

Curriculum Vitae

Arijit Sinha

Associate Professor, Green Building Materials and Engineering

Wood Science and Engineering

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A. Education and Employment History

1. Education

Ph.D. Civil Engineering and Wood Science (dual major), Oregon State University, 2010.

Ph.D. Dissertation: The effect of elevated temperature on mechanical behavior of structural wood and wood-based composites.

M.S. Civil Engineering and Wood Science (dual major), Oregon State University, 2007.

M.S. Thesis: Strain distribution in OSB and GWB in wood-frame shear-wall.

B.E. Civil Engineering, Delhi College of Engineering, Delhi University, India, 2003.

2. Employment

9/2017 – Present	Associate Professor, Department of Wood Science & Engineering, Oregon State University.
7/2011 – 8/2017	Assistant Professor, Department of Wood Science & Engineering, Oregon State University.
10/2011 – Present	Graduate faculty, Material Science Program, Oregon State University.
10/2011 – Present	Adjunct faculty, School of Civil and Construction Engineering, Oregon State University.
4/2010 – 12/2010	Graduate Research Assistant, Department of Wood Science and Engineering, Oregon State University.

1/2010 – 3/2010 Teaching Assistant, School of Civil and Construction Engineering, Oregon State University.

4/2007 – 12/2009 Wood-Based Composite Center Fellow and Graduate Research Assistant, Department of Wood Science and Engineering, Oregon State University.

10/2004 – 3/2007 Graduate Research Assistant, Department of Wood Science and Engineering and School of Civil and Construction Engineering, Oregon State University.

7/2003 – 6/2004 Engineer, Unitech Prefab Limited. Delhi, India.

B. Teaching, Advising, and Other Assignment

1. Instructional Summary

For-Credit Courses

Course Number	Credits	Course Title	Term	Number Students
WSE 392	3	Bamboolooza	2016 W	39
WSE 475/575	4	Environmental Assessment of Building Materials	2016 W	13
WSE 392	3	Bamboolooza	2015 W	39
WSE 475/575	4	Environmental Assessment of Building Materials	2015 W	7
WSE 592	4	Advanced Wood Design	2014 S	5
WSE 475/575	4	Environmental Assessment of Building Materials	2014 W	12
WSE 475/575	4	Environmental Assessment of Building Materials	2013 W	10

WSE 401	2	Research: Structural Properties of Bamboo	2012S	2
WSE 401	2	Research: Introduction to bamboo	2012W	2
WSE 318	3	Mechanical Behavior of Wood: Laboratory	2010S	8
WSE 522	4	Wood Science II : Labs	2010S	7
WSE 458/558	4	Wood Design	2010W	36

Guest Lectures

WSE 111: Renewable Materials for a Green Planet – 1 lecture, February 1, 2016, Winter Term 2016.

WSE 111: Renewable Materials for a Green Planet – 1 lecture, February 17, 2014, Winter Term 2014.

WSE 455/555: Marketing and Innovation in Renewable Materials. 1 lecture, April 5, 2013, Spring Term 2013.

CCE 422/522: Green Building Materials – 1 Lecture, 24th January 2013, Winter Term 2013.

GEO 300: Sustainability for Common Good – 2 Lectures, Fall Term 2012.

WSE 522: Wood Science II – 2 lectures, Spring Term 2010.

Non-Credit Courses and Workshops

Designing for Wood-frame Structures. Continuing Education for Engineers, Architects and Contractors, Half Moon Bay Seminar, Portland, OR. May 24, 2011. Total 7.5 hour session; delivered 3 lectures spanning a total of 3.5 hours to 45 participants.

Curriculum or Course Development Activities and Other Instructional Innovations

Developed new Baccalaureate Core course, WSE 392 Bamboolooza: The fascinating world of bamboo.

I developed all content for an online baccalaureate core 3 credit course offered for the first time in the Winter Term 2015 via Ecampus and subsequently offered every Winter Term. The course content includes lectures, online videos, online discussion via discussion board, writing and critical thinking exercises. The course delves into the world of bamboo, its uses, and application. This course was designed to diversify departmental offerings and include other renewable materials (other than wood) in the curriculum.

Developed new course, WSE 592 Advanced Wood Design.

I developed all the material for a graduate course (4 credits) on advanced wood design. This course familiarizes graduate students with new and modern technology in the wood building industry, advanced connections, and designing of structures for adverse conditions. The curriculum includes lecture, laboratory exercises, and a term paper. The course was offered in Spring of 2014 for the first time and will be offered every other year.

Developed new course, WSE 475/575: Environmental Assessment of Building Materials.

