**Campbell J. Nairn**
Assistant Professor
Warnell School of Forestry and Natural Resources
The University of Georgia
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**a. Professional Preparation**

| | | | |
|---|---|---|---|
| University of Central Florida | B.S. | 1982 | Biology |
| University of Florida | M.S. | 1987 | Botany (Molecular Biology) |
| University of Florida | Ph.D. | 1990 | Botany (Molecular Biology) |
| USDA/ARS | Postdoctoral | 1990-1994 | Molecular Biology |
| University of Florida | Postdoctoral | 1994-1996 | Molecular Biology |

**b. Appointments**

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|---|---|
| 2002-Present | Assistant Professor, Warnell School of Forestry and Natural Resources<br>University of Georgia, Athens, Georgia 30602 |
| 1996-2002 | Assistant Research Scientist, Department of Plant Biology<br>University of Georgia, Athens, Georgia 30602 |

**c. Publications**

**Related Publications (5)**

Nairn, C.J., Lennon, D.M., Wood-Jones, A., Nairn, A.V., Dean, J.F.D. (2008) Carbohydrate-Related Genes and Cell Wall Biosynthesis in Vascular Tissues of Loblolly Pine (*Pinus taeda* L.). Tree Physiology (in press)

Liepman, A.H., Nairn, C. J., Willats, W.G.T., Sørensen, I., Roberts, A.W., Keegstra, K. (2007) Functional genomic analysis supports conservation of function among CslA gene family members and highlights diverse roles of mannans in plants. Plant Physiology 143:1881-1893.

Zhou, G-K., Zhong, R., Richardson, E.A., Morrison, W.H.III, Nairn, C.J., Wood-Jones, A., Ye, Z-H. (2006) The poplar glycosyltransferase GT47C is functionally conserved with *Arabidopsis Fragile Fiber8*. Plant Cell Physiol. 47: 1229-1240.

Zhong, R., Pena, M.J., Zhou, G.K., Nairn, C.J., Wood-Jones, A., Richardson, E.A., Morrison, W.H.III, Darvill, A.G., York, W.S., Ye, Z.H. (2005) The *FRA8* gene, which encodes a putative glucuronyltransferase, is essential for normal secondary wall synthesis. Plant Cell 17:3390-3408.

Nairn, C.J., Haselkorn, T. (2005) Three loblolly pine *CesA* genes expressed in developing xylem are orthologous to secondary cell wall *CesA* genes of angiosperms. New Phytologist 166:907-915.

**Other Publications (5)**

Merkle, S.A., Andrade, G.M., Nairn, C.J., Powell, W.A., Maynard, C.A. (2007) Restoration of Threatened Species: A Noble Cause for Transgenic Trees. Tree Genetics and Genomes 3:111-118.

Polin, L.D., Liang, H., Rothrock, R.E., Nishii, M., Diehl, D.L., Newhouse, A.E., Nairn, C.J., Powell, W.A., Maynard, C.A. (2006) *Agrobacterium*-mediated transformation of American Chestnut (*Castanea dentata* (Marsh.) Borkh.) somatic embryos. Plant Cell, Tissue & Organ Culture 84: 69-78.

Zhong, R., Burk, D.H., Nairn, C.J., Wood-Jones, A., Morrison, W.H. III, Ye, Z.H. (2005) Mutation of SAC1, an *Arabidopsis* SAC Domain Phosphoinositide Phosphatase, Causes Alterations in Cell Morphogenesis, Cell Wall Synthesis, and Actin Organization. Plant Cell 17:1449-1466.

Merkle, S.A., Nairn, C.J. (2005) Hardwood tree biotechnology. In Vitro Cell. Dev. Biol. – Plant 41:602-619.

Joshi, M., Niu, C., Fleming, G., Hazra, S., Chu, Y., Nairn, C.J., Yang, H., Ozias-Akins, P. (2005) Use of green fluorescent protein as a non-destructive marker for peanut genetic transformation. In Vitro Cell. Dev. Biol. – Plant 41:437-445.

