotechnological uses of forest fungi, and conservation of historic buildings.

Katie Fernholz is executive director, Dovetail Partners. Katie has been a leader within the forestry community in the Upper Midwest through her service as chair of the Minnesota Society of American Foresters and her appointment to the Minnesota Forest Resources Council. Kathie served as a member of the Advisory Board for the Blandin Foundation's Vital Forests/Vital Communities Initiative, and currently serves on the Minnesota DNR's Stewardship Committee and the Forests for the Future Committee. She is a member of the Board of Directors for the Minnesota Environmental Partnership, the Forest Guild, Renewing the Countryside, and the College of Food, Agricultural and Natural Resource Sciences Alumni Society.

John Goodfellow is principlal consultant with BioCompliance, Inc. located in Redmond, Washington. Mr. Goodfellow has over 30 years experience in the electric and gas utility industries; having held positions of increasing responsibility for vegetation management, T&D operations, maintenance, and engineering at three large investor owned electric and gas utilities. Mr. Goodfellow has been the principal researcher on several R&D projects focusing on the modes and causes of tree-caused power interruptions. This work has led to development of a conceptual model useful in understanding and characterizing the risks of tree initiated electrical faults on overhead electric distribution lines.

Jason Grabosky is an associate professor in natural resources at Rutgers University. His current research includes survey and testing of established landscapes to develop canopy sizing coefficients for designing better parking lot ordinances, assessing tree growth in various pavement-tree planting details to develop realistic canopy-size expectations for urban design. A second research area is the development of a modulus of root reaction in pavement design to accommodate the presence of street tree roots in integrated tree-pavement systems and objectively evaluate pavement protection strategies.

Gregg Thompson is a water resources specialist with the City of Eagan. His background is in landscape architecture with a focus in planning and implementation of soil-stabilization and stormwater-treatment practices utilizing native vegetation. Gregg has over 15 years of sustainable landscape development experience working on residential, commercial, and public projects.

Concurrent Session Speakers

Diana Alfuth is the horticulture educator for UW-Extension in Pierce County, located in Ellsworth, Wisconsin. She is also the landscape design instructor at UW-River Falls, previously taught design at the University of Minnesota, and has a small landscape design business. Originally from Stevens Point, Wisconsin, she obtained her bachelor's and master's degrees in horticulture, with emphasis in landscape design, from the University of Minnesota.

Chris Carlson has been an ISA certified arborist since 1991 and as an associate professor of biological sciences and horticulture technology at Kent State Salem campus, teaches seven courses including urban forestry and arboriculture, which is one of three concentration areas within the university's horticulture program. Chris recently received the Award of Merit from the International Society of Arboriculture (ISA). The once in a lifetime honor is given for outstanding and meritorious service in advancing the principles, ideals, and practices of professional tree care and arboriculture and contributing materially to the promotion of the ISA.

David Forcell is president of Keep Indianapolis Beautiful, Inc.

Michelle Grabowski has been working as 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 common diseases of horticultural crops in Minnesota. She works with home gardeners, commercial fruit and vegetable growers, lawn and landscape professionals, arborists, and other members of the green industry. Michelle shares information through online publications, hands-on workshops, classes, and other educational programs. She focuses on identification and management of current and emerging plant disease problems.

Jeff Hahn has a master's degree in entomology and is currently one of the extension entomologists for the University of Minnesota, where he's been on staff since 1984. One of his special interests is urban insects, specifically insects in homes, gardens, and landscapes. During his time at the University, he has conducted hundreds of programs for audiences ranging from landscape professionals to elementary school children. He's also been featured in print, broadcast, and online media on numerous occasions.

Dave Hanson is an urban and community forester, Minnesota Department of Transportation. After nearly 10 years at the University of Minnesota in the Department of Forest Resources, MnDOT came calling and Dave accepted the challenge. Over the years Dave has talked tree identification and shared current tree-care practices with groups such as Minnesota Conservation Corp, Tree Inspectors, Master Gardeners, Arborists, and other groups in the Green Industries. Dave learned the tree identification craft working side-by-side with Carl Vogt and recently co-taught the dendrology course at the University of Minnesota with Andy David. With the help of many friends and teachers, Dave has worked identifying trees, shrubs, and native plants around Minnesota and thrives on helping others learn this craft.

Tom Harrington has conducted research on tree diseases around the world for 35 years, specializing in fungi associated with insects, such as the species that cause oak wilt, Dutch elm disease, and laurel wilt. He obtained degrees in plant pathology from Colorado State University, Washington State University, and University of California at Berkeley. He taught forest pathology at the University of New Hampshire for eight years and then joined Iowa State University in 1991. His primary teaching responsibility at ISU is a course on forest insect and disease ecology.

Rich Hauer is an associate professor of urban forestry at the University of Wisconsin, Stevens Point. Rich has been involved in urban forestry as a tree inspector, an arborist, a researcher and educator, and an author for many years. One of our most popular speakers, Rich is always welcome when he comes back home to Minnesota.

Dan Herms is a professor in the Department of Entomology at The Ohio State University and serves as the chairperson of the Entomology Department. His research and outreach programs focus on ecology and management of insects in forests, urban forests, ornamental landscapes, and nurseries. He received his B.S. in landscape horticulture from Ohio State University, his M.S. in both horticulture and entomology, also from Ohio State University, and a Ph.D. in entomology from Michigan State University. He currently serves on USDA APHIS National Science Advisory Panels for emerald ash borer and Asian longhorned beetle, and the Ohio Emerald Ash Borer Task Force.

Ken Holman is the urban and community forestry state coordinator, Minnesota Department of Natural Resources, Forestry Division. As such, Ken is responsible for the management of the state's Tree Inspector Program as well as Minnesota's Tree City USA program.

Gregg Hove. For the past 18 years Gregg has managed the City of Eagan's Forestry Division as the supervisor of forestry with responsibilities of overseeing a 10-person staff that performs tree and landscape management, and shade tree disease management. Gregg is also responsible for the review, inspection, and enforcement of tree preservation efforts as required through Eagan's Tree Preservation Ordinance. Gregg has a bachelor of science degree in forest resources and a master of science degree in forest regeneration, both from the University of Minnesota.

