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PROFESSIONAL SUMMARY

Extensive experience in R&D growth and leadership, programmatic and line management and strategic organization and development. Over the past 24 years successfully competed as lead PI or co-PI for 20 DOE/NSF/USDA-funded research projects that resulted in a total of \$325M in funding, led the effort to create and establish plant genomics research at ORNL and have an H-index of 42 from over 265 peer-reviewed articles which have been cited over 6850 times. Have experience developing and leading talented PhD- and MS-level scientists and technical support staff in support of important national science initiatives. Served as: Program Manager for 10 years for the DOE-EERE Short Rotation Woody Crop program, for 10 years as the Joint Genome Institute Plant Genomics program co-lead, for 3 years as the DOE-BER Plant Genomics Chief Scientist and for 7 years as Group Leader for the ORNL Plant Systems Biology Group. Demonstrated skills in science leadership, technology development, partnerships and collaborations with industry, national and international organizations, and strategic planning.

EDUCATION

Ph.D. - 1984 - Genetics, Texas A&M University
M.S. - 1980 - Forest Genetics, Mississippi State University
B.S. - 1978 - Forest Management, Northern Arizona University

PROFESSIONAL APPOINTMENT

90% Corporate Fellow; BioSciences Division; Oak Ridge National Laboratory; 2014-present

Current Responsibilities: Group leader for the Plant Systems Biology Group, Lead the BioEnergy Science Center effort to reduce recalcitrance in *Populus*, including coordinating all internal and external collaborations related to Association Genetics, Activation Tagging, Expression Analysis and QTL Analyses, Science Lead on the Plant-Microbe Interaction project, including overseeing all experimental design and implementation for plant, fungal and bacterial field and laboratory studies.

10% Co-Lead Plant Sciences Program, Joint Genome Institute, 2006-present

Current Responsibilities: Coordinate the solicitation and review of PI-lead sequencing proposals submitted through the DOE laboratory system; establish multiple large-genome sequencing projects that address DOE missions in the area of biofuels development, carbon sequestration and global climate change; facilitate DOE, laboratory and JGI interactions.

PRIOR EXPERIENCE

Distinguished Scientist; Biology Sciences Division, Oak Ridge National Laboratory; 2010-2014
Senior Scientist I-II; Environmental Sciences Division, Oak Ridge National Laboratory; 2005-2010
Research Scientist I-III; Environmental Sciences Division, Oak Ridge National Laboratory; 1990-2005
Research Professor; Departments of Plant Sciences; University of Tennessee; 2002-2007
Associate Professor of Horticulture and Forestry; North Dakota State University; 1984-1990
Instructor; Forest Science Department; Texas A&M University; 1981-1984
Graduate Research Assistant; Forestry Department; Mississippi State University; 1979-1980
Research Technician; Forestry Department; Northern Arizona University; 1978-1979

