

Gregory Ames Dahle, Ph.D., BCMA
Associate Professor of Arboriculture & Urban Forestry
Program Coordinator Sustainable Forestry & Biomaterial
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Davis College, School of Natural Resources
West Virginia University
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ACADEMIC EXPERIENCE

West Virginia University, Division of Forestry & Natural Resources
Program Coordinator Sustainable & Forestry Biomaterials, August 2017 - present
Associate Professor of Arboriculture, August 2017 - present
Assistant Professor of Arboriculture, August 2011 – August 2017

Rutgers University, Urban and Community Forestry Program
Visiting Scholar, January 2011 – December 2011
Part Time Lecturer, January 2010 – May 2010
Researcher, July 2009 – September 2009

ACADEMIC DEGREES

Rutgers, The State University of New Jersey, New Brunswick, New Jersey
Doctor of Philosophy, Program in Ecology and Evolution, May 2009
Dissertation Title: How the hydraulic and mechanical properties of wood influence branch form in Norway maple (*Acer platanoides* L.)
Advisor: Jason C. Grabosky, Ph.D.

Purdue University, West Lafayette, Indiana
Masters of Science, Program in Arboriculture and Urban Forestry, May 2004
Thesis Title: Strength loss and decay patterns in trees converted from round-overs to V-trims during electrical line clearance operations
Advisor: Harvey A. Holt, Ph.D.

Purdue University, West Lafayette, Indiana
Bachelor of Science in Forestry, Specialization in Wildlife Management, May 1995

TEACHING EXPERIENCE

FOR 206 Winter Dendrology	FMAN 433 Forest Management
FOR 310 Elements of Silviculture	FMAN 491 Professional Field Experience
FMAN 315 Survey of Arboriculture	FMAN 593 Research in Arboriculture
FMAN 320 Arboriculture	FMAN 523 Advanced Urban Forest Management
FMAN 400 Forest Resource Management Field Practicum	FMAN 796 Graduate Seminar
FMAN 423 Urban Forest Management	

Rutgers University, Department of Ecology, Evolution & Natural Resources
Course Instructor – Urban Forestry 11:704:403, Spring 2010
Course Instructor – Arboriculture 11:704:365, Fall 2007
Teaching Assistant – Urban Forestry 11:704:403, Spring 2006 and Fall 2004
Teaching Assistant – Arboriculture 11:704:365, Spring 2005

Rutgers University, Division of Life Sciences
Teaching Assistant – General Biology Laboratory 01:119:102, Spring 2007
Teaching Assistant – General Biology Laboratory 01:119:101, Fall 2006

Purdue University, Department of Forestry & Natural Resources
Teaching Assistant – Urban Forest Topics FNR 498U, Spring 2003 and 2004
Teaching Assistant – Arboriculture Practices FNR 444, Fall 2001, 2002 and 2003
Teaching Assistant – Wildlife Habitat Management FNR 341, Spring 2002 and 2003

GRANTS and FELLOWSHIPS

WV Energy Institute O'Brien Energy Research Fund, 2018, \$35,207
WV Division of Forestry, Demonstration City Grant, 2016, \$4,198
McIntire-Stennis Research Grant, 2016, \$251,473
John Z Duling Grant, TREE Fund, 2015, \$10,000
USDA Forest Service – Urban Forestry Diversity Grant, 2014, \$20,000, awarded to WVDOF
National Urban & Community Forestry Advisory Council, 2013, \$75,884 of \$256,000 award
NERA Planning Grant (NE1304), 2012, \$6,000
Start-up Funds, West Virginia University \$75,000
McIntire-Stennis Research Grant, 2012, \$251,473
International Society of Arboriculture Literature Review: Tree Biomechanics, 2010; \$25,000
John & Eleanor Kuser Endowed Faculty Scholar Graduate Research Fellowship, 2007-2009
John Z. Duling Grant. Tree Research and Education Endowment Fund, 2005; \$6,931
Division of Life Sciences Teaching Assistantship, Rutgers University, 2006-2007
McIntire-Stennis Graduate Research Assistantship, Rutgers University, 2004-2006
Department of Forestry & Natural Resources Teaching Assistantship, Purdue University, 2001-2004

EDITORIAL POSITIONS

Associate Editor for Urban Forestry & Urban Greening 2015 - present

CERTIFICATIONS

Board Certified Master Arborist #WE-5192B

PROFESSIONAL EXPERIENCE

New Jersey Division of Parks & Forestry, Liberty State Park. Field Technician, 2004 – 2005
Bartlett Tree Research Laboratories, Charlotte, NC, Arboricultural Researcher 2004
TruGreen-LandCare, San Jose, CA Arboricultural Sales Manager, June 1999 – April 2001
Davey Resource Group, Livermore, California, Project Coordinator 1998 – 1999
Davey Resource Group, Livermore California, Utility Arborist 1995-1998

AWARDS and HONORS

Outstanding Educator Award, WVU Society of American Forester, April 2017
 Gold Leaf Award, Mid-Atlantic Chapter International Society of Arboriculture, Oct 2016
 Early-Career Scientist Award. International Society of Arboriculture Aug 2015
 First place award in AREA Student Oral Competition, International Society of Arboriculture, 2008
 Third place award for Research Paper, The American Society of Horticultural Science Northeastern Region, 2008
 Excellence in Arboriculture Research Award, New Jersey Arborist Chapter ISA, 2005
 AREA Student Paper Travel Award, International Society of Arboriculture, 2004
 William A. Rafferty Leadership Award, Purdue University, 1995
 First place, Student Publication Contest, Society of American Foresters, The Log - Purdue University Department of Forestry and Natural Resources Yearbook, 1994