Jeff Iles is professor and chair of the Department of Horticulture at Iowa State University, Ames, Iowa. He teaches, conducts applied research, and provides Extension programming in the areas of garden center management, plant material usage, and landscape plant establishment and maintenance. He received his B.S. from Michigan State University, M.S. from Penn State University, and Ph.D. from Iowa State University. All degrees are in horticulture. Jeff has managed retail garden centers in suburban Detroit, Michigan, and Denver, Colorado, and in his "spare time" he is an ice hockey referee.

Jennifer Juzwik works as a research plant pathologist with the Northern Research Station of the U.S. Forest Service on the St. Paul campus of the University of Minnesota. Her career-long work has focused on aspects of insect-fungal interactions harmful to tree health with the walnut twig beetle - Geosmithia fungus complex, a.k.a. Thousand Cankers Disease, being the most recent addition to her "to-do" list.

Steve Katovich is an entomologist with the USDA Forest Service, State and Private Forestry, Northeastern Area, St. Paul, Minnesota.

Skip Kincaid, senior consulting urban forester, Davey Resource Group – St. Louis, Missouri . Skip has a wide range of urban forestry experience and is responsible for assisting governments, businesses, utilities, attorneys, architects, and engineers with the performance of tree risk assessments; tree appraisals; storm damage assessment projects; tree preservation plans on construction sites; urban forestry master plans; ordinance writing; and expert witness testimony. Recent tree inventories and management plans include National Park Service projects at the Gateway Arch grounds in St. Louis, Missouri, and the Vanderbilt Mansion National Historic Site in Hyde Park, New York; Emerald Ash Borer strategies for Elgin, Illinois, and London, Ontario. Skip also completed an inventory and Master Management Plan for the historic 1,300-acre Forest Park in St. Louis.

Bob Koch has a Ph.D. in entomology from the University of Minnesota and is a research scientist with the Minnesota Department of Agriculture. His work focuses on management (prevention, early detection, and rapid response) of new invasive pests.

John Loeggering is a certified wildlife biologist and associate professor of wildlife ecology at the University of Minnesota. He serves in a joint appointment between the Department of Fisheries, Wildlife, and Conservation Biology on the St. Paul campus and the Natural Resources Department on the Crookston campus. John has worked with the University of Minnesota Extension Service on wildlife-related issues for the Master Gardener and Woodland Advisor programs since 2001. He regularly speaks to groups on human-wildlife interactions, wildlife damage management, and enhancing landscapes for wildlife. His research focuses on habitat associations and reproductive performance of wild birds.

Joe O'Brien is a plant pathologist with the USDA Forest Service, State and Private Forestry, Northeastern Area, St. Paul, Minnesota.

Tom Peter is a certified arborist and experienced artist. His tree care and artistic expertise span the last eight years. His Company, Respectful Transitions, is based in Bloomington Minnesota.

Scott St. George is an assistant professor of geography at the University of Minnesota, and is based on the West Bank of the Twin Cities campus. He is also an adjunct assistant professor in the Department of Environmental Sciences at Queen's University in Kingston, Canada. Dr. St. George studies environmental variability at timescales that range from several weeks to several hundred years, with the goal of producing scientific knowledge that addresses the needs of decision-makers responsible for water supplies, renewable energy, and natural hazards. His research specializations include dendrochronology and dendroclimatology, low-frequency behavior in the climate system, and the northern Great Plains during the late Holocene. Prior to joining the faculty at University of Minnesota, Dr. St. George was a research scientist with the Geological Survey of Canada in Ottawa, Canada.

Ron Smith, NDSU extension horticulturist and certified ISA arborist, has been involved in the green industry all his working life – with some time out to serve in the US Navy. He has B.S. and M.S. degrees from the UGA and a Ph.D. from OSU. He has worked in the landscape contracting industry in New Jersey, Ohio, Colorado, Texas, and Saudi Arabia. Teaching experiences include OSU, TTU, UAZ, and NDSU. He has served NDSU Extension as a horticultural specialist since 1985.

Glen Stanosz is a native of Milwaukee. He earned a B.S. in forest biology from the State University of New York, College of Environmental Science and Forestry at Syracuse in 1976, and M.S. and Ph.D. degrees in plant pathology from the University of Wisconsin-Madison in 1983 and 1985, respectively. Prior to joining the faculty of the departments of Plant Pathology and Forest and Wildlife Ecology at the University of Wisconsin-Madison in 1992, Glen was the forest pathologist for the Pennsylvania Bureau of Forestry for almost five years. He currently teaches students in horticulture, landscape architecture, and forestry, as well as professionals in the "green industry" and does research on a variety of fungi and the diseases they cause on forest, nursery, and landscape trees and shrubs.

Gregg Thompson is a water resources specialist with the City of Eagan. His background is in landscape architecture with a focus in planning and implementation of soil-stabilization and stormwater-treatment practices utilizing native vegetation. Gregg has over 15 years of sustainable landscape development experience working on residential, commercial, and public projects.

Steven Vogel is a research professor at Duke University, and his projects mainly ask how the structural arrangements of organisms reflect adaptation to the mechanics of moving fluids. He has worked on such things as the design of fly wings for producing lift, of moth antennae for transmitting air, and on the form of leaves in relation to convective cooling in very low winds and to drag-reducing reconfigurations in very high winds.

Gary Wemeier is the owner of Northern Arborists, a full-service tree care company in Lake Elmo, Minnesota, and an International Society of Arboriculture certified arborist.

R. Chris Williamson is an associate professor of entomology at the University of Wisconsin-Madison where he is an extension/research entomologist in urban landscape entomology. Dr. Williamson's lab is one of the most active applied research groups studying insect pests of the urban landscape. He and his students have published results generated from his lab in numerous scientific papers, book chapters, and trade journal articles.

Joe Zeleznik is an extension forester with North Dakota State University. His professional duties are described as providing statewide leadership in forestry and natural resource programs, workshops and training sessions in forestry with an emphasis on pest identification and management. Joe is one of our most popular STSC presenters and always brings a very practical perspective to his sessions.

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

ISA Certification Code Information

A Certified Arborist
T Certified Tree Worker
M Municipal
U Utility
Bs BCMA Science
Bp BCMA Practice
Bm BCMA Management

Attendance sheets will be offered immediately after each session.
For more information regarding ISA CEUs, please visit www.isa-arbor.com/certification/ceus.aspx.