GRANTS

U.S. DOE-OBBER. Title: Laboratory Director's Research and Development Grant. Title: Increasing advanced biofuels production from terpenes in *Eucalyptus*. 2015-17. \$770,800. P.I. G.A. Tuskan.
U.S. DOE OBER. Title: Engineering CAM photosynthetic machinery into bioenergy crops for biofuels production in marginal environments. 2012-2017. \$14,000,000. P.I. J. Cushman, Co-P.I. G.A. Tuskan.
U.S. DOE OBER. Title: BioEnergy Science Center. 2013-2018. \$125,000,000. P.I. P. Gilna, Co-P.I. G.A. Tuskan.
U.S. DOE OBER. Title: Plant-Microbe Interfaces. 2013-2015. \$21,199,450. P.I. M. Doktycz, Co-Lead G.A. Tuskan.
U.S. DOE OBER. Title: BioEnergy Science Center. 2008-2012. \$125,000,000. P.I. M. Keller, Co-P.I. G.A. Tuskan.
U.S. DOE OBER. Title: Plant-Microbe Interfaces. 2011-2013. \$21,199,450. P.I. M. Doktycz, Co-P.I. G.A. Tuskan.
U.S. DOE OBER. Title: A Functional Genomics Approach to Altering Crown Architecture in *Populus*: Maximizing Carbon Capture in Trees Grown in Dense Plantings. 2007-10. \$1,595,000. P.I. G.A. Tuskan.
U.S. DOE OBER. Title: Genome-Enabled Discovery of Carbon Sequestration Genes in Poplar. 2006-08. \$4,084,480. P.I. G.A. Tuskan.
Laboratory Director's Research and Development Grant. Title: Genome-Enabled Detection of Differential Mortality in a Northern Temperate Forest Ecosystem. 2005-06. \$263,000. P.I. G.A. Tuskan.
NSF Plant Genome. The *Populus* genome: Curation and chromosomal-level assembly. 2005-06. \$1,367,000. P.I. G.A. Tuskan.
U.S. DOE OBER. Title: Genome-Enabled Discovery of Carbon Sequestration Genes in Poplar. 2002-05. \$5,137,480. P.I. G.A. Tuskan.
U.S. DOE OBER. Title: Formation of an International *Populus* Genome Consortium and Creation of a *Populus* Post-sequence Science Plan. 2002-03. \$299,000. P.I. G.A. Tuskan.
U.S. DOE Agenda 2020. Title: Environmental Influences on wood chemistry and density of *Populus* and loblolly pine. 2001-05. \$990,000. P.I. G.A. Tuskan.
U.S. DOE Biomass Power Program. Accelerated Domestication of *Populus*. 2001-02. \$540,000. P.I. G.A. Tuskan.
Laboratory Director's Research and Development Grant. Title: Carbon allocation and partitioning in woody plants: A means to enhance bioenergy conversion and carbon sequestration. 2000-02. \$793,000. P.I. G.A. Tuskan.
U.S. DOE Biofuels Feedstock Development Program CRADA. Title: Overcoming constraints to high-yield plantation-grown hardwoods in the southeastern United States. 1996-00. \$1,316,000. P.I. G.A. Tuskan.
Laboratory Director's Research and Development Grant. Title: The isolation of DNA sequences that determine gender in Salicaceae. 1997-98. \$565,000. P.I. G.A. Tuskan.
U.S. DOE Agenda 2020. Title: Genetic control of wood properties in loblolly pine and hybrid poplar. 1996-99. \$700,000. P.I. G.A. Tuskan.
USDA Competitive Grant. Title: Mechanisms of persistence and extirpation of aspen seedlings following the 1988 Yellowstone fires. 1995-97. \$265,000. P.I. M.T. Turner *et al.*
U.S. DOE Program for Ecosystem Research. Title: UV-B effects on forest tree pollen germination and genetic integrity. 1995-96. \$140,000. P.I. G.A. Tuskan
U.S. DOE Program for Ecosystem Research. Title: Temperature Adjustment in Sugar Maple: Implications for Forest

Succession in a Warmer Climate. 1993-95. \$585,000. P.I. R.J. Norby *et al.*
 Laboratory Director's Research and Development Grant. Title: Advanced Concepts for Production and Conversion of Renewable Plant Materials. 1993-95. \$600,000. Co-P.I. G.A. Tuskan and T.J. Tschaplinski.
 U.S. DOE Biofuels Feedstock Development Program CRADA. Title: Biochemical Basis of Drought Tolerance in Hybrid Poplars Grown Under Field Conditions. 1994-96. \$600,000. Co-P.I. T.J. Tschaplinski and G.A. Tuskan.
 U.S. DOE Biofuels Feedstock Development Program Grant. Title: Biochemical and Molecular Basis of Water Stress Tolerance in *Populus*. 1991-93. \$325,000. Co-P.I. T.J. Tschaplinski and G.A. Tuskan.
 NSF Instrumentation and Laboratory Improvement Grant. Title: Enhancement of Undergraduate Biotechnology Cell Culture Laboratories. 1989-90. \$85,722. P.I. G.A. Tuskan.
 USDA Soil Conservation Service Grant. Title: Evaluation of cultural practices for shelterbelts in the northern Great Plains. 1989-90. \$61,960. P.I. G.A. Tuskan.
 USDA Competitive Grant. Title: Complementary *In vitro* selection of western gall rust resistant ponderosa pine. 1987-89. \$182,700. P.I. G.A. Tuskan.

