Short Curriculum Vitae

Heather Coleman, PhD
Department of Biology, Syracuse University, Syracuse, NY
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Employment

2018 – present	Associate Professor of Biology, Syracuse University
2011 – 2018	Assistant Professor of Biology, Syracuse University
2011 – 2015	Visiting Fellow, Queensland University of Technology (QUT)
2010 – 2011	Australian Research Council Postdoctoral Fellow, QUT
2008 – 2010	Research Fellow, Syngenta Centre for Sugarcane Biofuels Development, QUT

Education

2008	PhD Faculty of Forestry, University of British Columbia Modification of cellulose biosynthesis through varied expression of sucrose metabolism genes in tobacco and hybrid poplar
2002	BSF (Forest Resource Management), University of British Columbia,

Research Grants

2013-2018	Department of Energy – Early Career Award – Extreme expression of cellulases in poplar
2010-2013	Sugar Research and Development Corporation – Modification of lignin biosynthesis in sugarcane for the production of cellulosic ethanol (Co-Chief Investigator with Patrick Bewg)
2009-2012	Australian Research Council (ARC) Super Science Fellowships – Extreme expression: building a platform for industrial plant biotechnology (Co-Chief Investigator with JL Dale, P Waterhouse, R Harding, and B Dugdale)
2009-2011	ARC Discovery Program - Modification of lignin biosynthesis in sugarcane for the improved efficiency of pre-treatment in ethanol production
2008	QUT Early Career Researcher Grant - Modification of lignin biosynthesis in sugarcane for the improved efficiency of pre-treatment in ethanol production

Awards

2014	Invited to participate in 2014 Indonesian-American Kavali Frontiers of Science (National Academy of Sciences)
2013	Department of Energy, Early Career Award
2010	Vice Chancellors Award, QUT

Publications

**denotes mentored undergraduate student, [§]denotes mentored graduate student, [‡]denotes mentored postdoctoral researcher*

Bewg PB[§], **Coleman HD.** (2017) Cell wall composition and lignin biosynthetic gene expression along a developmental gradient in an Australian sugarcane cultivar. *Peer Journal,* 5:e4141

Bewg WP[§], Poovaiah C[‡], Lan W, Ralph J, **Coleman HD**. (2016) RNAi downregulation of three key lignin genes in sugarcane improves glucose release without reduction in sugar production. *Biotechnology for Biofuels*, 9:270

Poovaiah C[‡], Bewg WP[§], Lan W, Ralph J, **Coleman HD**. (2016) Sugarcane transgenics expressing MYB transcription factors show improved glucose release. *Biotechnology for Biofuels*, 9:143

Xiao Y[§], Poovaiah C[‡], **Coleman HD**. (2016) Expression of glycosyl hydrolases in lignocellulosic feedstock: An alternative for affordable cellulosic ethanol production. *BioEnergy Research,* 9: 1290-1304.

Kinkema M, Geijskes J, deLucca P, Palupe A, Shand K, **Coleman HD**, Brinin A, Williams B, Sainz M, Dale J. (2014) Improved molecular tools for sugar cane biotechnology. *Plant Molecular Biology,* 84: 497-508

Kinkema M, Harrison M, Geijskes J, Shand K, **Coleman HD**, Palupe A, Sainz M, Dale J. (2014) An improved chemically inducible gene switch that functions in the monocotyledonous plant sugar cane. *Plant Molecular Biology*, 84: 443-454.

Ralph J, Akiyama T, **Coleman HD**, Mansfield SD. (2012) Effects on lignin structure of coumarate 3′-hydroxylase downregulation in poplar. *Bioenergy Research,* **5**: 1009-1019.

Coleman HD, Canovas FM, Man H, Kirby EG, Mansfield SD. (2012) Enhanced expression of glutamine synthetase (GS1a) confers altered fiber and wood chemistry in field grown poplar (*Populus tremula* × *alba*; 717-1B4). *Plant Biotechnology Journal,* **10**: 883-889.

Ye X, Busov V, Zhao N, Meilan R, McDonnell LM, **Coleman HD**, Mansfield SD, Chen F, Li Y, Cheng Z-M. (2011) Transgenic poplar trees for forest products, bioenergy, and functional genomics. *Critical Reviews in Plant Sciences,* **30**: 415-434.

Harrison MD, Geijskes J, **Coleman HD**, Shand K, Kinkema M, Palupe A, Hassall R, Sainz M, Lloyd R, Miles S, Dale JL. (2011) Accumulation of recombinant cellobiohydrolase and endoglucanase in the leaves of mature transgenic sugarcane. *Plant Biotechnology Journal*, **9**:884-896.

Coleman HD, Beamish L*, Reid AM*, Park JY, Mansfield SD. (2010) Altered sucrose metabolism impacts plant biomass production and flower development. *Transgenic Research,* **19**: 269-283.

Coleman HD, Yan J*, Mansfield SD. (2009) Sucrose synthase affects carbon partitioning to increase cellulose production and altered cell wall ultrastructure. *Proceedings of the National Academy of Sciences, USA,* **106**: 13118–13123.

Coleman HD, Samuels AL, Guy R, Mansfield SD. (2008) Perturbed lignification impacts tree growth in hybrid poplar – a function of sink strength, vascular integrity, and photosynthetic assimilation. *Plant Physiology,* 148: 1229-1237.

Coleman HD, Park JY, Nair R, Chapple C, Ralph J, Mansfield SD. (2008) RNAi-mediated suppression of *p*-coumaroyl-CoA 3′-hydroxylase in hybrid poplar impacts lignin deposition and

soluble secondary metabolism. *Proceedings of the National Academy of Sciences, USA*. **105**: 4501-4506.

Coleman HD, Canam T, Kang KY, Ellis DD, Mansfield SD. (2007) Over-expression of UDP-glucose pyrophosphorylase in hybrid poplar affects carbon allocation. *Journal of Experimental Botany* **58**: 4257-4268.

Coleman HD, Ellis DD, Gilbert M, Mansfield SD. (2006). Up-regulation of sucrose synthase and UDP-glucose pyrophosphorylase impacts plant growth and metabolism. *Plant Biotechnology Journal*. **4**: 87-101. **Recommended by Faculty of 1000**

Book Chapters

McDonnell LM, **Coleman HD**, French DG, Meilan R, Mansfield, SD. (2010) Engineering trees with target traits. In: Forests and Genetically Modified Trees. International Union of Forest Research Organizations, Food and Agriculture Organization Joint Publication, pp 77-122.

Teaching

2013 – present	CAS 101, First Year Forum
2013 – present	Biology 459/659, Plants and People
2012 – present	Biology 421, Biotechnology Capstone Seminar
2012 – 2013	Biology 705, Graduate Seminar
2011 – present	Biology 460, Undergraduate Research

Service

Reviewer

2017 – present	Editorial Review Board – Tree Physiology
Ad hoc reviewer	BioEnergy Research, New Phytologist, Plant Biotechnology Journal, Tree Physiology, Trees-Structure and Function, Biofuels, Bioresource Technology, Molecular Biotechnology, Molecular Biology Reports, Plant Signaling and Behavior, Plant Cell Reports, Evolutionary Bioinformatics, Biomass and Bioenergy, BMC Biotechnology

Meeting Organization

2014 – present	New York Biotechnology Symposium – Advisory Board Member

Professional Affiliations

2017-2022	Deputy Coordinator, Section 2.04.06 Molecular Biology of Trees, International Union of Forest Research Organizations
2016 – Present	Technology Alliance of Central New York
2010 – Present	American Society of Plant Biologists