Best Sessions for Tree Inspectors

Title	CEU Hours
Biology and Management of Bur Oak Blight, a Newly Recognized Disease in Iowa and Minnesota	1AMBs
Conifer Defoliators in Minnesota	.75AMBs(Tues) 1AMBs (Wed)
Diagnosing Tree Diseases	1ATMBs
Invasive Tree Pests Threatening Minnesota's Trees	.75AMBs(Tues) 1AMBs(Wed)
Native Trees of Minnesota	.75ATMBs
Small-Stature Trees for the Upper Midwest	.75AMBs
Spots, Casts, Blights, and Other Frights: Common Plagues of Pine	.75AMBs
Thousand Cankers Disease: Biology, Distribution, Detection, and Management	.75AMBs
Urban Wildlife Management	1AMBm
Water, Water, Everywhere! The Impacts of Flooding on Tree and Shrub Health	1AMBs

Best Sessions for ISA Certified Arborist Exam Preparation

Diagnosing Tree Diseases	1ATMBs
Water, Water, Everywhere! The Impacts of Flooding on Tree and Shrub Health	1AMBs
Current Trends, Standards and BMPs for Tree Risk Assessment	.75ATMUBp
Drought: Physiology, Ecology, and Why I Should Care	.75AMBs
Diagnosing Tree and Shrub Disorders: Plant Problems that Begin with Soil Problems	.75AMBp
Support Systems for Mechanically Challenged Trees	.75ATMBp
Preserving Boulevard Trees in Milwaukee by Minimizing Construction Damage	.75AMBm
Diagnosing and Correcting Soil Problems: The Physical Challenges of Urban Soils	.75AMBm
Invasive Exotics: The Michigan Experience	.75AMBm
Blowing in the Wind: Wind-Resisting Features of Trees	.75ATUMBp

Title	CEU Hours

Technical

Biology and Management of Bur Oak Blight, a Newly Recognized Disease in Iowa and Minnesota	1AMBs
Common Decay Problems in Landscape Trees	.75ATMBs
Current Trends, Standards, and BMPs for Tree Risk Assessment	.75ATMUBp(Tues) 1ATMUBp(Wed)
Deicing Salts and the Decline of Pines in the Dakotas	.75AMBs
Diagnosing and Correcting Soil Problems: The Physical Challenges of Urban Soils	.75AMBs
Diagnosing Tree and Shrub Disorders: Plant Problems that Begin with Soil Problems	.75AMBs
Drought: Physiology, Ecology, and Why I Should Care	.75AMBs
Spots, Casts, Blights, and Other Frights: Common Plagues of Pine	.75AMBs
Paths in the Landscape	.75AMBm
Preserving Boulevard Trees in Milwaukee by Minimizing Construction Damage	,75AMBm
A Review of UAA's New Best Management Practice Establishing a Closed Chain of Use in the Utility Vegetation Management Industry	1AMUBm
Thousand Cankers Disease: Biology, Distribution, Detection, and Management	.75AMBs
Water, Water, Everywhere! The Impacts of Flooding on Tree and Shrub Health	1AMBs
Support Systems for Mechanically Challenged Trees	.75ATMBp (Tues) 1ATMBp (Wed)

Only Offered One Time (Tuesday)

Common Decay Problems in Landscape Trees	.75ATMBs
Deicing Salts and the Decline of Pines in the Dakotas	.75AMBs
Developing an Urban Context for the Assignment of Site Index for Better Urban Practices	1AMBm
Diagnosing and Correcting Soil Problems: The Physical Challenges of Urban Soils	.75AMBs
Diagnosing Tree and Shrub Disorders: Plant Problems that Begin with Soil Problems	.75AMBs
Maintenance Issues with Vegetated Stormwater BMPs	1AMBm
A Review of UAA's New Best Management Practice Establishing a Closed Chain of Use in the Utility Vegetation Management Industry	1AMUBm
Tree City USA: Recipients, Banner Awards, Personal Tales	.75AMBm

Community Forestry Sessions

Connecting People with Their Trees: Turning Tree Biology into Art	.75AMBm
Invasive Exotics: The Michigan Experience	.75AMBm
Preserving Boulevard Trees in Milwaukee by Minimizing Construction Damage	.75AMBm
The Rationale and Practice of Funding Community Forestry Through Municipal Infrastructure Budgets	1AMBm
Tree City USA: Recipients, Banner Awards, Personal Tales	.75AMBm
An Update on the Transplanted Grandfather Oak of Eagan	1AMBm
What Builds Community Capacity?	1AMBm

Title	CEU Hours

Advanced Technical Sessions

Blowing in the Wind: Wind-Resisting Features of Trees	.75ATUMBp
Developing an Urban Context for the Assignment of Site Index for Better Urban Practices	1AMBm
Invasive Exotics: The Michigan Experience	.75AMBm
Maintenance Issues with Vegetated Stormwater BMPs	1AMBm
Problematic Pests of Tilia Species: What you Need to Know	.75AMBs
The Scientific Basis for Emerald Ash Borer Management and Ash Conservation in Urban Forests and Landscapes	1AMBs
Through the Trees: How Tree Rings Can Help Us Understand Environmental Change in Minnesota	1AMBm

REGISTRATION FEES

The early registration fee, received by March 6, is $175 per person. The regular fee after March 6, and at the door is $190 per person. The registration fee includes general session, breakouts, breaks, lunches, and handouts.

Student Rate

Student registration is $40 per student.

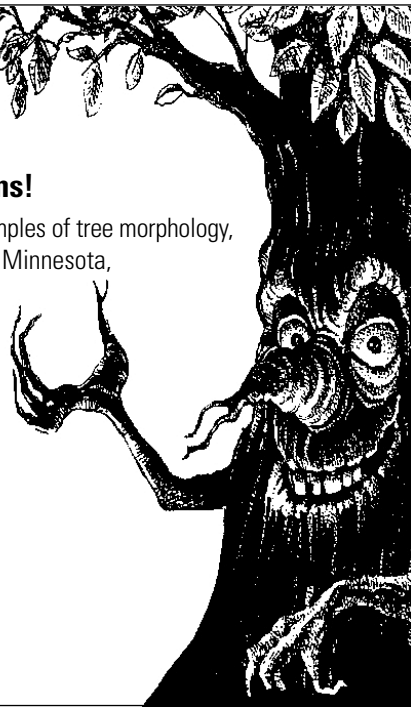
To obtain the student rate, a statement from the student's academic adviser must accompany the registration form. The statement must confirm the student's current enrollment in a post-secondary, degree program, along with the institution's name, the adviser's name, and the adviser's signature.