OTHER PROFESSIONAL ACTIVITIES

Editorial Board for Biotechnology for Biofuels and Plant Genome, 2008-present
 Received the 2012 Forest Biotechnologist of the Year
 Received the 2007 ORNL Outstanding Scientific Achievement Award
 Received the 2007 Alumnus of Year at Northern Arizona University
 Currently serves on the Science Advisory Board for EU Seventh Framework Program WATBIO project, Southampton, England; Umea Plant Sciences Department, Umea, Sweden; Portuguese National Cork Oak Sequencing, Lisbon, Portugal; School of Forest Resources, Michigan Technology Institute, Houghton, Michigan; NSF-Southwest Experimental Garden Array (SEGA), Flagstaff, Arizona
 Previously served on the Science Advisory Board for the EU Sixth Framework program, EVOLTREE project, Nancy, France
 Co-chairman of the New Phytologist workshop on Molecular Basis of Adaptation; Gatlinburg, TN, 2004
 Reviewed proposals for the DOE, USDA, SBIR, CPBR, NATO and NSF Competitive Grants programs; 1988-present
 Reviewed manuscripts for *Silvae Genetica*, *Forest Science*, *Plant Cell*, *Organ and Tissue Culture*, *Soil Science*, *Phytopathology*, *Canadian J. Forest Research*, *HortScience*, *Tree Physiology*, *Environmental and Experimental Botany*, *Biomass and Bioenergy*, *Mathematical Biosciences*, *New Phytologist*, *PNAS*, *Nature*, *Science*
 Served on the National Research Council's Biology Board Panel on Intellectual Property Rights; 1996
 Review Panel Member, the Consortium for Plant Biotechnology Research, 1992-2000.
 Panel member for the USDA/NRICGP in Plant Response to the Environment; 1993
 Guest Editor for the *Canadian Journal of Forest Research*; 1992
 Co-chairman of a workshop on Marker-Aided Selection; Gatlinburg, TN, 1991; Houston, TX, 1996
 Reviewed proposals for NSF South Dakota EPSCOR; 1988
 Reviewed 5-year project proposals for the U.S. Forest Service; 1985, 1990, 1991, 1993
 Co-author of the five-year project outline for NC-99; 1985
 Participated in Farm Forestry Meetings; 1984-89
 Participated in the Southern Forest Tree Improvement Conference; 1979-01
 Participated in the North Central Microcomputer Workshop; 1985
 Participated in the North-Central Workshop on Effective Teaching; 1985
 Participated in the NC-7 Biotechnology Working Group Meeting; Ames, Iowa; 1985
 Participated in the North American Forest Biology Workshop; 1984-94
 Participated in the International Symposium on Windbreak Technology; 1986

Participated in the International Association of Plant Tissue Culturalists; 1986
Participated in the GPAC Forestry Committee Meeting; 1986-90; Chairman GP-13, 1988-90

PUBLICATIONS

- Weighill, D, C Bleker, P Ranjan, W Muchero, T Tschaplinski, GA Tuskan, D Jacobson. 2016. Pleiotropic decomposition of 609 *Populus trichocarpa* genotypes. In prep.
- Bdeir, R, W Muchero, GA Tuskan, V Busov, Y Yordanov, O Gailing. 2016. Genetical genomics of *Populus* diameter and bark features. In prep
- Ullrich, K, D Lang et al. 2016. The Physcomitrella V3 genome reveals highly unusual moss genome structure and evolution.
- Gjersing, EL, BS Donohoe, BH Davison, GA Tuskan, W Muchero, RW Sykes, SR Decker, MF Davis. 2016. Plant cell wall chemical composition governs cell wall rigidity and biomass recalcitrance. Science In review.
2016. *Kalanchoë* genome reveals convergent evolution of crassulacean acid metabolism. Nature In review.
- Mizrachi, E, L Verbeke, N Christie, AC Fierro, SD Mansfield, GA Tuskan, TJ Tschaplinski, MC Van Montagu, Y Van de Peer, K Marchal, AA Myburg. 2016. Systems genetics of xylogenesis: Multilevel modeling reveals pathways associated with lignocellulosic biomass accumulation and processing. PNAS In review.
- Yin, H, H-B Guo, DJ Weston, AM Borland, P Ranjan, PE Abraham, SS Jawdy, J Wachira, GA Tuskan, TJ Tschaplinski, SD Wullschleger, H Guo, RL Hettich, S Gross, Z Wang, A Visel, X Yang. 2016. Diel rewiring and positive selection of ancient plant proteins enabled evolution of CAM photosynthesis in *Agave*. New Phytologist In review.
- Balia, G, UC Kalluri, R Khunsupata, R Samuela, GA Tuskan, AJ Ragauskas. 2016. Characterization of *Populus* cellulose biosynthesis variants: Highlighting cellulose structure and molecular contribution to recalcitrance. Biomass and Bioenergy In review.
- Yang, Y, CG Yoo, H-B Guo, W Rottmann, KA Winkeler, CM Collins, LE Gunter, SS Jawdy, X Yang, H Guo, Y Pu, AJ Ragauskas, GA Tuskan, J-G Chen. 2016. Overexpression of a Domain of Unknown Function 266-containing protein increases cellulose biosynthesis, reduces recalcitrance and enhances plant growth in the bioenergy crop *Populus*. Biotechnology for Biofuels In review.
- Muchero, W, AC Bryan, M Xie, H-B Guo, K Yee, TJ Tschaplinski, VR Singan, E Lindquist, RS Payyavula, J Barros-Rios, R Dixon, N Engle, RW Sykes, S Jawdy, LE Gunter, O Thompson, SP DiFazio, LM Evans, K Winkler, C Collins, J Schmutz, H Guo, U Kalluri, M Rodriguez, K Feng, J-G Chen, GA Tuskan. 2016. A transcriptional repressor arose from the shikimate EPSP synthase in *Populus*. Nature Plants In review.
- Labbe J, W Muchero, J Wang, O Czarnecki, X Wang, AC Bryan, K Zheng, Y Yang, W Schackwitz, J Martin, J Schmutz, F Tacon, T Li, P Ranjan, X Yang, TJ Tschaplinski, J-G Chen, GA Tuskan. 2016. Lectin receptor-like kinase mediates non-host mutualistic interaction. Nature Genetics In review.
- Muchero, W, J Franco-Coronado, J-G Chen, V Singan, Y Yang, RS Brueggeman, KL Dunnell, N Abraham, AJ Weisberg, JH Chang, E Lindquist, K Berry, P Ranjan, S Jawdy, J Schmutz, GA Tuskan, JM LeBoldus. 2016. Confronting emerging pathogens: Genomics-empowered approaches to protecting ecosystem health. Nature In

