**Employment**

*2020 – present* Associate Chair and Director of Undergraduate Studies, Department of Biology, Syracuse University, Syracuse NY

*2018 – present*  Associate Professor, Department of Biology, Syracuse University, Syracuse NY

*2011 – 2018* Assistant Professor, Department of Biology, Syracuse University, Syracuse NY

*2011 – 2015* Visiting Fellow, Queensland University of Technology (QUT), Brisbane, Australia

*2010 – 2011* Australian Research Council Postdoctoral Fellow, QUT, Brisbane, Australia

*2008 – 2010* Research Fellow, Syngenta Centre for Sugarcane Biofuels Development, QUT,Brisbane QLD, Australia

**Education**

*2008* PhD Faculty of Forestry, Mansfield Lab, University of British Columbia, Vancouver, Canada

Modification of cellulose biosynthesis through varied expression of sucrose metabolism genes in tobacco and hybrid poplar

*2002* BSF (Forest Resource Management), Faculty of Forestry, University of British Columbia, Vancouver, Canada

**Funding**

*2019-2021* HHMI-CHANcE Course Transformation Award

*2020* Syracuse Center of Excellence Faculty Fellow Award

*2018-2020* CUSE Good to Great Award - Formation of the Secondary Cell Wall in Trees: Characterizing Transcriptional Regulation of Hemicellulose in Poplar

*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

*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

**Publications**

*\*denotes mentored undergraduate student, §denotes mentored graduate student, ‡denoted mentored postdoctoral researcher*

Xiao Y§, Poovaiah C‡, Unda F, Ritchie L§, Dombrov M\*, Phalen C, Argyros A\*, **Coleman HD**. (2020) Expression of the *Trichoderma reesei* expansin-like protein, Swollenin, in poplar improves sugar release by enzymatic hydrolysis. *Biomass and Bioenergy*, 134: 105473

Poovaiah C*‡*, Phalen C, Sniffen GT\*, **Coleman HD**. (2019) Growth and transcriptional changes in poplar under different nitrogen sources. *Plant Molecular Biology Reporter,* 37:291-302

Strauss SH, Boerjan W, Chiang V, Costanza A, **Coleman HD**, Davis JM, Lu M-Z, Mansfield SD, Merkle S, Myburg AA, Nilsson O, Pilate G, Powell WA, Seguin A, Valenzuela S.  (2019) Certification for gene-edited forests. *Science*. 365:767-768

Poovaiah C, **Coleman HD**. (2019) Development of secondary cell walls in cells adjacent to vessel elements may be controlled by signals from the vessel element. *Tree Physiology,* 39:511-513

Xiao Y§, He X\*, Ojeda-Lassalle Y\*, Poovaiah CP**‡**, **Coleman HD**. (2018) Expression of a hyperthermophilic endoglucanase in hybrid poplar modifies the plant cell wall and enhances digestibility. *Biotechnology for Biofuels*, 11:225

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**

**Invited Book Chapters**

Viele BM\*, Ellingston R§, Wang D§, Park Y\*, Higgins R\*, **Coleman HD**. (2020) Biotechnology for biofuel production. Progress in Botany Book Series (Springer).

McDonnell LM, **ColemanHD**, 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**

*2018* SEM101, Shared Reading Experience

*2016 – 2020* 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

**Selected Service**

*Reviewer*

*2020 – present* Scientific and Industrial Advisory Board Member – Center for Bioenergy Innovation

*2020 – present* Handling Editor – Tree Physiology

*2019 – present* Review Editor – Frontiers in Plant Science

*2017 – 2020* 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, Journal of Visualized Research

*Meeting Organization*

*2018 – 2019* IUFRO 2019 Tree Biotechnology Conference (Raleigh, NC) – Conference Organizing Committee Member; Organized Diversity and Inclusion session for IUFRO Tree Biotechnology Conference 2019

*2014 – 2019* New York Biotechnology Symposium – Advisory Board Member

Organized and chaired a session for the Biotechnology Symposium each year since 2014

*Professional Affiliations*

*2019 – present* Coordinator, Section 2.04.06 Molecular Biology of Trees, International Union of Forest Research Organizations

*2017 – 2019* 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