SARA S. JAWDY

EDUCATION

University of Tennessee, Knoxville, TN/ Oak Ridge National Lab, Oak Ridge, TN
M.S. Plant Sciences/Plant Biotechnology, August 2006
Thesis: "Expression analysis of genes in *Populus* induced by exogenous auxin treatment"

The Pennsylvania State University
B.S. Horticulture, December 2000

REASEARCH INTERESTS/CURRENT ACTIVITIES

Plant genetics, gene expression analysis, plant hormones and plant improvement. Current research focuses on *Populus* and increasing the capacity of roots to sequester carbon in long-term below ground sinks.

SKILLS AND PROFICIENCIES

- DNA extraction using conventional methods as well as robotics Auto Gen NA-2000)
- RNA extraction
- Nucleic acid quantification using Fluoroskan Ascent and NanoDrop
- Cloning
- Gel electrophoresis
- CDNA synthesis
- Standard PCR
- Quantitative PCR
- Primer design
- Rolling circle amplification
- Sequencing using ABI 3700
- Target probe synthesis
- Microarray hybridization, scanning and data extraction
- Microarray data analysis using GeneSpring, SAS/STAT and JMP
- Use of online functional annotation databases such as MIPS and TAIR
- Field data collection such as soil moisture (TDR), soil respiration (Li-Cor Li-6200), leaf area and various other plant phenotypic data
- Establishment and maintenance of greenhouse plants

RESEARCH EXPERIENCE

August 2006 – present: Post Master's internship, *Populus* genomics lab, Environmental Sciences Division, Oak Ridge National Lab, Oak Ridge, TN. Supervisor: Dr. Gerald Tuskan. Involved in a variety of research projects including genome-enabled discovery of carbon sequestration genes in *Populus* and accelerated domestication of *Populus*.

August 2003 – August 2006: M.S. student, University of Tennessee, Knoxville, TN (class) and *Populus* genomics lab, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN (thesis research). Co-major advisors: Dr. Gerald Tuskan and Dr. Max Cheng

2002-2003: Sub-contractor, *Populus* genomics lab, Environmental Sciences Division, Oak Ridge National Lab, Oak Ridge, TN. Supervisors: Dr. Gerald Tuskan and Dr. Stephen DiFazio. Involved in a variety of research projects including genome-enabled discovery of carbon sequestration genes in *Populus*, molecular mechanisms of gender determination in *Populus* and genetic and physical mapping of disease resistance genes in *Populus*.

2000-2002: Internship, physiological ecology, Environmental Sciences Division, Oak Ridge National Lab, Oak Ridge, Tennessee. Supervisor: Dr. Richard Norby. Involved in a variety of projects including responses of a closed-canopy deciduous forest, consisting mainly of *Liquidambar styraciflua*, to increased atmospheric CO_2 concentrations and an old-field community climate and atmospheric manipulation study.

1997-2000: Student research assistant, Plant genetics and breeding, The Pennsylvania State University, State College, Pennsylvania. Supervisor: Dr. Richard Craig. Helped propagate, maintain and collect greenhouse and field trial data on geranium plants in a geranium breeding program.

1999-2000: Student research assistant, The Pennsylvania State University Trial Gardens, The Pennsylvania State University, State College, Pennsylvania. Supervisors: Dr. Robert Berghage and Cathy Shumac. Assisted with propagation, establishment and field trial data collection of over 400 new ornamental and vegetable plant varieties.

PRESENTATIONS

Harper, J., S. Jawdy, U. Kalluri and L. Gunter. Verification of RNAi-mediated down-regulation in *AUX/IAA* transgenic plants. August 2006. Environmental Sciences Division, Oak Ridge National Laboratory (poster presentation)

Jawdy, S.S. Expression analysis of genes in *Populus* induced by exogenous auxin treatment. May, 2006. Department of Plant Sciences, University of Tennessee (seminar)

U.C. Kalluri, S. Jawdy, C. Dervinis, J.M. Davis, S.P. Difazio and G.A.Tuskan. Functional Genomic Studies of Auxin Signaling and Response Genes in Populus. 2005. IUFRO Tree Biotechnology Meeting, Pretoria, South Africa (poster presentation)

Jawdy, S.S., S.P. DiFazio, U.C. Kalluri, J.M. Davis, A.M. Morse, C. Dervinis, K.E. Smith and G.A. Tuskan. Using SSH and RCA to identify auxin-responsive transcripts in *Populus.* October 2004. 12th New Phytologist Symposium: Functional genomics of environmental adaptation in *Populus*. Gatlinburg, TN (poster presentation)

Yin, T.M., S.P. DiFazio, L.E. Gunter, M.M. Sewell, S.S. Jawdy, S.D. Wullschleger, T.J. Tschaplinski and G.A. Tuskan. October 2004. An integrated platform for comparative mapping and genome assembly in poplars: the perennial plant model system. 12th New Phytologist Symposium: Functional genomics of environmental adaptation in *Populus*. Gatlinburg, TN (poster presentation)

PUBLICATIONS

Jawdy, S.S., U.C. Kalluri, S.P. DiFazio, G.A. Tuskan. ESTs expressed in response to exogenous auxin treatment in *Populus.* 2006. *In Prep.*

Kalluri, U.C., T.Tschaplinski, M. Patel, S. Jawdy, S.P. DiFazio, and G.A. Tuskan. Transcriptome and metabolome analysis of transgenic poplar down-regulated in Aux/IAA gene expression. 2006. *In Prep.*

Yin, T.M. S.P DiFazio, L.E. Gunter, S.S. Jawdy, W. Boerjan and G.A. Tuskan. 2004. Genetic and physical mapping of *Melampsora* rust resistance genes in *Populus* and characterization of linkage disequilibrium and flanking genomic sequence. New Phytologist 164:95-105

Norby, R.J, J. Sholtis, C.A. Gunderson and S.S. Jawdy. 2003 Leaf dynamics of a deciduous forest canopy: no response to elevated CO_2. Oceologia 136:574-584