review.

- Abraham, P, H Yin, AM Borland, D Weighill, SD Lim, HC De Paoli, N Engle, R Agh, T Tschaplinski, D Jacobson, J Cushman, RL Hettich, GA Tuskan, X Yang. 2016. Temporal dynamics of transcript and protein abundance and the metabolic processes that define crassulacean acid metabolism in *Agave*. *Nature Plants* In review.
- Ragauskas, AJ, BH Davison, RA Dixon, ME Himmel, M Keller, J Liao, LR Lynd, D Mohnen, Y Pu, TJ Tschaplinski, GA Tuskan, CE Wyman. 2016. Enhancing fundamentals to reduce recalcitrance of cellulosic biomass. *Nature Chemistry* In review.
- Plett, JM, H Yin, R Mewalal, R Hu, T Li, P Ranjan, S Jawdy, HC De Paoli, G Butler, TM Burch-Smith, H-B Guo, CJ Chen, A Kohler, IC Anderson, JL Labbé, F Martin, GA Tuskan, X Yang. 2016. *Populus trichocarpa* encodes small secreted proteins that are transported to the nucleus of *Laccaria bicolor*. *Scientific Reports* In review
- Kalluri, UC, R Payyavula, JL Labbé, N Engle, G Bali, SS Jawdy, R Sykes, M Davis, A Ragauskas, G Tuskan, T Tschaplinski. 2016. Down-regulation of KORRIGAN-like endo- β -1, 4-glucanase genes impacts carbon partitioning, mycorrhizal colonization and biomass production in *Populus*. *Frontiers in Plant Science* 7:1455 doi.org/10.3389/fpls.2016.01455
- Yuan, Z., IS Druzhinina, J Labbé, R Redman, Y Qin, R Rodriguez, GA Tuskan, F Lin. 2016. Specialized microbiome of a halophyte and its role in helping non-host plants to withstand salinity. *Scientific Reports* 6:32467 doi:10.1038/srep32467.
- Stevenson, SR, Y Kamisugi, CH Trinh, J Schmutz, JW Jenkins, J Grimwood, W Muchero, GA Tuskan, SA Rensing, D Lang, R Reski, M Melkonian, CJ Rothfels, F-W Li, A Larsson, GK-S Wong, TA Edwards, AC Cuming. 2016. Genetic analysis of *Physcomitrella patens* identifies ABSCISIC ACID NON-RESPONSIVE (ANR), a regulator of ABA responses unique to basal land plants and required for desiccation tolerance. *Plant Cell* 28(6):1310-1327.
- Timm, C, DA Pelletier, SS Jawdy, LE Gunter, JA Henning, N Engle, J Aufrecht, E Gee, Z Yang, T-Y Lu, TJ Tschaplinski, MJ Doktycz, GA Tuskan, DJ Weston. 2016. Two poplar isolates induce additive favorable responses in a constructed plant-microbiome system. *Frontiers in Plant Science* 7:497. doi: 10.3389/fpls.2016.00497.
- Bryan, AC, W Muchero, S Jawdy, L Gunter, E Gjersing, R Sykes, M Hinchee, KA Winkeler, CM Collins, N Engle, TJ Tschaplinski, X Yang, G Tuskan, J-G Chen. 2016. Knockdown of a laccase in *Populus deltoides* confers altered cell wall chemistry and increased sugar release. *Plant Biotech Journal* doi: 10.1111/pbi.12560.
- Bhagia, S, W Muchero, R Kumar, GA Tuskan, CE Wyman. 2016. Natural genetic variability reduces recalcitrance in poplar. *Biotechnology for Biofuels* 9:106. doi: 10.1186/s13068-016-0521-2.
- Sun, Q, R Khunsupat, K Akato, J Tao, N Labbé, NC Gallego, JJ Bozell, TG Rials, GA Tuskan, TJ Tschaplinski, AK Naskar, Y Pu, R Ragauskas. 2016. A study of poplar organosolv lignin after melt rheology treatment as carbon fiber precursors. *Green Chemistry* doi: 10.1039/C6GC00977H.
- DePaoli, HC, GA Tuskan, X Yang. 2016. An innovative platform for quick and flexible joining of assorted DNA fragments. *Scientific Reports* 6:19278. doi:10.1038/srep19278.
- Liu, D, R Hu, KJ Palla, GA Tuskan, X Yang. 2016. Advances and perspectives on CRISPR/Cas9 systems in plant

