



36th Southern Forest Tree Improvement Conference

“Overcoming tree improvement bottlenecks with new technologies”

Virtual Conference | June 7-9, 2021

LINK TO CONFERENCE HOMEPAGE

<http://forestrywebinars.net/series-1/36th-annual-sftic>

9:45 - 12 noon ET

SESSION 1

Monday, June 7, 2021

9:45 - 10:00 am

Welcome From Conference Organizers

10:00 - 11:30 am

Plenary Session (30 min. talks) – Moderator: Dana Nelson

10:00 am

The genetic (and funding) opportunities, challenges and expectations facing tree improvement, even with world-class genomics resources: *A Populus case study*
– *Gerald Tuskan*

10:30 am

Something in the air – Drone-based high-throughput phenotyping of trees
– *Ingo Ensminger*

11:00 am

Spectral-based tools for disease resistance phenotyping in trees – *Anna Conrad*

11:30 - 12 noon

Speaker Panel for Questions/Discussion

2:00 - 4:30 pm ET

SESSION 2

Monday, June 7, 2021

2:00 - 3:30 pm

Concurrent Oral Presentations I (15 min. talks):

SESSION 2A: Pine Genetics & Breeding

Moderator: *Marcus Warwell*

SESSION 2B: Forest Health & Restoration

Moderator: *Caterina Villari*

2:00 pm

Estimating individual tree heights in loblolly pine biomass plantation using drone imagery and LiDAR-derived measurements
– *Jessica A. Maynor*

Conservation and population genetics of the federally endangered *Torreya taxifolia* (Taxaceae) – *Lauren Eserman*

2:15 pm

Pitro50K: A multispecies genotyping array for tropical pines – *Colin Jackson*

Evolutionary origins of the hemlock woolly adelgid resistance-disparity between Asian and North American hemlocks (*Tsuga* sp.).
– *Karl C. Fetter*

2:30 pm

Application of MateSel software in a loblolly pine breeding program – *Trevor D. Walker*

Development of a new genetic transformation system for white and green ash using embryogenic cultures – *A. Ryan Tull*

2:45 pm

Development of elite loblolly pine families for the Piedmont region using clonal progeny testing and genomics – *W. Patrick Cumbie*

Mapping QTLs for blight resistance and morphological traits with complex chestnut families – *Shenghua Fan*

3:00 pm

Rangewide patterns of genetic diversity in Table Mountain pine (*Pinus pungens*), an Appalachian endemic – *Kevin M. Potter*

Evidence of Fraser fir partial resistance to the balsam wooly adelgid – *Austin M. Thomas*

3:15 pm

Variation in salt tolerance of slash pine (*Pinus elliottii*) families – *Ronald Schmidting*

Saving butternut – *Jeanne Romero-Severson*

3:30 - 4:30 pm

Speaker Panel for Questions/Discussion

10:00 - 12 noon ET

SESSION 3

Tuesday, June 8, 2021

10:00 - 11:30 pm	Concurrent Oral Presentations II (15 min. talks):	
	SESSION 3A: Hardwood Genetics & Breeding Moderator: <i>Fred Raley</i>	SESSION 3B: Forest Health — Pine Pathogens, Insects, & Stress Moderator: <i>Wellington Muchero</i>
10:00 pm	White oak genetics and tree improvement program: Range-wide collaborative effort, early results, and lessons learned – <i>Laura DeWald</i>	Rapid-phenotyping of fusiform rust disease resistance in loblolly pine through vibrational spectroscopy – <i>Simone Lim-Hing</i>
10:15 pm	Assembly and annotation of the green ash genome – <i>Matthew Huff</i>	NLR diversity and candidate fusiform rust resistance genes in loblolly pine – <i>Daniel Ence</i>
10:30 pm	Fast-track transformation and flowering for rapid-cycle breeding in poplar – <i>C.J. Tsai</i>	Longitudinal study on in-field trial rust resistance and seedling screening results – <i>Stephanie Fong</i>
10:45 pm	Exploring the genetic diversity of an extinct tree species in the wild, <i>Franklinia alatamaha</i> , using genotyping-by-sequencing of the surviving cultivated population – <i>Heather J. Gladfelter</i>	Predicting genetic parameters and tolerance to pitch canker in slash pine – <i>Andrew Sims</i>
11:00 pm	CRISPR/Cas9-knockout of trichome-regulating MYBs in <i>Populus</i> alter light sensitivity and wax composition – <i>William P. Bewg</i>	Hyperspectral imaging for the prediction of freeze damage and minimum winter temperature at seed source origin of loblolly pine seedlings – <i>Kitt G. Payn</i>
11:15 pm	Ribosomal DNA organization and genomic composition of satellite chromosome in American (<i>Castanea dentata</i> (Marshall) bork.) And Chinese (<i>C. mollissima</i> Blume) chestnut – <i>Nurul Islam-Faridi</i>	
11:30 - 12 noon	Speaker Panel for Questions/Discussion	