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 where the person is a member of the tree or park board must accompany the registration form.

Tree House of Horrors–2012



The Tree House of Horrors: Your Gateway to Diagnosing Tree Health Problems!

Fresh samples from common tree problems will test your diagnostic skills. As always, the interesting samples of tree morphology, decay, embedded artifacts in trees and other phenomena provided by local arborists, the University of Minnesota, Minnesota Department of Transportation, and Minneapolis Park Board collections will be on display.

Back by popular demand will be the poster displays of our current research projects at the University of Minnesota as well as the latest information on invasive insect pests of trees and shrubs. As always, there will be experts on hand to discuss those tree health questions that you always seem to encounter on your job.

A tree identification quiz will be available on both days in the THOH for everyone, and ISA certified arborists may earn 1.0 CEUs for correctly answering 72 percent of the tree samples.

The Tree House of Horrors is organized by:

Sean Peterson, Department of Forest Resources, University of Minnesota

EXHIBIT AREA CLASSES

The exhibit area "mini-classes" that we instituted in 2009 were so well received that they will be back for 2012. These 15-20-minute classes, offered in the exhibit area during the open hours, will cover a number of topics. Topics will be listed in the final program.

MINNESOTA SHADE TREE SHORT COURSE – MARCH 20-21, 2012

Tuesday, March 20, 2012

6:45 a.m.
Registration Begins – Benson Great Hall Foyer

7:30
Welcome and Opening Remarks

Gary Johnson, Department of Forest Resources, College of Food, Agricultural and Natural Resources Science, University of Minnesota

7:45
GSI: Our Forests: The Past and Future of Forestry in America

Katie Fernholz, Dovetail Partners, Inc.

8:40
GSII: Understanding Wood Decay in Trees and Wood Products

Bob Blanchette, University of Minnesota

9:35
GSIII: Arborists as Athletes: Measuring Performance

John Ball, South Dakota State University

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

11:45
Group 3 Lunch Break – Dining Center

12:15 -1:00
CONCURRENT SESSIONS

Common Decay Problems in Landscape Trees
Bob Blanchette, University of Minnesota
Technical Session
Only offered one time.

Connecting People with Their Trees: Turning Tree Biology into Art
Tom Peter, Respectful Transitions
Community Forestry

Invasive Tree Pests Threatening Minnesota's Trees
Bob Koch, Minnesota Department of Agriculture
Best Sessions for Tree Inspectors

Problematic Pests of Tilia Species: What You Need to Know
Chris Williamson, University of Wisconsin Madison
Advanced Technical

Spots, Casts, Blights, and Other Frights: Common Plagues of Pine
Glen Stanosz, University of Wisconsin Madison
Best Sessions for Tree Inspectors
Technical Session

Support Systems for Mechanically Challenged Trees
Gary Wemeier, Northern Arborists
Technical Session

Thousand Cankers Disease: Biology, Distribution, Detection, and Management
Jennifer Juzwik, United States Forest Service
Best Sessions for Tree Inspectors
Technical Session

Tree City USA: Recipients, Banner Awards, Personal Tales
Ken Holman, Minnesota Department of Natural Resources
Community Forestry
Only offered one time.
Pre-registration required

12:15-2:00

Native Trees of Minnesota
Dave Hanson, Minnesota Department of Transportation
Best Sessions for Tree Inspectors

1:15-2:00
CONCURRENT SESSIONS

Biology and Management of Bur Oak Blight, a Newly Recognized Disease in Iowa and Minnesota
Tom Harrington, Iowa State University
Best Sessions for Tree Inspectors
Technical Session

Blowing in the Wind: Wind-Resisting Features of Trees
Steven Vogel, Duke University
Advanced Technical

Deicing Salts and the Decline of Pines in the Dakotas
John Ball, South Dakota State University
Technical Session
Only offered one time.

Diagnosing and Correcting the "Physical Problems" of Urban Soils
Chris Carlson, Kent State University
Technical Session
Only offered one time.

Drought: Physiology, Ecology, and Why I Should Care
Joe Zeleznik, North Dakota State University
Technical Session

Invasive Exotics: The Michigan Experience
Steve Katovich and *Joe O'Brien*, United States Forest Service
Advanced Technical
Community Forestry

Paths in the Landscape
Diana Alfuth, University of Wisconsin Extension
Technical Session

Effective Urban Forestry Techniques in Road Design for the Preservation of Existing Trees in Milwaukee
Jim Kringer, City of Milwaukee
Technical Session
Community Forestry

Small-Stature Trees for the Upper Midwest
Jeff Iles, Iowa State University
Best Sessions for Tree Inspectors

What Builds Community Capacity?
Rich Hauer, University of Wisconsin Stevens Point
Community Forestry

2:00-2:45
Exhibits and "Mini-Sessions"

2:45-3:45
CONCURRENT SESSIONS

A Tree Preservation Project – Ten Years Later
Gregg Hove, City of Eagan
Community Forestry

Conifer Defoliators in Minnesota
Jeff Hahn, University of Minnesota
Best Sessions for Tree Inspectors

Developing and Urban Context for the Assignment of Site Index for Better Urban Practices
Jason Grabosky, Rutgers University
Advanced Session
Only offered one time.

Diagnosing Tree Diseases
Michelle Grabowski, University of Minnesota
Best Sessions for Tree Inspectors

Maintenance Issues with Vegetated Stormwater BMPs
Gregg Thompson, City of Eagan
Advanced Session
Only offered one time.