genomics research. *Current Opinions in Plant Biology* 30:70–77.

- Czarnecki, O, AC Bryan, SS Jawdy, X Yang, J-G Chen, GA Tuskan. 2016. Simultaneous knock-down of six non-family genes using a single synthetic RNAi fragment in *Arabidopsis thaliana*. *Plant Methods* 12:16. doi:10.1186/s13007-016-0116-8.
- Zheng, K, X Wang, DA Weighill, H-B Guo, M Xie, Y Yang, J Yang, S Wang, DA Jacobson, H Guo, W Muchero, GA Tuskan, J-G Chen, J.-G. 2016. Characterization of DWARF14 genes in *Populus*. *Scientific Reports* 6: 21593. <http://doi.org/10.1038/srep21593>.
- Mewalal, R, DK Rai, D Kainer, F Chen, C Külheim, GF Peter, GA Tuskan. 2016. Plant-derived terpenes: A feedstock for specialty biofuels. *Trends in Biotechnology* doi:org/10.1016/j.tibtech.2016.08.003.
- Yang, Y, J Labbé, W Muchero, X Yang, S Jawdy, M Kennedy, J Johnson, A Sreedasyam, J Schmutz, GA Tuskan and J-G Chen. 2016. Genome-wide analysis of lectin receptor-like kinases in *Populus*. *BMC Genomics* doi:10.1186/s12864-016-3026-2
- Kalluri, UC, R Payyavula, JL Labbé, N Engle, G Bali, SS Jawdy, R Sykes, M Davis, A Ragauskas, G Tuskan, T Tschaplinski. 2016. Down-regulation of KORRIGAN-like endo- β -1,4-glucanase genes impacts carbon partitioning, mycorrhizal colonization and biomass production in *Populus*. *Frontiers in Plant Science* doi: 10.3389/fpls.2016.01455.
- Timm, CM, AG Campbell, SM Utturkar, SR Jun, RE Parales, W Tan, MS Robeson, TY Lu, S Jawdy, SD Brown, DW Ussery, CW Schadt, GA Tuskan, MJ Doktycz, DJ Weston and DA Pelletier. 2015. Metabolic diversity of *Pseudomonas fluorescens* strains isolated from *Populus deltoides*. *Frontiers in Microbiology* 6:1118. doi: 10.3389/fmicb.2015.01118.
- Ming, R, R Van Buren, CM Wai, H Tang, MC Schatz, JE Bowers, E Lyons, M-L Wang, J Chen, E Biggers, J Zhang, L Huang, L Zhang, W Miao, J Zhang, Z Ye, C Miao, Z Lin, H Wang, H Zhou, WC Yim, HD Priest, C Zheng, M Woodhouse, PP Edger, R Guyot, H-B Guo, H Guo, G Zheng, R Singh, A Sharma, X Min, Y Zheng, H Lee, J Gurtowski, F Sedlazeck, A Harkess, MR McKain, Z Liao, J Fang, J Liu, X Zhang, Q Zhang, W Hu, Y Qin, K Wang, L-Y Chen, N Shirley, Y-R Lin, L-Y Liu, AG Hernandez, CL Wright, V Bulone, GA Tuskan, K Heath, F Zee, PH Moore, R Sunkar, JH Leebens-Mack, T Mockler, JL Bennetzen, M Freeling, D Sankoff, AH Paterson, X Zhu, X Yang, JAC Smith, JC Cushman, RE Paul, Q Yu. 2015. The pineapple genome and the evolution of CAM photosynthesis. *Nature Genetics* 47:1435–1442.
- Abraham, PE, X Wang, P Ranjan, I Nookaew, B Zhang, GA Tuskan, RL Hettich. 2015. Integrating mRNA and protein sequencing enables the detection and quantitative profiling of natural protein sequence variants of *Populus trichocarpa*. *Journal of Proteome Research* 14:5318-5326.
- Borland, AM, SD Wullschleger, J Hartwell, GA Tuskan, X Yang, JC Cushman. 2015. Climate-resilient agroforestry: physiological responses to climate change and engineering of crassulacean acid metabolism (CAM) as a mitigation strategy. *Plant Cell & Environment* 38:1833-1849.
- Weston, DJ, CM Timm, AP Walker, L Gu, W Muchero, J Schmutz, JA Shaw, GA Tuskan, JM Warren, SD Wullschleger. 2015. Sphagnum physiology in the context of changing climate: Emergent influences of genomics, modeling and host-microbiome interactions on understanding ecosystem function. *Plant, Cell and Environment* 38:1737-1751.