PROFESSIONAL WORKSHOPS and SHORT COURSES

Advanced Hazard Tree Evaluation. Short Course Webinar, for Environmental Consultants, Inc. Employees, Sept-Oct 2011, Jan-Feb 2012, Sept 2014, Nov-Dec 2014, Jan-Feb 2016, March-April 2016

PEER-REVIEWED PUBLICATIONS

Atta-Obeng, E. B. Dawson-Andoh, E. Felton, **G. Dahle**. 2018. Carbon Dioxide Capture Using Amine Functionalized Hydrothermal Carbons from Technical Lignin. Waste and Biomass Valorization DOI.10.1007/s12649-018-0281-2

James KR, JR Moore, D Slater, **GA Dahle**. 2017. Tree Biomechanics Review. CAB Reviews 12:38: 1-11.

Dahle, GA. 2017. Influence of Bark on the Measurement of Mechanical Strain using Digital Image Correlation. Wood Science & Technology 51:1469-1477

Dahle, GA, KR James, B Kane, J Grabosky, A Detter. 2017. A Review of Factors That Affect the Load-Bearing Capacity of Urban Trees. Arboriculture & Urban Forestry 43:89-106

Manzo, J, **GA Dahle**, R Hannah. 2017. Assessing the effect of tree canopy stocking on home energy use savings during peak cooling months in West Virginia USA. International Journal of Horticulture and Floriculture 5:295-300

Dahle, GA., A. Carpenter, D. DeVallance. 2017. Does Modulus of Elasticity vary due to Dormancy and Temperature? Arboriculture & Urban Forestry 43:49-54

Dahle, GA., A. Carpenter, D. DeVallance. 2016. Non-destructive Measurement of the Flexural Modulus of Elasticity of Wood Using Acoustical Stress Waves. Arboriculture & Urban Forestry 42:227-233

Dahle, G, J Grabosky, B Kane, J Miesbauer, W Peterson, F Telewski, A Koeser, G Watson. 2014. Tree Biomechanics: A White Paper from the 2010 International Meeting and Research Summit at the Morton Arboretum (Lisle, IL, US). Arboriculture & Urban Forestry 40:309-318

Dahle, GA and JC Grabosky. 2014. Variation in anatomical features along *Acer platanoides* (Aceraceae) branches. International Journal of Horticulture and Floriculture 2:130-136

Dahle, GA, FJ Gallagher, D Gershenson, K VR Schäfer and JC Grabosky. 2014. Allometric and Mass Relationships of *Betula populifolia* in a Naturally Assembled Urban Brownfield: Implications for Carbon Modeling. Urban Ecosystems DOI 10.1007/s11252-014-0377-9

- James, K, **GA Dahle**, J Grabosky, B Kane, A Detter. 2014. Tree Biomechanics Literature Review: Dynamics. *Arboriculture & Urban Forestry* 40:1-15
- Dahle, GA** and J Grabosky. 2012. Determining if Lateral Imbalance Exists in First Order Branches Leads to a Potential Development of Torsional Stress. *Arboriculture & Urban Forestry* 38: 141-145
- Grabosky, JC, ET Smiley and **GA Dahle**. 2011. Research Note: Observed Symmetry and Force of *Plantanus x acerifolia* (Ait.) Willd. Roots Occurring Between Foam Layers Under Pavement. *Arboriculture & Urban Forestry* 37: 35–40
- Dahle, GA** and JC Grabosky. 2010. Variation in Modulus of Elasticity (*E*) along *Acer platanoides* L. (Aceraceae) branches. *Urban Forestry Urban Greening* 9:227-233
- Dahle, GA** and JC Grabosky. 2010. Allometric patterns in *Acer platanoides* (Aceraceae) branches. *Trees-Structure Function* 24:321–326
- Dahle, GA** and JC Grabosky. 2009. Review of Pertinent Literature on the Allometric Relationships in Tree Stems and Branches. *Arboriculture and Urban Forestry* 35:311-320
- Dahle, GA**. 2009. How the hydraulic and mechanical properties of wood influence branch form in Norway maple (*Acer platanoides* L.). Doctorate of Philosophy Dissertation. Rutgers University, New Brunswick New Jersey, 156 pp
- Dahle, GA**, H Holt, W Chaney, T Whalen, J Grabosky, DL Cassens, R Gazo, R McKenzie, and JB Santini. 2006. Decay patterns in silver maple trees converted from round-over to V-trim. *Arboriculture & Urban Forestry* 32:260-264
- Dahle, GA**, H Holt, W Chaney, T Whalen, D Cassens, R Gazo, and R McKenzie. 2006. Branch strength loss implications for silver maple trees converted from round-over to V-trim. *Arboriculture & Urban Forestry* 32:148-154
- Dahle, GA** 2004. Strength loss and decay patterns in trees converted from round-overs to V-trims during electrical line clearance operations. Master of Science Thesis. Purdue University, West Lafayette Indiana. pp. 57