The Rationale and Practice of Funding Community Forestry through Municipal Infrastructure Budgets
David Forsell, Keep Indianapolis Beautiful, Inc.
Community Forestry

The Scientific Basis for Emerald Ash Borer Management and Ash Conservation in Urban Forests and Landscapes
Dan Herms, Ohio State University
Advanced Session

Through the Trees: How Tree Rings Can Help Us Understand Environmental Change in Minnesota
Scott St. George, University of Minnesota
Advanced Session

Urban Wildlife Management
John Loegering, University of Minnesota Crookston
Best Sessions for Tree Inspectors

Water, Water, Everywhere! The Impacts of Flooding on Tree and Shrub Health
Ron Smith, North Dakota State University
Best Sessions for Tree Inspectors
Technical Session

3:45
Adjourn

4:15
Minnesota Society of Arboriculture (MSA) Business Meeting – Como Park

5:30
MSA Winter Picnic – Como Park (food and drink compliments of MSA)

7:45
GSIV: Electrical Touch Potential Exposure Created by Tree Contact with Overhead Power Lines
John Goodfellow, BioCompliance Consulting, Inc.

8:40
GSV: An Overview of Designed Soils for the Integration of Trees, Pavement, and Stormwater Management
Jason Grabosky, Rutgers University

9:35
GSVI: Targeted Stormwater Management
Gregg Thompson, City of Eagan

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

11:45
Group 3 Lunch Break – Dining Center

12:15-1:00
CONCURRENT SESSIONS

A Tree Preservation Project – Ten Years Later
Gregg Hove, City of Eagan
Community Forestry

Blowing in the Wind: Wind-Resisting Features of Trees
Steven Vogel, Duke University
Advanced Session

Current Trends, Standards, and BMPs for Tree Risk Assessment
Skip Kincaid, Davey Resource Group
Technical Session

Diagnosing the "Underground World" of Tree and Shrub Abiotic Stress
Chris Carlson, Kent State University
Technical Session
Only offered one time.

Diagnosing Tree Diseases
Michelle Grabowski, University of Minnesota
Best Sessions for Tree Inspectors

Small-Stature Trees for the Upper Midwest
Jeff Iles, Iowa State University
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12:15-2:00

Native Trees of Minnesota
Dave Hanson, Minnesota Department of Transportation
Best Sessions for Tree Inspectors

1:15-2:00
CONCURRENT SESSIONS

Connecting People with Their Trees: Turning Tree Biology into Art
Thomas Peter, Respectful Transitions
Community Forestry

Drought: Physiology, Ecology, and Why I Should Care
Joseph Zeleznik, North Dakota State University
Technical Session

Invasive Exotics: The Michigan Experience
Steve Katovich and *Joe O'Brien*, United States Forest Service
Advanced Session
Community Forestry

Paths in the Landscape
Diana Alfuth, University of Wisconsin Extension
Technical Session

Effective Urban Forestry Techniques in Road Design for the Preservation of Existing Trees in Milwaukee
Jim Kringer, City of Milwaukee
Technical Session
Community Forestry

Problematic Pests of Tilia Species: What You Need to Know
Chris Williamson, University of Wisconsin Madison
Advanced Session

Spots, Casts, Blights, and Other Frights: Common Plagues of Pine
Glen Stanosz, University of Wisconsin Madison
Best Sessions for Tree Inspectors
Technical Session

Urban Wildlife Management
John Loegering, University of Minnesota Crookston
Best Sessions for Tree Inspectors

2:00-2:45
Exhibits and "Mini-Sessions"

2:05-2:35
Door Prizes

2:45-3:45
CONCURRENT SESSIONS

A Review of UAA's New Best Management Practice Establishing a Closed Chain of Use in the Utility Vegetation Management Industry
John Goodfellow, BioCompliance Consulting, Inc.
Technical Session
Only offered one time.

Biology and Management of Bur Oak Blight, a Newly Recognized Disease in Iowa and Minnesota
Tom Harrington, Iowa State University
Best Sessions for Tree Inspectors
Technical Session

Conifer Defoliators in Minnesota
Jeff Hahn, University of Minnesota
Best Sessions for Tree Inspectors

Current Trends, Standards, and BMPs for Tree Risk Assessment
Skip Kincaid, Davey Resource Group
Technical Session

Invasive Tree Pests Threatening Minnesota's Trees
Bob Koch, Minnesota Department of Agriculture
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Support Systems for Mechanically Challenged Trees
Gary Wemeier, Northern Arborists
Technical Session

Thousand Cankers Disease: Biology, Distribution, Detection, and Management
Jennifer Juzwik, United States Forest Service
Best Sessions for Tree Inspectors
Technical Session

Through the Trees: How Tree Rings Can Help Us Understand Environmental Change in Minnesota
Scott St. George, University of Minnesota
Advanced Session

Water, Water, Everywhere! The Impacts of Flooding on Tree and Shrub Health
Ron Smith, North Dakota State University
Best Sessions for Tree Inspectors
Technical Session

What Builds Community Capacity?
Rich Hauer, University of Wisconsin Stevens Point
Community Forestry

3:45
Adjourn

SESSION DESCRIPTIONS

Tuesday General Sessions

Arborists as Athletes: Measuring Performance
A common discussion among arborists is which climbing techniques, plus other operational activities like felling to chipping, are the most efficient. This research, the first of its kind, looks at arborists as industrial athletes and measures worker efficiency through a number of means usually employed in sport performance. Come hear which techniques require the most energy and the least – the results will surprise you!

Our Forests: The Past and Future of Forestry in America
The practice of forestry in America is about 100 years old, and these years of experience inform our modern practices. So what have we learned through this history? What are the trends and current conditions of America's forests? What does the future look like for the country's rural and urban forests and for foresters, arborists, and other natural resource professionals? This session will review the history of forestry in the United States and explore the trends that are likely to impact forestry in the future.

Understanding Wood Decay in Trees and Wood Products
This presentation will provide an update on new information about how fungi attack and degrade wood. It also will provide a better understanding of the various types of wood decay that are commonly encountered in trees and in wood products and show how our basic studies on decay are providing essential information that is being used worldwide to protect and restore historic buildings. Case studies will be discussed on extraordinary decay situations occurring in the historic expedition huts in Antarctica built by explorers Scott and Shackleton, the wooden tomb of King Midas in Turkey, and sunken wood and buried ships including the 'Manhattan ship' found during excavations at Ground Zero and the World Trade Center in New York.

Wednesday General Sessions

An Overview of Designed Soils for the Integration of Trees, Pavement, and Stormwater Management
This session will provide an overview of the design and testing of designed soils in US, Europe, Australia, and Asia with an eye toward plant response over the testing observation period for interpretation for reasonable general application expectations. Specific studies dealing with hydraulic behavior will lead to a conversation of pavement types (permeable versus impermeable) and use for stormwater management planning. Finally, details on pavement design modeling from the Center of Advanced Infrastructure and Transportation will be presented to take the tested ideas and observed performance into the process of pavement failure from root growth and thus pavement thickness to prevent failure.

