



2017 TFG  
Conference

# Why Trees are Stronger than Wood

*Michaela Harms, Derek Mayhew, Robert Mini*

*WholeTrees Architecture & Structures*

*Madison, WI*

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Building with whole trees too small to be milled (small-diameter round timber) is a sustainable, cost-effective alternative to steel and concrete products. This presentation draws on material science, along with examples of round- and mass-timber construction, to demonstrate the competitiveness of round timbers in load capacity, bending strength, fire rating, and life-cycle performance. The course also shares information on the declining health of forests and lessons learned from managing a 134-acre FSC sustainable forest and learning lab. Incorporating SDRT, a byproduct of responsible forest management, into commercial construction will have a restorative impact on communities and the built environment.

## **About the Speakers**

### **Michaela Harms (lead presenter)**

After completing a university work placement with WholeTrees in 2014, Michaela Harms returned to the team to manage WT's research grants. She graduated from Metropolia UAS in Helsinki, Finland, with her BSc in Civil Engineering, focused on Sustainable Building Engineering. Her thesis on the potentiality of building-integrated photovoltaic energy for southern Finland received a Nordic GBC award for innovation. With her roots in natural building, Ms. Harms hopes to continue the advancement of renewable structural design through research and development, as a WholeTrees Engineer and R&D Manager. She is an avid backwoods explorer, sauna advocate, and team trivia connoisseur.

### **Derek Mayhew (co-presenter)**

Derek Mayhew has been with WholeTrees since its inception. He heads up operations and manufacturing for Whole Trees, as well as working closely with WholeTrees co-founder Roald Gundersen in the management of the Driftless Farm forest land. He believes that this job is on the cutting edge of real meaningful changes in the way we manage and cohabitate with Earth's forests. Mr. Mayhew finds that his work with trees has a way of seeping into all aspects of his life, but he also spends his time parenting his son and planning the design of his future brewery on the moon.

### **Robert Mini (co-presenter)**

Robert Mini joined WholeTrees in 2008 as a carpenter and has grown into our lead foreman and go-to artisan craftsman with gusto. His attention to detail and ability to execute detailed projects, from wood benches to entire commercial structures, remains a huge asset to WholeTrees' functionality. Mr. Mini has studied and built bamboo structures in Hawaii, bringing knowledge of re-purposing invasive wood species into viable round timber structural components. Elusive Works is his thriving art studio, where he crafts wood-turned bowls as well as large-scale trompe l'oeil murals all over La Crosse, the Driftless Region, New York City, and Hawaii.