**d. Synergistic Activities**

Organizer, curriculum development, and lead instructor for the University of Georgia Molecular Marker Workshop.
University of Georgia Institute of Bioinformatics, Faculty member.
University of Georgia Plant Center, Organizer 2004 Plant Center Retreat and 2004 Spring Symposium .
Curriculum development and instructor for Conservation Genetics, FORS 4350 and 6350.

University of Georgia, Warnell School of Forestry and Natural Resources Administrative Committee.
University of Georgia, University Council.

**e. Collaborators and Other Affiliations**
**Collaborators and Co-Editors**
Carroll, John, Univ. of Georgia
Conroy, Michael, Univ. of Georgia
Covert, Sarah F., Univ. of Georgia
Dean, Jeffrey, Univ. of Georgia
Keegstra, Kenneth, Mich. State Univ.
Liepman, Aaron, Mich. State Univ.
Lorenz, Walter, Univ. of Georgia
Merkle, Scott A., Univ. of Georgia
Ozias-Akins, Peggy, Univ. of Georgia
Parrott, Wayne, Univ. of Georgia
Peterson, Douglas, Univ. of Georgia
Roberts, Alison, Univ. Rhode Island
Warren, Robert, Univ. of Georgia
Ye, Zheng-Hua, Univ. of Georgia
**Graduate and Posdoctoral Advisors**
Burns, Jackie, Univ. of Florida (postdoctoral)
Ferl, Robert, Univ. of Florida (M.S. & Ph.D.)
Yelenosky, George, USDA/ARS (postdoctoral)
**Thesis Advisor** (4)
Majsztrik, John, Univ. of Maryland (M.S. 2004)
Reid, Allison, Atlanta, GA (M.S. 2005)
Shamblin, Brian (M.S. 2007, PhD. current)
**Postgraduate-Scholar Sponsor** (0)

**Selected Presentations**
Nairn, C.J. (2007) Plant genomics: resources for investigating cell wall biosynthesis and fiber development. 234th American Chemical Society Fall Annual Meeting. August 2007.
Nairn, C.J., Lennon, D.M., Wood-Jones, A., Nairn, A.V., Dean, J.F.D. (2007) Carbohydrate-Related Genes and Cell Wall Biosynthesis in Vascular Tissues of Loblolly Pine (*Pinus taeda* L.). North American Forest Biology Conference.
Andrade, G.M., Nairn, C.J., Le, H.T., Merkle, S.A. (2006) Transgenic American Chestnut Trees: A Novel Apporach for the Restoration of the Species. American Society of Plant Biologists and Canadian Society of Plant Physiologists Annual Conference.
Nairn, C.J., Wood-Jones, A., Lorenz, W., Dean, J.F. (2006) Analysis of Candidate Genes for Wood Formation in Loblolly Pine by Quantitative Real-Time RT PCR. American Society of Plant Biologists and Canadian Society of Plant Physiologists Annual Conference.
Merkle, S.A., Andrade, G.M., Nairn, C.J., Powell, W.A., Maynard, C.A. (2006) Restoration of Threatened Species: A Noble Cause for Transgenic Trees. Institute for Forest Biotechnology Annual Conference.
Nairn, C.J., Wood-Jones, A., Lorenz, W., Dean, J.F. (2005) Molecular Genetics of Cellulose Synthesis in Developing Wood of Loblolly Pine. Southern Forest Tree Improvement Conference.
Andrade, G.M., Nairn, C.J., Le, H.T., Merkle, S.A. (2005) Regeneration of transgenic American Chestnut plants following co-cultivation of embryogenic tissues with *Agrobacterium tumefaciens*. International Union of Forest Research Organizations Conference, South Africa.
Zhong, R., Pena, M.J., Nairn, C.J., Wood-Jones, A., Morrison, W.H., Darvill, A.G., York, W.S., Ye, Z.H. (2005) Essential role of a novel glycosyltransferase in secondary wall synthesis. Plant Cell Wall Conference.

**Research Interests**
My primary research interest is in plant vascular development, particularly in tree species, including secondary cell wall biosynthesis. Our focus is on loblolly pine and other softwood species, which constitute the most abundant lignocellulosic biomass in the northern hemisphere. I believe that softwood species will provide a major feedstock for second generation bioenergy production.