I developed all content for this four credit course. This course is designed to familiarize students with concepts of life cycle analysis (LCA) and how it is applied in determining the relative sustainability metric for competing building materials. Course enrollment is diverse and has drawn students from Renewable Materials, Engineering, and Interior Design. The course includes lectures, in-class group activity, discussion, and a group project on LCA. The course was first offered Winter Term 2013 and has been offered every year since.

International Teaching

Slovenia-Italy ENERGY ViLLAB: Living Lab for Sustainable Development. Workshop held in Koper, Slovenia on March 21-22, 2013. Participants: 23.

Title: Sustainable Housing in the US.

Graduate Students, Postdoctoral Trainees

Major Professor or Principal Mentor

Student	Degree	Role	Program	Second major advisor (for dual major students)	Date Began	Completion / Expected Completion
Byrne Miyamoto	PhD	Major Advisor	WSE	NA	Fall 2017	Spring 2020
Bradley Taylor	MS	Major Advisor	WSE/CE	Andre Barbosa, CCE	Fall 2017	Spring 2019
Chris Anderson	MS	Major Advisor	WSE/CE	Jeff Morrell, WSE	Fall 2017	Spring 2019
Brian DeMeza	PhD	Major Advisor	WSE/CE	Andre Barbosa, CCE	Fall 2016	Spring 2020
Shanuka Fernando	MS	Co-major Advisor with Hansen	WSE	NA	Fall 2015	Summer 2017
Ben Romanaggi	MS	Major Advisor (CCE)	WSE/CE	Jeff Morrell, WSE	Fall 2015	Fall 2017
Byrne T. Miyamoto	MS	Major Advisor	WSE	NA	Spring 2015	Winter 2017
Danny Way	PhD	Major Advisor	WSE	NA	Summer 2015	Winter 2018
Kristina Milaj	MS	Major Advisor (WSE)	WSE/CE	Thomas Miller, CCE	Fall 2014	Summer 2016
Paige McKinley	MS	Co-major advisor with Kamke	WSE	NA	Summer 2014	Summer 2016
Danny Way	MS	Co-major advisor with Kamke	WSE	NA	Winter 2014	Spring 2015
Babak Mirzaei	PhD	Major advisor (Mat Sci.)	WSE/ Mat.Sci	John Nairn, WSE	Fall 2012	Winter 2016
Vahid Mahadavifar	PhD	Major Advisor (WSE)	WSE/CE	Andre Barbosa, CCE	Fall 2013	Winter 2017
David King	MS	Major Advisor (CCE)	WSE/CE	Jeffrey Morrell, WSE	Winter 2012	Winter 2014
Anthonie Kramer	MS	Major advisor (WSE)	WSE/CE	Andre Barbosa, CCE	Fall 2012	Winter 2014

Kenton Alldritt	MS	Major advisor (WSE)	WSE/CE	Thomas Miller, CCE	Fall 2011	Spring 2013
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Current and former undergraduate students

Student	Degree	Role	Program	Period
Hayley Girod	BS	Advisor (Honors College)	RM	10/2015 - Present
Micah Sutfin	BS	Supervisor	RM	10/2015 - Present
Adra Gullidge	BS	Supervisor	RM	3/2016 – 10/2016
Raquel Albee	BS	Supervisor	RM	3/2016 – 7/2016
Ian Morrell	BS	Supervisor	CE (Gonzaga)	06/2015-08/2016
Aaron Wiedman	BS	Committee Member (Honors College)	RM	S 2015
Diana Avilla	BS	Mentor	FE/CE	10/2012-06/2016
Byrne Miyamoto	BS	Mentor	RM	06/2012 – 03/2015
Timothy Pardue	BS	Advisor (Honors College)	CE	01/2012-?
Camille Moyers	BS	Mentor on Research Project	RM/ Interior Design	10/2012-6/2013
Maya Li-Giddings	BS	Mentor on Research Project	RM	10/2012-06/2013
Skyler Mlasko	BS	Mentor on Research Project	RM	01/2012-06/2012
Daniel Way	BS	Mentor on Research Project	RM	01/2012-06/2012
Jarrid Raney	BS	Mentor on Research Project	RM	10/2011-12/2011

Supervised Postdoctoral Trainees, Visiting Scientists, and Other Staff

Student	Role	Description	Period
Tahir Akgul	Supervisor	Visiting Scientist	02/2015-08/2015
Iza Petek Strozak	Supervisor	Visiting Scholar	03/2014-06/2014
Mathilde Launay	Supervisor	Student intern	06/2014-08/2014

