



2019 TREE CARE SYMPOSIUM

GETTING TO GREAT TREES

FRIDAY, APRIL 5, 2019

9 AM – 3:15 pm PM

DOORS OPEN AT 8:30 AM

Tree populations are being affected by changing climates and conditions. This year, we look at how climate is affecting long-range planning for forest management, review the biomechanics of trees in this environment, and consider the fundamentals of soils for successful trees as well as changes in insect behavior.

Approved for MAC-ISA credits: Certified Arborist: 5, Utility Specialist: 5, Municipal Specialist: 5, BCMA-Science: 2, BCMA – Practice: 3, TW Climber Specialist: 5, TW Aerial Lift Specialist: 5

All programs subject to change

9:00 AM

BIOMECHANICS OF TREES

DR. GREG DAHLE, PROGRAM COORDINATOR FOR FOREST RESOURCES
MANAGEMENT AND WOOD SCIENCE AND TECHNOLOGY

ASSOCIATE PROFESSOR OF FOREST RESOURCES MANAGEMENT, WEST VIRGINIA
UNIVERSITY, DAVIS COLLEGE OF AGRICULTURE, NATURAL RESOURCES, AND DESIGN

Dahle explores how researchers from ecology, forestry and arboriculture have utilized biomechanics to understand how trees contend with the forces mother nature can throw at them during the long life span. Biomechanics approaches integrate biology and engineering principles to explore how organisms deal with their environment. While this integration may initially seem simple; trees and buildings have substantial differences. Typically a building size does not change over time and the strength of the construction material are relatively fixed. Yet trees are every growing, and the increase in size results in a buildup of larger environmental loads (wind, snow or ice) and there material properties adjust with growth at least to some extent. During the talk we will learn the difference between the static and dynamic approaches to tree biomechanics and how these complementary methods are beginning to help the arboricultural community better understand tree stability.

Greg Dahle is an Associate Professor at West Virginia University where he teaches courses in arboriculture and urban forestry. Greg's research lab utilizes a biomechanical approach to understand how trees grow and survive environmental loads, as well as broader urban forest management issues. He is the program coordinator for the WVU Forestry & Sustainable Bioproducts program. Greg has worked as a commercial and utility arborist in California and is an ISA Board-Certified Master Arborist.

10:00 AM

USING APPLIED CLIMATE SCIENCE MODELING TO DEVELOP FORESTRY MANAGEMENT STRATEGIES

SHAWN KISTER, DIRECTOR, GROUNDS,
LONGWOOD GARDENS, KENNETT SQUARE, PA

Longwood Gardens' historic tree population contains large percentages of trees identified as having decreasing viability in the Pennsylvania habitat as predicted by climate change studies. Using climate change models for species of trees represented on Longwood Gardens' property, Longwood personnel developed a replacement planting strategy to ensure its historic trees areas remain viable into the future. Kister discusses how Longwood used existing data to create a long-term viability plan.

Shawn Kister is the Grounds Leader at Longwood Gardens where he manages the turfgrass, arborist, nursery, and night gardener teams. He oversees the care of 170 acres of turfgrass, more than 5,000 trees (including the extensive outdoor Christmas light installation), the nursery operations, soils and compost operations that produce hardwood mulch, leaf mulch and compost and the Horticultural Watchman, who are responsible for greenhouse and Conservatory system controls after hours. While at Longwood, Kister spearheaded the development of Longwood's progressive Turfgrass Management Program and the Tree Management Plan, which set the benchmark for public gardens. In addition, he recently led the adoption and installation of new irrigation controllers at Longwood that allow for wireless, real time soil moisture and temperature data to be gathered, aiding in irrigation efficiency.

11 AM BREAK

11:15 AM (PART 1)

1:15 PM (PART 2)

AS ABOVE, SO BELOW: HOW MUCH OF A TREE EXPERT CAN YOU BE WITHOUT AN AWARENESS OF SOIL HEALTH? PARTS 1 AND 2 (TWO SEPARATE PROGRAMS)

JOE MURRAY, TREE LITERACY, LLC, WAYNESBORO

Tree experts are quick to point out that the majority of tree disorders are caused by problems in the soil environment; yet when diagnosing disorders, these experts typically restrict their observations to the above ground portion of trees. Such a shortsighted approach leads to recommendations that only address symptoms, or worse, further degrade tree and soil health. Tree health and soil health are interdependent. Properly assessing tree health also means assessing soil health. To truly be a tree expert, one must also be a soil expert. Learning more about soil health improves your diagnostic skills and enables you to offer more comprehensive recommendations to address soil and tree disorders.

Joe's educational background includes the completion of a Master of Science in Plant Pathology from Virginia Tech, Master in Teaching from the University of Richmond, and a Bachelor of Arts in Biology from Radford University. Joe is an ISA certified arborist, certified utility arborist, and a Tree Risk Assessment Qualification instructor. Joe, a former college biology professor, is a trainer for the Mid-Atlantic Chapter of the International Society of Arboriculture, independent consulting arborist, and a writer. When Joe is not hiking or participating in research projects in the Blue Ridge Mountains, he morphs into a tree biology educator, traveling around the United States teaching and learning about trees and people.

12:15 PM LUNCH

1:15 PM SOILS, PART 2 (see above at 11:15 am)

2:15 PM

WHAT A WARMING WORLD MEANS FOR PLANTS, PESTS, AND THEIR NATURAL ENEMIES

MICHAEL J. RAUPP, ENTOMOLOGY DEPARTMENT, UNIVERSITY OF MARYLAND

Mike Raupp reviews evidence for climate change, mechanisms underlying this phenomenon, and what it means for changing weather patterns around the globe. See how warmer temperatures alter the ecology of biomes and affect ranges of pests, seasonal phenology of insects and mites, and interactions among plants, herbivores, and their natural enemies. Special emphasis is placed on invasive species and urban heat islands.

A Professor and Extension Specialist at the University of Maryland, Mike is a Fellow of the Entomological Society of America. His extension programs provide training on the theory and practice of sustainable pest management to green industry professionals and the general public. His research programs focus on global change issues including invasive species and urbanization. He has authored more than 250 scientific and lay publications and delivered more than 1200 presentations. A regular guest on NPR, Mike has appeared on all major television networks in this country and several abroad and has been featured on National Geographic, Science Channel, Lehrer News Hour, BBC, and PBS. His “Bug of the Week” website, www.bugoftheweek.com and YouTube channel www.youtube.com/user/BugOfTheWeek reaches several thousand viewers weekly in more than 180 countries. He has received a dozen regional or national awards for excellence in extension programming and media communications. His most recent book “26 Things that Bug Me” introduces youngsters to the wonders of insects and natural history while “Managing Insect and Mites on Woody Landscape Plants” is a standard for the arboricultural industry.

3:15 pm Adjourn

Presented by Lewis Ginter Botanical Garden

Sponsored by the Mid-Atlantic Chapter of the International Society of Arboriculture

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GARDEN