Christopher G. Hunt, Ph.D.

Research Chemist, Performance Enhanced Biopolymers
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Education

University of Wisconsin-Madison	Analytical Chemistry	Ph.D.	2006
University of Wisconsin-Madison	Physics & Math Education	B.S.	1991

Employment History

2005-Present	USDA Forest Products Laboratory, research chemist
1993-2005	USDA Forest Products Laboratory, physical science technician

Current Projects

- Unlocking the Secrets to Improving Moisture-Related Durability in Forest Products: Discovering the fundamental processes driving wood moisture-related performance
- Improving soy-based wood adhesives by understanding why they fail
- Quantitative confocal fluoresence imaging of lignocellulose
- Mechanisms of durability in wood bonding
- Quantitation of veneer quality and it's relation to product performance
- Improving paint performance on sunburned wood

Professional Service

Leadership

Conference chair, *International Conference on Wood Adhesives* 2020, 2017.
Conference co-chair, *International Conference on Wood Adhesives*; 2013, 2009
Proceedings editor, *International Conference on Wood Adhesives* 2017, 2013
Co-chair and founder, Forest Products Society Education Committee, 2018-present
Editorial Board, *Journal of Wood Material Science and Engineering*, 2017-present
International Advisory Committee, 15th Pacific Rim Bio-Based Composites Symposium Oct. 2020, Gyeongyu, Korea.

Host of Visiting Scholars

Vera Novy, Shroedinger fellow (Austria), July-Aug. 2019; Biomass imaging
Fredrick Nielsen, U. British Columbia (Canada), July-Aug. 2019; Biomass imaging
Vera Novy, *Shroedinger fellow (Austria),* June 2018; *Quantitative microscopy*
Prof. Andreja Kutnar, University of Primorska (Slovenia) June 2014; Densified wood
Anti Rohumaa, Aalto University (Sweden) Aug. 2011-Jan. 2012; Veneer quality
Warren Grigsby, Head of Adhesives, SCION (New Zealand) May 2010; Imaging soy adhesives

Academic Service

External graduate faculty member, University of Maine, School of Forest Resources
***PhD thesis committee or opponent*:** 5 students since 2012
Advise or supervise students: *20+ since 2010*
Member: American Chemical Society (2003-), Forest Products Society (2009-), Society of Wood Science and Technology (2017-)

Industry Trainings *developed and delivered*

Wood Science Fundamentals
Wood Adhesives
Fundametnals of Moisture-Induced Swelling in Wood and Impact on Bond Performance
Dimensional Stability of Wood
Durability of Wood Bonds
Adhesive Penetration in Wood: Implications and Applications
Wood Properties Important to Wood Coatings

51 Refereed Publications, 42 Offered Posters or Oral Presentations

Recent Publications of Interest

Jakes, Joseph, *et.al. Effects of Moisture on Diffusion in Unmodified Wood Cell Walls: A Phenomenological Polymer Science Approach.* Forests, 2019. 10(12): p.1084. DOI:10.3390/f10121084

Novy, V., K. *et. al. Fluorescence-tagged carbohydrate binding modules quantify cellulose accessibility and show cleavage at dislocation zones during hydrolysis.* PNAS, 2019. 116(45): p.22545-22551 DOI: 10.1073/pnas.1912354116

Hunt, C.G., *et. al. Acetylation increases relative humidity threshold for ion transport in wood cell walls–A means to understanding decay resistance.* International Biodeterioration & Biodegradation, 2018. **133**: p. 230-237. https://www.fpl.fs.fed.us/documnts/pdf2018/fpl_2018_hunt001.pdf

Hunt, C.G., *et. al. Understanding Wood Bonds; Going Beyond What Meets the Eye: A Critical Review.* Reviews of Adhesion and Adhesives, 2018. **6**(4): p. 369-440. https://www.fpl.fs.fed.us/documnts/pdf2018/fpl_2018_hunt002.pdf

Passarini, *et. al. Effect of weight percent gain and experimental method on fiber saturation point of acetylated wood determined by differential scanning calorimetry.* Wood Sci. Technol, 2017. **51**(6): p. 1291-1305. https://www.fpl.fs.fed.us/documnts/pdf2017/fpl_2017_passarini001.pdf

Hunt, C.G., *et. al. Spatial mapping of extracellular oxidant production by a white rot basidiomycete on wood reveals details of ligninolytic mechanism.* Environmental Microbiology, 2013. **15**(3): p. 956-966. https://www.fpl.fs.fed.us/documnts/pdf2013/fpl_2013_hunt001.pdf