PEER-REVIEWED PUBLICATIONS – UNDER REVIEW

- Persad, A, **GA Dahle**, D DeVallance, O Rocha. Digital Image Correlation of Stress/ Strain Relationships, Acoustic Transmission Times and Root Necrosis Observed in Emerald Ash Borer Infested Ash Trees in Ohio. *Arboriculture & Urban Forestry* (in review)
- Benjamin, A, **GA Dahle**, D McGill. Perceptions of employers on the skills and knowledge needed in entry level urban foresters. *Urban Forestry & Urban Greening* (In review)
- Weiguo, L, J Wang, **GA Dahle**, BD. Sharma, DS Hartley. Modeling of forest harvest scheduling and carbon sequestration. *Forest Science* (In review)

PEER-REVIEWED PROCEEDINGS

- Beezley, K, **G. Dahle**, J Miesbauer. 2016. Strain measurement within tress across the root-stem transition zone. Proceedings of the 11th Rights-of-Way Symposium, Halifax Nova Scotia CA. pp. 107-114.
- Dahle, GA**, H Holt, W Chaney, Whalen, D Cassens, R Gazo, and R McKenzie. 2008. Implications of branch strength loss in silver maple trees converted from round-over to V-trims during electrical line clearance operations. In: Proceedings of the 8th International Symposium for Environmental Concerns in Rights-Of-Way Management. Goodrich-Mahoney et al., eds. Elsevier, Amsterdam, The Netherlands. pp. 97-100

Chaney, WE, HA Holt, RA Blaedow, **GA Dahle**, RL McKenzie. 2002. Soil fertilization and efficacy of paclobutrazol. In: Proceeding from the 29th Annual Meeting of the Plant Growth Regulation Society of America. pp. 118-122

PROCEEDINGS DOCUMENTS and ABSTRACTS

- Walker, M., A. Sakazaki, R. Eckenrode. **G. Dahle**. 2017. An Assessment of Tree City USA Cities in West Virginia. International Society of Arboriculture 93th Annual Conference, Washington DC. August 2017.
- Quinterno, M., **G. Dahle**. 2017. Imidacloprid Bark Spray Efficacy for HWA. International Society of Arboriculture 93th Annual Conference, Washington DC. August 2017.
- Fang, F., **G. Dahle**, B. McNeil. Remote sensing of urban tree stress and tree species in Washington DC. International Society of Arboriculture 93th Annual Conference, Washington DC. August 2017.
- Dahle G**. 2017 What are cities looking for in an entry level urban forester. International Society of Arboriculture 93th Annual Conference, Washington DC. August 2017.
- Persad, A. **G. Dahle 2017**. Digital correlation stress relationships, acoustic transition times and root necrosis. International Society of Arboriculture 93th Annual Conference, Washington DC. August 2017.
- Dahle, G**. 2015. Using stereo photogrammetry to model strain through the branch connect zone. International Society of Arboriculture 91th Annual Conference, Orlando FL. August 2015.
- Beezley, K, **G. Dahle**. 2015. Strain measurement within trees across the root-stem transition zone. International Society of Arboriculture 91th Annual Conference, Orlando FL. August 2015.
- Beezley, K, **G. Dahle**. 2015. Tree root to stem tissue transition and associated terminology. International Society of Arboriculture 91th Annual Conference, Orlando FL. August 2015.
- Day, SD, K O'Herrin, A. Benjamin. **GA Dahle**, PE Wiseman, J Sullivan. Urban forestry 2020: a critical look at the profession. International Society of Arboriculture 91th Annual Conference, Orlando FL. August 2015.
- Day, SD, **GA Dahle**, PE Wiseman, JH Sullivan, K O'Herrin, A Benjamin, J Koci. 2015. What is the role of the urban forestry in relation to allied profession? Ecological Society of America Annual Conference Baltimore MD August 2015.
- Day, SD, K O'Herrin, A Benjamin, **GA Dahle**, PE Wiseman, JH Sullivan, J Koci, G Frey. 2015. What is the role of the urban forestry in relation to allied profession? Ecological Society of America Annual Conference Baltimore MD August 2015.
- Dahle, G**. 2014. Influence of Bark on the Measurement of Mechanical Strain using ARAMIS. International Society of Arboriculture 90th Annual Conference, Milwaukee WI. August 2014.
- Carpenter, A., **G. Dahle**. 2014. Modulus of elasticity of urban pin oak trees. International Society of Arboriculture 90th Annual Conference, Milwaukee WI. August 2014.
- Beezley, K., **G Dahle**. 2014. Non-Invasive measurement in the root plate during static loading trials. International Society of Arboriculture 90th Annual Conference, Milwaukee WI. August 2014.
- Carpenter, A and **GA Dahle**. 2014. Shifts in Modulus of Elasticity in Urban Tree Branches. DCANRD Research & Creative Scholarship Conference. Morgantown WV.