- Weston, D, A Rogers, T Tschaplinski, L Gunter, S Jawdy, N Engle, L Heady, G Tuskan, S Wullschleger. 2015. Scaling nitrogen and carbon interactions: What are the consequences of biological buffering? *Ecology and Evolution* 24:2839-2850.
- Yang, X., W, JC Cushman, AM Borland, EJ Edwards, SD Wullschleger, GA Tuskan, NA Owen, H Griffiths, JAC Smith, HC De Paoli, DJ Weston, R Cottingham, J Hartwell, SC Davis, K Silvera, R Ming, K Schlauch, P Abraham, JR Stewart, H-B Guo, R Albion, J Ha, SD Lim, BWM Wone, WC Yim, T Garcia, JA Mayer, J Petereit, SS Nair, E Casey, RL Hettich, J Ceusters, P Ranjan, KJ Palla, H Yin, C Reyes-García, JL Andrade, L Freschi, JD Beltrán, LV Dever, SF Boxall, J Waller, J Davies, P Bupphada, N Kadu, Klaus Winter, RF Sage, CN Aguilar, J Schmutz, J Jenkins, JAM Holtum. 2015. A roadmap for research on crassulacean acid metabolism (CAM) to enhance sustainable food and bioenergy production in a hotter, drier world. *New Phytologist* 207:491-504.
- Guo, L, J Qiu, Z Han, Z Ye, C Chen, C Liu, X Xin, C-Y Ye, Y-Y Wang, H Xie, Y Wang, J Bao, S Tang, J Xu, Y Gui, F Fu, W Wang, X Zhang, Q Zhu, X Guang, C Wang, H Cui, D Cai, S Ge, GA Tuskan, X Yang, Q Qian, SY He, J Wang, X-P Zhou, L Fan. 2015. A host plant genome (*Zizania latifolia*) after a century-long endophyte infection. *Plant Journal* 83:600-609.
- Dai, XG, QJ Hu, QL Cai, K Feng, N Ye, GA Tuskan, R Milne, YN Chen, ZB Wan, ZF Wang, WC Luo, K Wang, DS Wan, MX Wang, J Wang, JQ Liu, TM Yin. 2014. The willow genome and divergent evolution from poplar after the common genome duplication. *Cell Research* 24:1274-1277.
- Payyavula, RS, TJ Tschaplinski, SS Jawdy, RW Sykes, GA Tuskan, UC Kalluri. 2014. Metabolic profiling reveals altered sugar and secondary metabolism in response to UGPase overexpression in *Populus*. *BMC Plant Biology* 14:265.
- Muchero, W, J Guo, SP DiFazio, JG Chen, P Ranjan, GT Slavov, LE Gunter, S Jawdy, AC Bryan, RW Sykes, A Ziebell, J Klapste, Porth, O Skyba, F Unda, YA El-Kassaby, CJ Douglas, SD Mansfield, J Martin, W Schackwitz, LM Evans, O Czarnecki, G. Tuskan. 2015. High-resolution genetic mapping of allelic variants associated with cell wall chemistry in *Populus*. *BMC Genomics* 16:24. DOI: 10.1186/s12864-015-1215-z.
- Labbé, J, DJ Weston, N Dunkirk, DA Pelletier, GA Tuskan. 2014. Newly identified helper bacteria stimulate ectomycorrhizal formation in *Populus*. *Frontiers in Plant-Microbe Interactions* 5: 10.3389/fpls.2014.00579.
- Evans, LM, GT Slavov, E Rodgers-Melnick, J Martin, P Ranjan, W Muchero, AM Brunner, W Schackwitz, L Gunter, JG Chen, GA Tuskan, SP DiFazio. 2014. Population genomics reveals signatures of selection coupled with adaptive trait associations in the model tree, *Populus trichocarpa*. *Nature Genetics* 46:1089-1096.
- Tisserant, E, M Malbreil, A Kuo, A Kohler, A Symeonidi, R Balestrini, P Charron, N Duensing, N Frey, V Gianinazzi-Pearson, B Gilbert, Y Handa, J Herr, M Hijri, R Koul, M Kawaguchi, F Krajinski, P Lammers, FG Masclaux, C Murat, E Morin, S Ndikumana, M Pagni, D Petitpierre, N Requena, P Rosikiewicz, R Riley, K Saito, H San Clemente, H Shapiro, D van Tuinen, G Bécard, P Bonfante, U Paszkowski, Y Shachar-Hill, G Tuskan, PW Young, IR Sanders, B Henrissat, SA Rensing, IV Grigoriev, N Corradi, C Roux, F Martin. 2014. The genome of an arbuscular mycorrhizal fungus provides insights into the oldest plant symbiosis. *PNAS* 110(50): 20117-20122.
- Ma, T, J Wang, G Zhou, Z Yue, Q Hu, Y Chen, B Liu, Q Qiu, Z Wang, J Zhang, K Wang, D Jiang, C Gou, L Yu, D Zhan, R Zhou, W Luo, H Ma, Y Yang, S Pan, D Fang, Y Luo, X Wang, G Wang, J Wang, Q Wang, X Lu, Z Chen, J Liu, Y Lu, Y Yin, H Yang, RJ Abbott, Y Wu, D Wan, J Li, T Yin, M Lascoux, SP DiFazio, GA