Service as Committee Member

Student	Degree	Program	Completion Date / Expected	Role CM/GCR
Blake Larkin	MS	WSE/MIME	W 2017	CM
Silia Sequeria	MS	DHE	S 2017	CM (Minor Prof)
Kyle Sullivan	MS	WSE/CE	W 2017	CM
Kristopher Walker	MS	WSE/CE	S 2015	CM
Alex Cimino-Hurt	MS	Industrial E	S 2015	CM (Minor Prof)
Marcia Vasquez	PhD	WSE	Su 2015	CM
Subarna Kar	MS	EECS	W 2015	CM
Pratim Chowdhury	PhD	EECS	F 2016	GCR
Jose Banuelos	MS	CCE	S 2014	CM
Amrutha Das	MS	CCE	S 2014	CM
Paul F Laleicke	PhD	WSE	F 2015	CM
Pratim Chowdhury	MS	EECS	F2013	GCR
William Kirkham	PhD	WSE/CE	Su 2013	CM
Josie Hunter	MS	Comp Sc.	Su 2013	GCR
Sharath Dhamodaran	MS	EECS	S2013	GCR
Joshua Graves	MS	NE	F 2012	GCR
Kate Prfetschner	MS	CE/WSE	Su 2012	CM
Tiberiu Polocoser	MS	WSE/CE	S 2012	CM
Kalin Semerick	MS	WSE	S2012	CM
David Linton	MS	WSE/CCE	W2012	CM
Travis Roth	MS	WSE	W 2015	CM
Brian Malone	MS	WSE/CCE	S 2013	CM
Nitin Mohan	MS	CS	W2012	GCR
Bill Murray	MS	ME	W2012	GCR

C. Scholarship and Creative Activity

1. Publications

Peer-reviewed Publication

42. Miyamoto, B.T., Olszko, E., Sinha, A. and Morrell, J.J. (2017). Use of acoustic testing to detect decay and sort western juniper for modulus of elasticity and modulus of rupture. *Wood Material Science and Engineering*. In press.
<http://dx.doi.org/10.1080/17480272.2017.1316312>
41. Milaj, K., Sinha, A., Miller, T.H. and Tockarzyk, J. (2017). Environmental Utility of Wood Substitution in Commercial Buildings using Life-Cycle Analysis. *Wood and Fiber Science*. 49(3), 338-358.
40. Clauson, M., Morrell, J.J., Romanaggi, B. and Sinha, A. (2017). Nondestructive bending tests on Douglas-fir utility poles as a potential tool for pole sorting and for prediction of their behavior in service. *Holzforschung*. Accepted.
39. Vasquez, M., Milota, M.R., and Sinha, A. (2017). Quantifying environmental impacts of poplar biomass production in the U.S. Pacific Northwest. *Wood and Fiber Science* 49(2),193-205.
38. Way, D., Akgul, T., Morrell, I. and Sinha, A. Lateral connection behavior of molded core sandwich panels with self-tapping screws. *Wood and Fiber Science*. 48(4), 291-296.
37. Sinha, A., Morrell, I. and Akgul, T. (2016). Thermal degradation modeling for single shear nailed connections. *Wood Material Science and Engineering*. DOI: 10.1080/17480272.2016.1226947
36. Mirzaei, B., Sinha, A. and Nairn, J.A. (2016). Measuring and modeling fiber bridging: application to wood and wood composites exposed to moisture cycling. *Composite Science and Technology* 128, 65-74.
35. Way, D., Sinha, A., Kamke, F.A. and Fujii, J.S. (2016). Evaluation of a wood-strand molded core sandwich panel. *Journal of Materials in Civil Engineering*. 10.1061/(ASCE)MT.1943-5533.0001589 , 0401607.
34. Akgul, T. and Sinha, A. (2016). Degradation of yield strength of laterally loaded wood to OSB connections after exposure to elevated temperature. *Wood and Fiber Science*. 48 (2), 49-67.