- Dahle, GA**, FJ Gallagher, KVR Schafer, J Grabosky. 2011. Allometric Relationships of *Betula populifolia* in a Naturally Assembled Urban Woodlot. 96th ESA Annual Meeting. Austin TX.
- Dahle, GA**, J Grabosky, and L Struwe. 2008 Anatomical study to determine vessel to fiber ratio along Norway maple (*Acer platanoides* L.) branches. HortScience 43:594
- Dahle, GA**, H Holt, W Chaney, T Whalen, D Cassens, R Gazo, and R McKenzie. 2006. Structural reliability of silver maple trees converted from round-overs to v-trims in association with electrical distribution lines. Abstracts from the 8th International Symposium for Environmental Concerns in Rights-Of-Way Management
- Dahle, GA**. 2013. Does Taper Affect Bending Stress at the Base of Branches? Proceeding CD from International Society of Arboriculture 89th Annual Conference.
- Dahle, GA. K James**, 2012. A Brief Overview of Urban Tree Biomechanics Research. Proceeding CD from International Society of Arboriculture 88th Annual Conference.
- Dahle, GA**, J Grabosky. 2011. Do Little Leaf Linden (*Tilia cordata*) First Order Branches Develop with Torsional Balance? Proceeding CD from International Society of Arboriculture 87th Annual Conference.
- Dahle, GA**. 2008. Relationship of vessel to fiber ratio and the trade-off between hydraulics and mechanics in Norway maple (*Acer platanoides*). Proceedings CD from International Society of Arboriculture 84th Annual Conference
- Dahle, G.A.**, J. Grabosky. 2008. Anatomical study to determine vessel to fiber ratio along Norway maple (*Acer platanoides* L.) branches. In: Proceedings of Annual Meeting Northeast Region American Society for Horticultural Science. p. 20

POPULAR PRESS

- Day, S and **G Dahle**. 2016. Urban Forestry 2020: Formulating a strategy for our emerging profession. City Trees 52-3:12-16.
- Day, S and **G Dahle**. 2015. Urban Forestry 2020 A closer look at an emerging profession. Arborist News 24:38-41.
- Dahle, G**. 2015. Restoration pruning after storms. Tree Care Industry Magazine XXVI: 10-12.
- Dahle, G**. 2014. AREA student membership opportunities connect peers and researchers. Arborist News 23:66-67.
- Carpenter A and **G Dahle**. 2014. Biomechanics Research Week. Utility Arborist Newslines 5:12-13
- Dahle, G**. West Virginia University Arboriculture Program Launches Fall 2011. International Society of Arboriculture AREA e-Newsletter Spring 2011, pg 4-5.
- Dahle, G**. A look back at tree biomechanics week: a researcher's perspective. 2011 Arborist News 20:41-42.
- Dahle, G.**, and J Grabosky. 2010. Can branch slenderness be used in arboricultural practice? Arborist News 19:28-31
- Dahle, G.**, H Holt and R McKenzie. 2003. Students see opportunity at Midwest urban tree care forum. City Trees 329:8-10

POSTERS

- Walker, M., A. Sakazaki, R. Eckenrode. **G. Dahle**. 2017. An Assessment of Tree City USA Cities in West Virginia. International Society of Arboriculture 93th Annual Conference, Washington DC. August 2017.
- Quinterno, M., **G. Dahle**. 2017. Imidacloprid Bark Spray Efficacy for HWA. International Society of Arboriculture 93th Annual Conference, Washington DC. August 2017.
- Walker, M. A Sakazaki, R Eckenropde, **GA Dahle**, R Hannah. An assessment of Tree city USA in West Virginia. 21st Davis College Research & Creative Scholarship Day. April 2017.
- Benjamin, A. **GA Dahle**. 2016. Perceptions of Urban Forestry Employers. International Society of Arboriculture 92nd Annual Conference, Fort Worth TX.
- Day, SD, K O'Herrin, A. Benjamin. **GA Dahle**, PE Wiseman, J Sullivan. Urban forestry 2020: 2015. A critical look at the profession. International Society of Arboriculture 91th Annual Conference, Orlando FL.
- Day, SD, **GA Dahle**, PE Wiseman, JH Sullivan, K O'Herrin, A Benjamin, J Koci. 2015. What is the role of the urban forestry in relation to allied profession? Ecological Society of America Annual Conference Baltimore MD.
- Day, SD, K O'Herrin, A Benjamin, **GA Dahle**, PE Wiseman, JH Sullivan, J Koci, G Frey. 2015. What is the role of the urban forestry in relation to allied profession? Ecological Society of America Annual Conference Baltimore MD.
- Beezley, K, **G. Dahle**. 2015. Tree root to stem tissue transition and associated terminology. International Society of Arboriculture 91th Annual Conference, Orlando FL.
- Beezley, K and **GA Dahle**. 2014. Non-Invasive measurement in the root plate during static loading trials. International Society of Arboriculture 90th Annual Conference, Milwaukee WI.
- Dahle GA** and JC Grabosky. 2013. Allometry Effects on Urban Forest Biomechanics. International Society of Arboriculture 88th Annual Conference, Toronto ON, Canada.
- Carpenter A. and **GA Dahle**. 2013. How Leaf Area and Allometry Effects Urban Tree Biomechanics. Davis College Graduate Student Competition. Morgantown WV
- Carpenter A. and **GA Dahle**. 2013. Leaf Area and Allometry Effects on Urban Forest Biomechanics. 5th Annual FERC Graduate Symposium. Blacksburg, VA
- Dahle GA**, HA Holt, R McKenzie. 2004. Implications of branch strength loss in sliver maple trees converted from round-overs to V-trims during electrical line clearance operations. 2004, Forestry and Natural Resources Research Symposium, West Lafayette, IN
- Dahle GA**, HA Holt, R McKenzie. 2003. Influence of Pruning Methods on Health and Reliability of Silver Maple Trees. Forestry and Natural Resources Research Symposium, West Lafayette, IN
- Chaney, WE, HA Holt, RA Blaedow, **GA Dahle**, RL McKenzie. 2002. Shoot Growth of White Oak in Response to Simultaneous Application of Fertilizer and Paclobutrazol. International Society of Arboriculture 77th Annual Conference, Seattle, WA
- Chaney, WE, HA Holt, RA Blaedow, **GA Dahle**, RL McKenzie. 2002. Shoot Growth of White Oak in Response to Simultaneous Application of Fertilizer and Paclobutrazol. International Society of Arboriculture 5th European Congress, Oslo, Norway

TELEVISION

Morgantown Tree Facts. 2012. A presentation of 27 slides designed to increase public awareness of the many benefits (environmental, aesthetic, & social) of urban tree resources and the basics of tree care (planting, pruning etc). Aired on Channel 15, Morgantown WV's local government access station. Beginning May 2012 – ongoing

PODCASTS

Does Taper Affect Bending Stress at the Base of Branches? International Society of Arboriculture Science of Arboriculture Podcast series. August 2014.