- Tuskan, J Wang, L Jianquan. 2014. Genomic insights into salt adaptation in a desert poplar. *Nature Communications* 5: DOI:10.1038/ncomms3797.
- Tschaplinski, TJ, JM Plett, NL Engle, A Deveau, KC Cushman, MZ Martin, MJ Doktycz, GA Tuskan, A Brun, A Kohler, F Martin. 2014. *Populus trichocarpa* and *Populus deltoides* exhibit different metabolomic responses to colonization by the symbiotic fungus *Laccaria bicolor*. *Molecular Plant-Microbe Interactions* 27(6):546-556.
- DePaoli, HC, AM Borland, GA Tuskan, JC Cushman, Y Yang. 2014. Synthetic biology as it relates to CAM photosynthesis: Challenges and opportunities. *J Experimental Botany* 65(13):3381-3393.
- Li, Z, O Czarnecki, K Chourey, J Yang, GA Tuskan, GB Hurst, C Pan, JG Chen. 2014. Strigolactone-regulated proteins revealed by iTRAQ-based quantitative proteomics in Arabidopsis. *J Proteome Res* 13:1359-1372.
- Yin, H, CJ Chen, J Yang, D. Weston, JG Chen, W Muchero, N Ye, TJ Tschaplinski, SD Wullschleger, ZM Cheng, GA Tuskan & X Yang. 2014. Functional genomics of drought tolerance in bioenergy crops. *Critical Reviews in Plant Sciences* 33:205-224.
- Ragauskas, AJ, G Beckham, M Bidy, R Chandra, M Davis, B Davison, RA Dixon, P Gilna, M Keller, P Langan, A Naskar, JN Saddler, TJ Tschaplinski, GA Tuskan, CE Wyman. 2014. Lignin valorization in the biorefinery. *Science* 344(6185):709-714.
- McKown, AD, J Klápště, RD Guya, A Geraldes, I Portha, J Hannemanne, M Friedmann, W Muchero, GA Tuskan, J Ehling, QCB Cronk, YA El-Kassaby, SD Mansfield, CJ Douglas. 2014. Genome-wide association implicates numerous genes underlying ecological trait variation in natural populations of *Populus trichocarpa*. *New Phytologist* 203(2):535-553.
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PRESENTATIONS