Electrical Touch Potential Exposure Created by Tree Contact with Overhead Power Lines
It is not uncommon for overhead distribution lines to make contact with trees. These incidental contacts can be either intermittent or relatively persistent, are typically not detectable by overcurrent protection systems, and do not result in power outages. This presentation will discuss the findings from recent research into the levels of fault currents and voltages gradients found along the fault pathway provided by trees from point of contact to earth. The purpose of this investigation was to measure the voltages and currents found in the main trunks of trees in contact with a conductor energized at a common electric distribution voltage level. The experimental investigation involved creating and monitoring tree-conductor contacts at 7.6kV and 19.9kV under field conditions. The work included simulated human contacts on the ground and aloft as a tree climber.

Targeted Stormwater Management
While stormwater runoff-reduction projects such as raingardens have become more common, a next step is moving from "random acts of conservation" to targeting the usage and placement of this infrastructure within watersheds to achieve measurable benefits. In this session, witness examples and strategies of integrating green infrastructure to meet nutrient reduction goals that also provide additional benefits to the urban and suburban environment.

Concurrent Sessions

A Tree Preservation Project – Ten Years After
With its iconic "Lone Oak Tree" and 25 years as a "Tree City USA" community, the City of Eagan has an enduring commitment to preserve and protect its tree resources. The original Lone Oak Tree is gone now but Eagan's commitment to its trees still exists. This commitment was put into action in May 2001 with the Grandfather Tree Project. Fast forward 10 years; much has happened during the decade since Eagan staff coordinated the preservation and transplanting of this 27" diameter bur oak tree. During this session we'll discuss what was the incentive for such a project; how was this large tree actually moved; what management activities have occurred to the tree during the 10 years since it was transplanted; what is the future of this tree, or for that matter, any large specimen tree that might merit similar preservation consideration?

Biology and Management of Bur Oak Blight, a Newly Recognized Disease in Iowa and Minnesota
A potentially serious, late-season leaf disease on mature bur oak trees has been recognized over the last 10 to 15 years in eastern Nebraska, Iowa, southern Wisconsin, and Minnesota. A leaf spot pathogen, Tubakiadryina, had been associated with bur oak blight (BOB), but the causal agent of BOB is distinct and has just been described as a new species, T. iowensis. The pathogen appears to be specific to a certain variety of bur oak adapted to upland savanna sites. Diagnosis, geographic distribution, and the disease cycle of BOB will be explained, with possible clues explaining the recent increase in severity of this disease. Management strategies will be discussed, including experimental and anecdotal reports of successful fungicide treatments.

Concurrent Sessions (Continued)

Blowing in the Wind: Wind-Resisting Features of Trees
Gaining sunlight takes lots of area; making lots of area economically takes flexible structures; flexible structures suffer especially high drag; high drag can break or uproot plants. Nature's endless creativity has given us our present flora--and we're gradually coming to appreciate the clever devices with which she manages this awkward causal train.

Conifer Defoliators in Minnesota
Defoliators are one of the most common and conspicuous groups of insect pests we find on trees in the landscape. In this session, we will discuss the common insect defoliators of pine, spruce, and other conifers. We will learn how to identify these insects and recognize their damage. We will look at their biology and see how that can influence their management.

Connecting Clients with their Trees: Turning Trees into Art
How can you as an arborist determine which of your clients has an emotional or spiritual connection with their trees? Once you've found that special client, how can you help them retain a memento of that tree? This session will make that connection between clients and their trees, to have a more beautiful ending than a pile of wood chips. (And solidify your position as their favorite tree care professional.)

Current Trends, Standards, and BMPs for Tree Risk Assessment
Skip will discuss and review current trends in tree risk assessment, including the newly released standard "ANSI A300 (Part 9)" for performing tree risk assessments as well as the newly published *Best Management Practices* from the International Society of Arboriculture. Updates will include information about a new credential being developed by the International Society of Arboriculture.

Deicing Salts and the Decline of Pines in the Dakotas
During the past several years there has been an increasing concern from the general public regarding the poor appearance and mortality of tree stands along the highways and roads in the Black Hills. The trees, almost exclusively ponderosa pines (Pinus ponderosa), were exhibiting stunted growth, needle chlorosis and burn, and shoot dieback. These stands generally have between 5 to 30 or more symptomatic trees along with several dead trees. Due to the proximity of these symptomatic trees to the road, many occur within 60 feet of the edge of the pavement, the primary suspect for the decline and mortality has been road de-icing salt.

Diagnosing and Correcting the "Physical Problems" of Urban Soils
A lack of testing and correcting the "physical" properties of soil can cause needless plant stress and mortality. Learn how to identify and correct the critical physical soil factors that are so often over-looked in site assessment today.

Diagnosing the "Underground World" of Tree and Shrub Abiotic Stress
Many stress factors affecting trees and shrubs originate below ground. Learn how to identify and correct these stresses BEFORE they cause plant decline and death.

Diagnosing Tree Diseases
Diagnosis is a key skill needed for management of tree diseases. Without a proper identification of the pest causing the problem, it is impossible to choose appropriate management strategies and time them to be most effective. Come learn how to use a series of questions to distinguish disease, insect, abiotic, and other problems. Learn what signs and symptoms tell you about the problem.

Drought: Physiology, Ecology, and Why I Should Care
Drought, whether seasonal or chronic, is becoming more of a limiting factor for tree and urban forest health in the Upper Midwest. Many of our trees and landscapes are not designed or prepared for drought or drought-like stresses and subsequently become vulnerable to a host of secondary problems that tend to follow periods of drought. This session features one of the more experienced and prominent field diagnosticians in the Upper Midwest and will focus on the predictable impacts of water-stress on trees, urban forests, and the landscapes we live in.

Invasive Exotics: the Michigan Experience
Michigan's rural and urban forests have experienced the brunt of several exotic invasive tree pests. Relatively new introductions of emerald ash borer and beech bark disease are just two of the most recent examples that are significantly changing the composition of Michigan's forests. Extensive gypsy moth invasion, Dutch elm disease, white pine blister rust, … the list is lengthy. This session will use Michigan as a case study with the idea that much of what has happened or is happening in Michigan will eventually occur in Minnesota.