Can Changes in Branch Allometry and Material Properties Lead to Structurally Safe Branches? International Society of Arboriculture Science of Arboriculture Podcast series. June 2011.

DVDs

Can Changes in Branch Allometry and Material Properties Lead to Structurally Safe Branches? DVD Video Presentation from a Two-Day Research Symposium. Kent OH. 2010

PROFESSIONAL REPORTS

Walker M., A. Sakazaki, R. Eckenrode, **G. Dahle**. 2017. Ecosystem Benefits of Tree City USA Cities in West Virginia. Prepared for West Virginia Division of Forestry, Urban Forestry.

Dahle, G. 2013. Survey Trees for WVU Canopy Tour

Dahle, G., 2012. Survey of Candidate Trees for WVU Canopy Tour

McKenzie, R., **G. Dahle** and H. Holt. 2003. Crawfordsville tree inventory report

McKenzie, R., **G. Dahle** and H. Holt. 2003. Crown Hill cemetery tree inventory report

McKenzie, R., **G. Dahle** and H. Holt. 2003. Lafayette tree inventory report

McKenzie, R., **G. Dahle** and H. Holt. 2003. Rochester tree inventory report

Graham, J., R. McKenzie, **G. Dahle** and H. Holt. 2003 Mitchell tree inventory report

Holt, H., R. McKenzie, **G. Dahle**, Z. Lowe, J. Olson, and D. Anderson. 2003. Industrial herbicide test

Holt, H., R. McKenzie, **G. Dahle**, J. Graham, and B. Knapp. 2002 Industrial herbicide test

Dahle, G., R. McKenzie, and H. Holt. 2002. Fowler tree inventory report

Dahle, G., R. McKenzie, and H. Holt. 2002. New Chauncey Hill tree inventory report

Holt, H., R. McKenzie, **G. Dahle**, and J. Clark. 2001. Industrial herbicide test

Dahle, G. 2000. Five-year tree management plan, Agilent Technologies – Santa Clara Site

Dahle, G. 2000. Five-year tree management plan, The Forum at Rancho San Antonio, Cupertino, California

Dahle, G. 2000. Five-year tree management plan, Aspect Technology – San Jose, CA

Dahle, G. 1999. Five-year tree management plan, Hewlett Packard – Cupertino CA

Dahle, G. 1999. Five-year tree management plan, Teradyne – San Jose, CA

Dahle, G., P. Sacamano, and L. Burkart. 1998. Methods for modeling the influence of precipitation on tree growth. A report presented to the Pacific Gas and Electric Company. San Francisco, CA

Anderson, G., **G. Dahle**, and P Sacamano. 1998. Grassland Fire Potential and PRC 4292 Compliance Dates. A report presented to the Pacific Gas and Electric Company. San Francisco, CA

PRESENTATIONS

Understanding How Trees Withstand Nature's Assault: A Biomechanical Approach. 2018. Mid-Atlantic Horticulture Short Course. Virginia Beach VA. January 2018.

Trees, wind & gravity. 2017 NW Ohio Urban Forestry Seminar. Bluffton University, Bluffton OH. November 2017

Using digital image correlation to map mechanical loading and failures in urban trees. Forestry & Natural Resources Graduate Student Seminar. Purdue University West Lafayette IN. October 2017

What are cities looking for in an entry level urban forester? International Society of Arboriculture Annual International Conference. Washington DC. Aug 2017

The science of branch and stem failures. Tree Risk Management Short Course VA Department of Transportation. Blacksburg VA. May 2017

Refresher on tree biomechanics. Tree Risk Management Short Course VA Department of Transportation. Blacksburg VA. May 2017

Adapting technology in arboriculture and forestry. West Virginia SAF Meeting. Glenville WV. April 2017 (Invited)

Tree Risk Assessment. USDA Forest Service: Urban Forest Connection. Webinar April 2017

Biomechanics: learning how trees fail. Davis College 150th Anniversary Celebration. Morgantown WV. Feb 2017 (Invited)

Tree Assessment and Health on Tree Based Courses. WVU Appalachia Aerial Symposium. Morgantown WV. Nov 2016 (Invited)

Biomechanical approaches to understand how trees withstand nature's assaults. Mid-Atlantic Chapter International Society of Arboriculture Annual Conference. Morgantown WV. Oct 2016 (Invited)

Modeling strain in trees using stereo photogrammetry. Minnesota Shade Tree Short Course. Minneapolis MN. March 2016 (Invited)

Using stereo photogrammetry to model strain in trees. Minnesota Shade Tree Short Course. Minneapolis MN. March 2016 (Invited)

Biomechanical approaches to understand how trees fail. PennDel ISA Conference. Lancaster PA. March 2016 (Invited)

