

Alan Darvill

**Regents Professor of Biochemistry and Molecular Biology and Plant Biology, and
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Dr. Darvill's research interests include the study of the structure and function of plant cell walls. He is also a member of the DOE BioEnergy Science Center (BESC) management team.

Education and Training

Wolverhampton Polytechnic, UK	Plant Biology	B.S., 1973
University College of Wales, Aberystwyth, UK	Plant Physiology	Ph.D., 1976
University of Colorado, Boulder	Biochemistry	Postdoc, 1976-1978

Research and Professional Experience

2007-Present	UGA Lead, DOE BioEnergy Science Center
2004-2007	Administrative Director, NIH/NCRR Integrated Technology Resource for Biomedical Glycomics
2003-Present	Regents Professor of Biochemistry and Molecular Biology and Plant Biology
1999-2007	Administrative Director, NIH/NCRR Research Resource for Integrated Glycotechnology
1988-2003	Professor, Departments of Biochemistry and Molecular Biology and Plant Biology, Complex Carbohydrate Research Center, University of Georgia, Athens
1987-Present	Co-Director, DOE-funded Center for Plant and Microbial Complex Carbohydrates
1987-Present	Director, Complex Carbohydrate Research Center, University of Georgia, Athens
1985-1988	Associate Professor, Departments of Biochemistry and Molecular Biology and Botany, University of Georgia, Athens
1985-1987	Associate Director, Complex Carbohydrate Research Center, University of Georgia, Athens
1984-1985	Associate Professor, Attendant Rank, Department of Molecular, Cellular, and Developmental Biology, University of Colorado, Boulder
1983-1984	Assistant Professor, Attendant Rank, Department of Molecular, Cellular, and Developmental Biology, University of Colorado, Boulder
1978-1983	Senior Research Associate, University of Colorado, Boulder
1976-1978	Postdoctoral Research Associate, University of Colorado, Boulder

Publications (2003-present)

- Peña, M.J., R. Zhong, G.-K. Zhou, E.A. Richardson, M.A. O'Neill, A.G. Darvill, W.S. York, and Z.-H. Ye. 2007. *Arabidopsis irregular xylem 8 and 9*: Implications for complexity of glucuronoxylan biosynthesis. *Plant Cell* **19**: 549-563.
- Ye, Z.-H., W.S. York, and A.G. Darvill. 2006. Important new players in secondary wall synthesis. *Trends Plant Sci.* **11**: 162-164.
- Zhong, R., M.J. Peña, G.-K. Shou, C.J. Nairn, A. Wood-Jones, E. A. Richardson, W.H. Morrison III, A.G. Darvill, W.S. York, and Z.-H. Ye. 2005. *Arabidopsis Fragile Fiber 8*, which encodes a putative glucuronyltransferase, is essential for normal secondary wall synthesis. *Plant Cell* **17**: 3390-3408.
- Hoffman, M., Z. Jia, M.J. Peña, M. Cash, A. Harper, A.R. Blackburn II, A. Darvill, and W.S. York. 2005. Structural analysis of xyloglucans in the primary cell walls of plants in the subclass *Asteridae*. *Carbohydr. Res.* **340**: 1826-1840.
- Jia, Z., M. Cash, A.G. Darvill, and W.S. York. 2005. NMR characterization of endogenously *O*-acetylated oligosaccharides isolated from tomato (*Lycopersicon esculentum*) xyloglucan. *Carbohydr. Res.* **340**: 1818-1825.
- Reuhs, B.L., S. Stephens, M.A. O'Neill, A. Darvill, and P. Albershiem. 2004. L-Galactose replaces L-fucose in wall pectic polysaccharide rhamnogalacturonan II synthesized by the L-fucose deficient *mur1 Arabidopsis* mutant. *Planta* **219**: 147-157.
- Matsunaga, T., T. Ishii, S. Matsumoto, M. Higuchi, A. Darvill, P. Albersheim, and M. A. O'Neill. 2004. Occurrence of the primary cell wall polysaccharide rhamnogalacturonan II in pteridophytes, lycophytes, and bryophytes. Implications for the evolution of vascular plants. *Plant Physiology.* **134**: 339-351.
- O'Neill, M.A. T. Ishii, P. Albersheim, and A.G. Darvill. 2004. Rhamnogalacturonan II: Structure and function of a borate cross-linked cell wall pectic polysaccharide. *Ann. Rev. Plant Biol.* **55**: 109-139.
- Qin, Q., C.W. Bergmann, J.K.C. Rose, M. Saladie, K. Kolli, P. Albersheim, A.G. Darvill, and W.S. York. 2003. Characterization of a tomato protein that inhibits a xyloglucan-specific *endoglucanase*. *Plant J.* **34**: 327-338.
- Freshour, G., C.P. Bonin, W.-D. Reiter, P. Albersheim, A.G. Darvill, and M.G. Hahn. 2003. Distribution of fucose-containing xyloglucans in cell walls of the *mur1* mutant of *Arabidopsis thaliana*. *Plant Physiol.* **131**: 1576-1577.
- Jia, Z., Q. Qin, A.G. Darvill, and W.S. York. 2003. Structure of the xyloglucan produced by suspension-cultured tomato cells. *Carbohydr. Res.* **338**: 1197-1208.

Other Current Professional Activities

- Member, University-wide Bioenergy Task Force, University of Georgia
- University of Georgia Honors Faculty Mentor, 2000-present; University of Georgia Senior Faculty Fellow, 2003-present
- Taught undergraduate-level biology and honors biology for 16 years (~4,500 students). Developed and evaluated new laboratory course for introductory biology course.