Invasive Tree Pests Threatening Minnesota's Trees
This presentation will provide an overview of several important new invasive pests (emerald ash borer, gypsy moth, thousand cankers disease, and brown marmorated stink bug) and updates on the actions being taken by the Minnesota Department of Agriculture.

Maintenance Issues with Vegetated Stormwater BMPs
With thousands of raingardens, swales, and other green infrastructure projects created in the Twin Cities area in the past 10+ years, what are key components to effectively and efficiently maintaining these types of projects, to ensure they function as intended? What lessons can be learned from maintenance issues on existing projects that can be applied towards designing and implementing future projects, to reduce future maintenance headaches? This is an opportunity to learn from someone else's mistakes.

Native Trees of Minnesota
It's over 12-feet tall, it has a woody stem… Let's figure out what it is. Yes, woody plant identification can be overwhelming and sometimes even confusing. Don't be daunted – be ready for that next tree identification challenge. We will take a look into the process of cracking the secrets and mysteries of identifying Minnesota's commoners.

Concurrent Sessions (Continued)

Paths in the Landscape
Paths in gardens and landscapes serve as more than a subject of poetry and romance. Designed correctly, they can significantly impact the functionality and accessibility of the space. Besides deciding if a path is truly needed, design considerations include the location, width, and surface of the path. Paths can enhance the visual impact of the garden, draw visitors through a landscape, and help create a desired atmosphere. We'll explore all of these aspects of paths and how to design them into the landscape.

Problematic Insect Pests of Tilia Species: What You Need to Know
This session will provide information on the key insect pests of Tilia species and the most effective management strategies.

Small-Stature Trees for the Upper Midwest
What kind of politically correct mumbo-jumbo is this? Small-stature trees? Let me explain. I've never liked the term "ornamental trees" when referring to those useful woody plants maturing at heights under 25 feet. Seriously, smaller-sized trees do a lot of the heavy lifting in our managed landscapes and to call them "ornamental" makes them sound one-dimensional and trivial. And while it's true small-stature trees are primarily known for their wonderful floral displays, many also flaunt brightly colored fruit, riveting autumnal leaf colors, and interesting winter bark colors and textures. So, sign up for this session if you'd like to hear a rather average-sized tree geek from Iowa talk about his favorite ornamental, I mean small-stature trees for our region.

Spots, Casts, Blights, and Other Frights: Common Plagues of Pine
The native and exotic pines of Minnesota are threatened by both native and exotic pathogens and maladies related to stressful conditions in the landscape. Dr. Stanosz will describe symptoms and signs used in the diagnosis of these maladies, conditions conducive to damage, and the key principles and practices employed to minimize damage from these plagues of pine.

Support Systems for Mechanically Challenged Trees
There are a lot of right techniques and materials to artificially support trees that are in danger of becoming hazardous: included bark, codominant leaders, heavy branches, and wind damage prone-trees. There's also a lot of thought that accompanies the decision to provide this artificial support. Gary Wemeier has many years of professional experience in the decision process and the installation process of using cables to support risk-prone trees. Bring your questions and enjoy the advice that only an experienced tree care professional has learned and is willing to share.

The Rationale and Practice of Funding Community Forestry Through Municipal Infrastructure Budgets
The City of Indianapolis recently contracted Keep Indianapolis Beautiful Inc. to plant and care for new trees. This $700,000 investment is funded through ReBuild Indy, a massive infrastructure improvement program. Presenters will describe the rationale and practice of this partnership, from its ideation to trees being planted and cared for by Indianapolis resident volunteers and our city's youth.

The Scientific Basis for Emerald Ash Borer Management and Ash Conservation in Urban Forests and Landscapes
In recent years, understanding how to protect ash trees from emerald ash borer has advanced considerably. Conservation of ash is now an economically and environmentally viable option to consider as part of an integrated management program for trees in urban environments. Results of recent studies on control of EAB and best management practices for use of systemic insecticides will be discussed.

Thousand Cankers Disease: Biology, Distribution, Detection, and Management
Thousand Cankers Disease (TCD) is an emerging disease problem thus far found almost solely in urban areas of three eastern states and widely distributed in eleven western states. Based on the Colorado experience, TCD may cause losses in urban forests similar to Dutch elm disease; however, the potential for negative impact on the high-valued black walnut industry is even greater. Detection surveys and research and development on detection and management tools are currently high priority activities while work on basic biology of the causal insect/pathogen complex continues.

Through the Trees: How Tree Rings Can Help Us Understand Environmental Change in Minnesota
Many of the decisions we make about environmental issues are based on experience. Whether we're setting limits for the use of scarce resources, estimating the risks posed by natural hazards, or deciding how to manage protected areas, our plans for the future often reflect our understanding of the past. The problem is that, when it comes to the environment, our society has a fairly short memory. In this presentation, Dr. St. George will discuss how the study of ancient trees in expanding our perspective on the natural history of the Northern Plains is helping to answer questions about what the future may hold for Minnesota's environment.

Tree City USA: Recipients, Banner Awards, Personal Tales
Communities across Minnesota that have achieved Tree City USA recognition or a growth award will gather together for a "social concurrent session hour" to received their recognitions and share stories of success.

Water, Water, Everywhere! The Impacts of Flooding on Tree and Shrub Health
This session will cover the physiological effects of flooding on trees based on the timing of flooding, the health of trees, tree species that fare best/worst, and water chemistry problems unique to summer flooding.

What Builds Community Capacity?
Is your tank of urban and community forestry capacity running on empty? Do you know how much capacity you need to meet your desired urban tree outcomes? Urban forest capacity begins with understanding your urban forest infrastructure needs. Infrastructure is the people, equipment, finances, vegetation, growing spaces, community support, and other inputs needed to grow vegetation. Obtaining your desired community tree population occurs with meeting your capacity needs over a time period. The needs of communities will vary as this a social decision that is rooted in the practicalities of economics and results in ecological benefits. Leave your urban and community forestry blinders at the door and explore many ways to fuel your community capacity.