NASA photogrammetry equipment and acoustics to measure how EAB attach and root balls from EAB affected trees. The Davey Institute's Research Showcase. Revenna OH, October 2015 (Invited)

Using stereo photogrammetry to model strain through the branch connect zone. International Society of Arboriculture 91th Annual Conference, Orlando FL. August 2015. (Paper)

Is Wood More Likely to Fail in Cold Weather? Appalachian Vegetation Management Association Conference. Stonewall Jackson WV. March 2015 (Invited)

Research on Branch Failure: Strength Loss, Elasticity & Taper. Ohio Tree Care Conference. Dayton OH. Feb 2015 (Invited)

Restoration Pruning after Storms. Indiana Arborist Association Annual Conference. Indianapolis IN. Jan 2015. (Invited)

- Basic Electrical Systems: Primary Distribution. Indiana Arborist Association Annual Conference. Indianapolis IN. Jan 2015. (Invited)
- Vegetation Management Programs. Indiana Arborist Association Annual Conference. Indianapolis IN. Jan 2015. (Invited)
- Pruning to Restore after Storms. Tree Care Industry Association Annual Conference. Hartford CT. Nov 2014 (Invited)
- Tree Selection & Installation. Monongalia County Master Gardeners Training. Oct. 2014 (Invited)
- Tree Pruning. Monongalia County Master Gardeners Training. Oct. 2014 (Invited)
- Using Biomechanical Approaches to Understand How Branch Development Leads to Stable Crown Form. Presentation to NIFA visiting committee. Morgantown WV. Sept 2014 (Invited)
- Barks Influence on the Measurement of Mechanical Strain. WVU FRM Graduate Student Seminar Series. Morgantown WV. Sept 2014 (Invited)
- Using Biomechanical Approaches to Understand How Branch Development Leads to Stable Crown Form. NIFA McIntire-Stennis WVU Visit. Sept 2014 (Invited)
- Influence of Bark on the Measurement of Mechanical Strain using ARAMIS. International Society of Arboriculture 90th Annual Conference, Milwaukee WI. August 2014 (Paper)
- ISA Research Agenda. NUCFAC Meeting. Kent OH. June 2014 (Invited)
- Urban Forestry 2020 - NUCFAC Grant Update. NUCFAC Meeting. Kent OH. June 2014 (Invited)
- ANZI A300 Pruning Techniques. WVU Extension Services - Tree Care Training for Landscape Professionals. Moundsville WV. Feb. 2014. (Invited)
- Hazard Tree Identification. WVU Extension Services - Tree Care Training for Landscape Professionals. Moundsville WV. Feb. 2014. (Invited)
- Can Destructive Sampling Lead to Insights into Restoration Pruning? Waynesboro Workshop. Waynesboro VA. Sept 2013 (Invited)
- Roots The Important "Hidden" Half. Waynesboro Workshop. Waynesboro VA. Sept 2013 (Invited)
- Effect of taper on Bending Stress at the Base of Branches? Biomechanics Week 2013 Symposium. Kent OH. August 2013. (Invited)
- Does Taper Affect Bending Stress at the Base of Branches? International Society of Arboriculture 89th Annual Conference, Toronto ON Canada. August 2013. (Oral paper)
- The Wonders of Trees. North Elementary School 4th Grade Classes. Morgantown WV April 2013 (Invited)
- Can Destructive Sampling Lead to Insights into Restoration Pruning? Delaware Arborist & Tree Care Seminar. Wilmington DE. Feb 2013 (Invited)
- What You Need to Know About the New Tree Risk Assessment BMPs. Delaware Arborist & Tree Care Seminar. Wilmington DE. Feb 2013 (Invited)
- Can Destructive Sampling Lead to Insights into Restoration Pruning? WVU FRM Graduate Student Seminar Series. Morgantown WV. Feb 2013 (Invited)
- Can Breaking Stuff Lead to Insights into Restoration Pruning? New Jersey Shade Tree Federation, Cherry Hill NJ. Oct 2012 (Invited)
- Can Breaking Branches Lead to Insights into Restoration Pruning? Mid-Atlantic Chapter-ISA Annual Conference. Rocky Gap MD. Oct 2012 (Invited)