- Presented an invited talk at the 2013 IOM meeting on Microbial Etiology in States of Health and Diseases in Washington, DC
- Presented the Key Note address at the 2013 10th IUFRO Tree Biotechnology meeting in Asheville, North Carolina
- Presented an invited talk at the 2013 28th Southern Forest Tree Improvement Conference in Clemson, South Carolina
- Presented an invited talk at the 2013 9th Short Rotation Woody Crops International Workshop, Oak Ridge, Tennessee
- Presented an invited talk at the 2013 New Frontiers in Plant Biology Symposium, Madrid, Spain
- Presented a talk at the 2012 Plant and Animal Genome Conference, San Diego, California
- Presented an invited talk at the 2012 AGBT Meeting in Marco Island, Florida
- Presented invited talks in 2012 at the Nanjing Forestry University and the Beijing National Forestry University, China
- Presented an invited talk at the 2012 28th New Phytologist Symposium in Rhodes, Greece
- Presented an invited talk at the 2012 JBEI Annual Retreat, Monterey, California

Presented an invited talk at the 2012 China-US Symposium, Shenyang, China

Co-authored a presentation at the 2011 Plant and Animal Genome XIX Conference, San Diego, California

Co-authored a presentation at the 2011 Annual Meeting of the American Society of Plant Biologists, Minneapolis, Minnesota

Co-authored a presentation at the 2011 Genome Science and Technology Workshop University of Tennessee, Knoxville, Tennessee

Co-authored a presentation at the 2011 59th Conference on Mass Spectrometry and Allied Topics, Denver, Colorado

Co-authored a presentation at the 2010 58th Annual ASMS Conference, Salt Lake City, Utah

Co-authored a presentation at the 2010 USDA-DOE Plant Feedstock Genomics for Bioenergy Awardees Meeting, Washington, DC

Co-authored a presentation at the 2008 23rd Session of the International Poplar Commission, Beijing, China

Presented an invited talk at the 1998 Chernobyl Phytoremediation and Biomass Conversion Workshop, Chernobyl, Russia

Co-authored a presentation at the 1997 TAPPI Pulping Conference, San Francisco, California

Presented an invited talk at the 1996 SRIEG meeting, Houston, Texas

Co-authored a presentation at the 1995 2nd Biomass Conference of the Americas, Portland, Oregon

Presented an invited talk at the 1994 2nd International Symposium for the Application of Biotechnology to Tree Culture, Protection and Utilization, Bloomington, Minnesota

Presented an invited talk at the 1994 13th North American Forest Biology Workshop, Baton Rouge, Louisiana

Co-authored a presentation at the 1994 Western Forest Genetics Meeting, Vancouver, Washington

Co-authored a presentation at the 1994 5th Gatlinburg Symposium: Technology Transfer of Plant Biotechnology, Gatlinburg, Tennessee

Presented an invited talk at the 1993 U.S. DOE Automotive Technology Development Contractors Coordination Meeting, Dearborn, Michigan

Co-authored a presentation at the 1993 2nd United States/Japan Workshop on Global Change, Honolulu, Hawaii

Presented an invited talk at the 1992 19th International Poplar Commission meeting, Zaragoza, Spain

Presented an invited talk at the 1992 12th North American Forest Biology Workshop, Sault Ste. Marie, Ontario, Canada

Co-authored a presentation at the 1992 Water stress tolerance of black cottonwood and eastern cottonwood clones and four of their hybrid progeny 12th North American Forest Biology Workshop, Sault Ste. Marie, Ontario, Canada

Presented an invited talk at the 1991 U.S. DOE Biofuels Feedstock Development Program, Ontario Ministry of Energy, Toronto, Ontario, Canada

Presented an invited talk at the 1991 1st National Fuelwood Conference, Arbor Day Association, Lincoln, Nebraska

Co-authored a presentation at the 1991 1st National Fuelwood Conference, Arbor Day Association, Lincoln, Nebraska

Presented an invited talk at the 1990 43rd Great Plains Agricultural Council Forestry Committee, Colorado Springs, Colorado