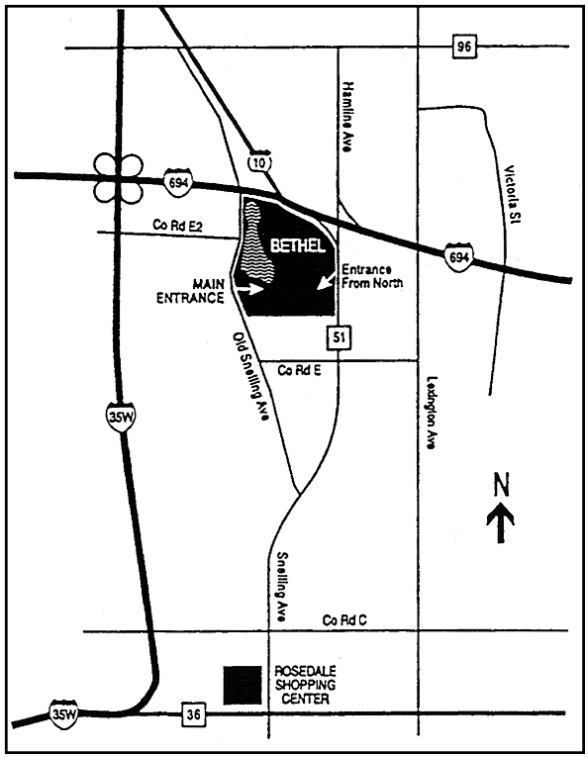
MAP AND DRIVING DIRECTIONS TO BETHEL UNIVERSITY

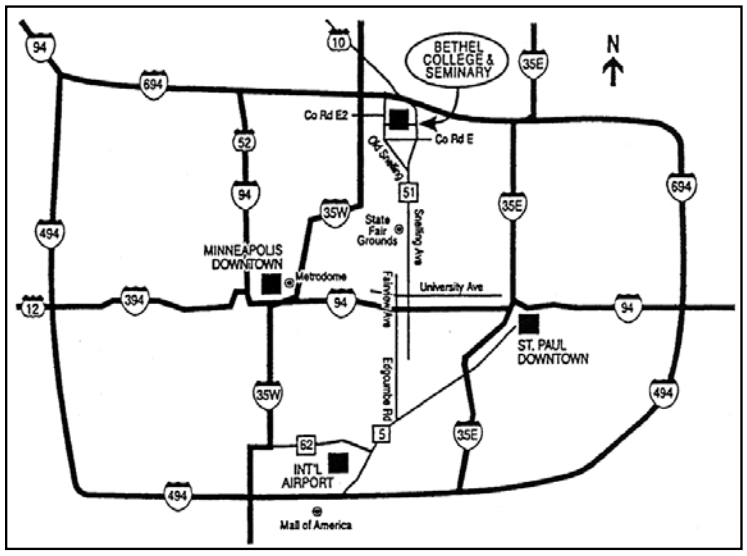
From the North: Take I-35W south to the County Road E2 exit. Go east to Old S.T.H. 10 (Snelling Ave.), turn right, and take the first left into campus. Or take I-694 east to the Snelling Ave. (Highway 51) turnoff and proceed to campus entrance on the right, one-quarter mile south. Note that Old U.S. Highway 10 connects with I-694 just west of the Snelling Ave. (Highway 51) turnoff.

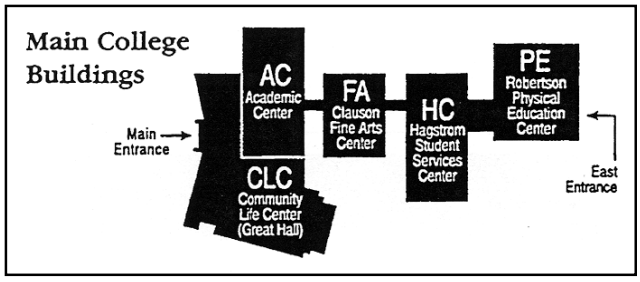
From the West: During daytime hours, take I-694 east to the Snelling Ave. (Highway 51) turnoff and proceed to campus entrance on the right, one-quarter mile south. During evening hours, take I-694 east; turn south onto I-35W. Take I-35W to the County Road E2 exit. Go east to Old S.T.H. 10 (Snelling Ave.),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

2. Fax your registration along with credit card number or purchase order number to 612-624-5359.

3. Mail registration form to:
University of Minnesota
20 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 13, 2012. Cancellations after this date will not be eligible for a refund.

Registration Form

Shade Tree Short Course – March 20–21, 2012

Last Name | First Name | M.I.

Company/Institution | Title/Position

E-mail

Work Address

City | State | Zip

Daytime Telephone | Fax Number

Registration Fees:

By March 6, 2012

Shade Tree Short Course 186077

- ☐ $175 Registration fee BEFORE March 6, 2012
- ☐ $40 Student registration fee
- ☐ $95 Tree board/park board member fee

How to Fell a Tree Workshop 186107 (10 Max)

- ☐ $120 March 20 Workshop Only
- ☐ $230 – March 20 Workshop & March 21 Short Course

Updating Climbing Techniques Workshop 186106 (20 Max)

- ☐ $120 March 20 Workshop Only
- ☐ $230 March 20 Workshop & March 21 Short Course

After March 6, 2012

Shade Tree Short Course 186077

- ☐ $190 Registration fee AFTER March 6, 2012
- ☐ $40 Student registration fee
- ☐ $95 Tree board/park board member fee

How to Fell a Tree Workshop 186107 (10 Max)

- ☐ $135 March 20 Workshop Only
- ☐ $245 March 20 Workshop & March 21 Short Course

Updating Climbing Techniques Workshop 186106 (20 Max)

- ☐ $135 March 20 Workshop Only
- ☐ $245 March 20 Workshop & March 21 Short Course

Options (no fee)

- ☐ I will attend the MSA picnic on Tuesday evening, March 20 (Como Park)
- ☐ I plan to attend the Tree City USA session on Tuesday, March 20

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#: _____
- ☐ Please charge my ☐ VISA ☐ MasterCard ☐ American Express ☐ Discover/Novus

Card Number | Expiration Date | $ Amount to Charge

Name as it appears on card | Signature

How to Register

Mail Registration to:

CCE Information Center
1420 Eckles Avenue Suite 20
St. Paul, MN 55108

Fax to our secure location:

612-624-5359

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.