- Can Growth of Side Branches Lead to Lateral Imbalance in Primary Branches? Tree Risk Assessment, The Biomechanics of Stability, Strength & Structure. Morton Arboretum Lisle IL. Sept 2012 (Invited)
- State of the Literature Pertaining to Urban Tree Biomechanics. Tree Risk Assessment, The Biomechanics of Stability, Strength & Structure. Morton Arboretum Lisle IL. Sept 2012 (Invited)
- Change in the woods: Integration of urban & rural forestry. West Virginia Division of the Society of American Foresters. Morgantown WV Sept 2012 (Invited)
- Overview of Urban Tree Biomechanics Research. International Society of Arboriculture 88th Annual Conference, Portland OR. August 2012. (Paper)
- Transplanting and Pruning Trees. SOFET. Lakin Correctional Facility Aug 2012. (Invited)
- Morgantown WV "Urban Forest USA?". Monongalia County Master Gardeners. Westover WV April 2012. (Invited)
- Transplanting Trees. Alpha Gamma Rho. Morgantown WV. Nov 2011 (Invited)
- Arboriculture and Urban Forestry at West Virginia University, a Growth Area for Students and Research. West Virginia Division of the Society of American Foresters. Pipestem WV Sept 2011 (Invited)
- How much soil should you place on top of a root ball when you install a tree West Virginia University, Morgantown WV March 2011 (Invited)
- Using Material Properties and Allometry to Understand How Tree Branches Develop. Arboriculture Seminar. West Virginia University, Morgantown WV. Oct 2010 (Invited)
- Can Changes in Branch Allometry and Material Properties Lead to Structurally Safe Branches? International Society of Arboriculture Tree Biomechanics Symposium, Kent OH August 2010 (Invited)
- Roots, The Forgotten 'Half' of a Tree. Urban Forestry Seminar. Western Illinois University. Macomb, IL. March 2010 (Invited)
- Modeling Tree Crown Development to Improve Urban Canopy Health. Urban Forestry Seminar. Lincoln University, Jefferson City MO. February 2010 (Invited)
- Exploring changes in allometric branch patterns related to variations in branch stiffness and anatomical properties along branches. International Society of Arboriculture 85th Annual Conference, Providence RI. July 2009. (Oral presenter)
- How the Hydraulic and Mechanical Properties of Wood Influence Branch Form in Norway Maple (*Acer platanoides* L.). Doctorate defense seminar. Rutgers University, New Brunswick, NJ. February 2009
- Relationship of vessel to fiber ratio and the trade-off between hydraulics and mechanics in Norway maple (*Acer platanoides*). International Society of Arboriculture 84th Annual Conference, St. Louis MO. July 2008. (Oral presenter)
- Managing trees after heading and reduction cuts, how CODIT and watersprouts influence tree safety. The Connecticut Tree Protective Association. Farmington CT. July 2008. (Invited)
- Finding space for trees in urban and community landscapes. New York Releaf – Planning for trees in urban and community landscapes workshop. Liberty, NY. April 2008. (Invited)
- Norway maple more than just invasive, a great tree to study the balance between hydraulics and mechanics. Rutgers University Ecology & Evolution Graduate Student Seminar. New Brunswick NJ. February 2008 (Invited)

- Anatomical study to determine vessel to fiber ratio along Norway maple (*Acer platanoides* L.) branches. Annual Meeting Northeast Region American Society for Horticultural Science. Rutgers University New Brunswick, NJ. January 2008 (Oral Presenter)
- Branch modeling for load distribution. Garden State Tree Conference. Rutgers University, New Brunswick, NJ. March 2006. (Invited)
- Trees & pavement: Design strategies for establishing trees around impervious materials. Mid-Atlantic Horticulture Short Course. Virginia Beach, VA. February 2006 (Invited)
- Do worms, fungi and mulch aid in tree establishment? Rutgers University Ecology & Evolution Graduate Student Seminar. New Brunswick, NJ. December 2005 (Invited)
- How utility through-pruning techniques relate to strength and decay patterns in silver maples, Pacific Northwest Chapter's Utility Vegetation Management Conference, Salem, OR. November 2005 (Invited)
- Decay Patterns in Silver Maple Stems, International Society of Arboriculture 81st Annual Conference, Nashville, TN. August 2005 (Oral paper)
- Structural reliability of silver maples converted from rounds-over to V-trims. Pennsylvania-Delaware Chapter of ISA, 40th Annual Shade Tree Symposium, Lancaster, PA. February 2005 (Invited)
- Research needs in transmission ROW. Pennsylvania-Delaware Chapter of ISA, 40th Annual Shade Tree Symposium, Lancaster, PA. February 2005 (Invited panel discussion)
- Measuring branch architecture and localized wood strength properties, Garden State Tree Conference, New Brunswick, NJ. January 2005 (Invited)
- Pruning affects tree structure and reliability. Indiana Arborist Association Winter Conference, Indianapolis, IN. January 2005 (Invited)
- Structural reliability of silver maple trees converted from round-overs to V-trims. Rutgers University Ecology & Evolution Graduate Student Seminar. . New Brunswick, NJ. October 2005 (Invited)
- The Tender Years: Selecting, transplanting and caring for trees during the first two years in the ground. Rutgers Cooperative Extension, Master Gardener Association of New Jersey Annual Conference, New Brunswick, NJ. October 2004 (Invited)
- Structural reliability of silver maple trees converted from round-over to V-prunes in association with electrical distribution lines. 8th Rights-of-Way Symposium, Saratoga Springs, NY. September 2004 (Oral paper)
- Branch attachment strength loss implications for silver maple trees converted from round-over to v-trims. International Society of Arboriculture 80th Annual Conference, Pittsburgh, PA. August 2004 (Oral paper)
- Effects of soil surface treatments on tree establishment. Tree Florida Conference, Key West FL. June 2004 (Invited)
- Influence of planting depth and root number on trees. Tree Florida Conference, Key West FL. June 2004 (Invited)
- Strength loss and decay patterns in trees converted from round-overs to v-trims during electrical line clearance operations. Masters defense seminar. Purdue University, West Lafayette, IN. April 2004
- Influence of Pruning Methods on Health and Reliability of Silver Maple Trees. International Society of Arboriculture 78th Annual Conference, Montreal, Quebec, Canada. August 2003 (Oral speaker)

Influence of Pruning Methods on Health and Reliability of Silver Maple Trees. 4th Plant Biomechanics Conference, East Lansing, MI. July 2003 (Oral speaker)

Progress Report on the Influence of Pruning Methods on Tree Health and Reliability. Indiana Arborist Association Winter Conference, Indianapolis, IN. January 2003 (Invited)

INDIVIDUAL COURSE LECTURES

Wood Organization. Visiting Professor in FNR 444. Purdue University, West Lafayette IN. October 2017