2:00 - 4:00 pm ET

SESSION 4

Tuesday, June 8, 2021

2:00 - 3:40 pm	Lightning Poster Presentations (5 min. talks) – Moderator: Gary Peter	
	Genomic assembly comparisons of four Florida <i>Fusarium circinatum</i> isolates – <i>Katherine Smith</i>	
	Genomic characterization of growth and drought tolerance in east Texas loblolly pine – <i>Ian MacLachlan</i>	
	Can sucrose pathway manipulation affect regrowth of coppiced <i>Populus</i> ? – <i>Trevor Tuma</i>	
	A delve into the unknown of sulfate transporters' role in elemental movement and stress response in poplar – <i>Samantha Surber</i>	
	In search of sassafras with resistance to laurel wilt disease – <i>Tyler Dreaden</i>	

2:00 - 4:00 pm ET

SESSION 4 Continued

Tuesday, June 8, 2021

Recovering two elite hybrid sweetgum clones for propagation by somatic embryogenesis – *Nicole A. Locke*

Propagation and conservation of three rare North American ash species using somatic embryogenesis – *Mason M.W. Richins*

Fusiform rust resistance of loblolly pine inter-provenance hybrids – *Stephen Goodfellow*

Combined effect of temperature and water stress on germination and plant growth of *Magnolia pugana*, *Populus luziarum* and *P. primaveralepensis* endemic and endangered species from western Mexico – *César Jacobo-Pereira*

Searching orphan genes in hybrid poplar – *Chen Hsieh*

Additive and dominance genetic parameters of mature-aged traits in Arkansas populations of shortleaf pine (*Pinus echinata* Mill.) – *Chen Ding*

Conservation genetics and resistance breeding at the Harrison Experimental Forest – *Charles Burdine*

Sustainability genetics for American white oak (*Quercus alba*) – *C. Dana Nelson*

Genetic testing based on pedigree reconstruction and spatial analysis in a plantation of *Larix kaempferi* – *Kyungmi Lee*

3:40 - 4:00 pm

Breakout Rooms (Live) For judges to talk to student poster presenters and for other meeting participants to speak with poster presenters

10:00 - 12:10 pm ET

SESSION 5

Wednesday, June 9, 2021

10:00 - 11:40 am

Schatz Symposiumn (30 min. talks) – Moderator: *CJ Tsai*

Introduction: *John Carlson*

10:10 am

Epigenetic influences on plant growth response, and potential for enhancing stress resilience in tree species – *Sally Mackenzie*

10:40 am

A quantitative Reduced Representation Sequencing (qRRS) of genomes; a paradigm shift in NGS-based genotyping – *Bode Olukolu*

11:10 am

Genomics in rare species conservation: Teasing apart evolutionary history and adaptation – *Jill Hamilton*

11:40 - 12 noon

Speaker Panel for Questions/Discussion

12:00 - 12:10 pm

**Best Presentation Awards & Research Support
Competition Announcements**