Incorporating Urban Trees into Ag Education. AGEE493c – Using STEM in Ag Education. Spring 2017

Remote Measurement of Mechanical Strain. WDSC 480 – Senior Project 1. Fall 2016

Restoring Trees after Topping. ENTO/PPTH 471 Urban Tree Shrub Health. Spring 2015, 2017

Bush Honeysuckles & Ulmaceae. FOR 205 – Dendrology. Fall 2015

What is Urban Forest Management. FOR 140 – WV Natural Resources. Fall 2015

Remote Measurement of Mechanical Strain. WDSC 480 – Senior Project 1. Fall 2015

Overview Urban Forestry Minor. FOR 101 – Career in Natural Resource Management. Fall 2015

Remote Measurement of Mechanical Strain. WDSC 480 – Senior Project 1. Fall 2014

Aceraceae & Oleaceae. FOR 205 – Dendrology. Fall 2014

Urban Forestry. HORT 493C – Pruning – Training Horticulture Plants. Feb. 2014

Wood Organization & Arboriculture. WDSC 494 – Wood Science Seminar. Sept. 2013

Wood Organization & Arboriculture. WDSC 494 – Wood Science Seminar. Sept. 2012

Urban Forest Management. West Virginia University FMAN 433 – Forest Management. Fall 2011

West Virginia University Arboriculture and Urban Forestry. West Virginia University RPTP 142 – Introduction: Recreation/Parks/Tourism Fall 2011

Arboriculture & Urban Forestry at West Virginia University. West Virginia University RPTP 365 – Management-Recreation/Park/Tourism. Fall 2011

Betulaceae through Salicaceae, important hardwood tree families in the Northeast. Rutgers University, 11:704:272 – Dendrology, Fall 2005

Wind, Air and Trees – How trees effect air and noise pollution. Rutgers University, 11:372:202 – Environmental Issues, Spring 2005

Wood organization, Rutgers University, 11:704:365 – Arboriculture, Fall 2005

The transplanting process – more than digging a hole in the ground, Rutgers University, 11:704:365 – Arboriculture, Fall 2005

Overview of integrated vegetation management. Rutgers University, 11:704:403 – Urban Forestry, Fall 2004

Urban forest planning models, Purdue University, FNR 498U – Urban Forestry Topics, Spring 2004

Urban forestry administration, Purdue University, FNR 498U – Urban Forestry Topics, Spring 2004

Management plans – how to develop a long-term client, Purdue University, FNR 498U – Urban Forestry Topics, Spring 2003

Animal – Habitat Relationships, Purdue University, FNR 341 – Wildlife Habitat Management, Spring 2003

Overview of tree management plans, Purdue University, FNR 444 – Arboriculture, Fall 2002

SERVICE

Affiliations & Committees

ANSI A300 Part-1 Pruning Subgroup. 2013-present.

Appalachian Vegetation Management Association, Board of Director 2015 - present

Bartlett Tree Foundation, Consulting Director 2011 – present

International Society of Arboriculture

Arboriculture Research & Education Academy (AREA) President, 2013-2014

AREA President-Elect, 2012-2013

AREA Vice President, 2011-2012

AREA Liaison to Editorial Board of Arboriculture & Urban Forestry, 2013-2013

Conference & Programing Committee 2013-2014

Chair Conference & Programing Committee 2017

Membership Committee 2015 – present

Proctor Certified Arborist Exam 2004 – present

Student Sub-committee, 2013-present

Utility Arborist Association Research Committee 2012 – present

Mid-Atlantic Chapter International Society of Arboriculture

Annual Conference Committee 2011

Annual Conference Committee Program Chair 2015-16

Board of Directors 2012-2016

Scholarship Committee Chair 2014-2016

Morgantown Tree Board, Morgantown, WV, 2011-present

West Virginia Urban Forest Council 2011-present

West Virginia University

Student Arboriculture & Urban Forestry Club – Advisor 2013-present

Davis College Student Research & Creative Scholarship Judge 2013, 2014

Davis College Student Research & Creative Scholarship Committee 2014-16

Xi Sigma Pi Forestry Honor Fraternity – Advisor 2012-2014

Reviewer, Scientific Journals

Arboriculture and Urban Forestry, 2009 – present

Canadian Journal of Forest Research, 2011 – present

Cities & Environment, 2013 – present

Urban Forestry & Urban Greening journal, 2010 – present

Reviewer, Conference Proposals

Central Hardwood Conference, 2011

Arboriculture Research & Education Academy, 2011

Rutgers University, Ecology & Evolution Graduate Student Association

Correspondence Secretary, 2006-2008

Co-Chair Student Seminar, 2005-2006

Purdue University

Treasurer, Purdue Graduate Student Government, 2002 – 2004

Supervisor, Student Society of Arboriculture Tree Care Crew, 2002 – 2004

Forester/President, Xi Sigma Pi National Forestry Honor Fraternity, 1994 – 1995

President and Vice President, Student Chapter of The Wildlife Society, 1993 – 1995

Co-Editor, The Log, Departmental Yearbook, 1993 – 1994

PROFESSIONAL AFFILIATIONS and HONOR SOCIETIES

Arboricultural Research and Education Academy

International Society of Arboriculture

Mid-Atlantic Chapter International Society of Arboriculture

Utility Arborist Association

Appalachian Vegetation Management Association

Xi Sigma Pi Forestry Honor Society