33. Mirzaei, B, Sinha, A. and Nairn, J.A. (2016). Assessing the role of adhesives in durability of laminated veneer lumber (LVL) by fracture mechanics. *Holzforschung*. 70(8), 763-771.
32. Kramer, A., Barbosa, A.R., and Sinha, A. (2015). Design and performance of steel energy dissipators for use in cross-laminated self-centering systems subjected to tension and cyclic loading. *Journal of Structural Engineering*. 10.1061/(ASCE)ST.1943-541X.0001410 , E4015013.
31. Mirzaei, B., Sinha, A., Nairn, J.A. (2015). Using crack propagation fracture toughness to characterize the durability of wood and wood composites. *Materials and Design*. 87, 586-592.
30. Sinha, A. Morrell, J.J. and Clauson, M. (2015) Use of acoustic assessment to detect decay and assess condition of wooden guardrail posts. *Forest Products Journal* 65(7/8), 314-319.
29. Laleicke, P.F., Cimino-Hurt, A., Gardener, D. and Sinha, A. (2015). Comparative carbon footprint analysis of bamboo and steel scaffolding. *Journal of Green Building*. 10 (1), 114-126.
28. King, D.T., Sinha, A. and Morrell, J.J. (2015). Effect of wetting on performance of small scale shear walls. *Wood and Fiber Science*. 47(1), 74-83.
27. Morrell, J.J., Sinha, A. Clauson, M and Love, C.S (2014). Effect of inspection holes on flexural properties of douglas-fir utility poles. *Forest Products Journal*, 64(7-8), 300-303 .
26. Sinha, A. (2014). Post-peak residual capacity of nailed connections of a shear wall. *Holzforschung*. 68(8), 987-992.
25. King, D.T., Sinha, A. and Morrell, J.J. (2014). Effect of outdoor exposure on properties of I-joists. *Wood and Fiber Science*. 46(3), 394-400.
24. Alldritt, K., Sinha, A. and Miller, T.H. (2014). Designing a strand orientation pattern for improved shear properties of oriented strand board. *Journal of Materials in Civil Engineering*. 04014022. pp 9.
23. Kramer, A., Barbosa, A. and Sinha, A. (2014). Viability of hybrid poplar in ANSI approved cross-laminated timber applications. *Journal of Materials in Civil Engineering*. 26(7), 06014009, pp 5.
22. Sinha, A. And Miyamoto, B.T. (2014). Lateral load carrying capacity of laminated bamboo lumber to oriented strand board connections. *Journal of Materials in Civil Engineering*. 26(4), 741-747.
21. Rodriguez-Nikl, T., Gupta, R., Kramer, A. and Sinha, A. (2014). Seismic laboratory testing of energy efficient, staggered-stud, wood-framed

- shear walls. *Journal of Structural Engineering*, Special Issue. B4014003, pp8.
20. Sinha, A., Way, D. and Mlasko, M. (2014). Structural performance of glue laminated bamboo beams. *Journal of Structural Engineering*. 140(1), 04013021, pp 8.
 19. Love, C., Clauson, M., Sinha, A. and Morrell, J.J. (2014). Condition of chromated copper arsenate treated hem-fir guardrail post after 20 years in service in western Washington State. *Journal of Materials in Civil Engineering*. 26(1), 160-166.
 18. Sinha, A. and Avila, D.G. (2014). Lateral load carrying connection properties and withdrawal capacity of hybrid poplar. *Wood and Fiber Science*. 46(1), 97-108.
 17. Meza, L. Sinha, A. and Morrell, J.J. (2013). Effect of wetting during construction on properties of Douglas-fir plywood and oriented strandboard flooring. *Forest Products Journal*. 63(5/6), 199-201.
 16. Sinha, A. (2013). Thermal degradation modeling of flexural behavior of wood after exposure to elevated temperature. *Wood Material Science and Engineering*, 8(2), 111-118.
 15. Sinha, A., Gupta, R. and Kutnar, A. (2013). Sustainable development and green buildings. *Drvna Industrija (Wood Industry)*. 64 (1), 45-53.
 14. Sinha, A. and Clauson, M. (2012). Properties of bamboo-wood hybrid glulam beams. *Forest Products Journals*. 62(7/8), 541-544.
 13. Sinha, A. and Kutnar, A. (2012). Carbon footprint versus performance of aluminum, plastic, and wood window frames. *Buildings Special Issue Sustainable Design and Construction*, 2, 542-553.
 12. Sinha, A., Voigt, L.R., Miller, T.H. and Gupta, R. (2012). Neutral axis of full-size lumber with multiple knots. *Advances in Civil Engineering Materials*. ASTM Journal.1(1), pp 15.
 11. Sinha, A., Nairn, J.A. and Gupta, R. (2012). The effect of elevated temperature exposure on the fracture toughness of solid wood and structural wood composites. *Wood Science and Technology*, 46(6): 1127-1149.
 10. Sinha, A. and Kutnar, A. (2012). Wood industry in Canada: North America wood first initiative. *LesWood* 64(6), 191-193.
 9. Gupta, R. and Sinha, A. (2012). Effect of grain angle on shear strength of wood. *Holzforschung*. 66(5), 655-658.
 8. Davis, P.M., Gupta, R. and Sinha, A. (2012). Revisiting the neutral axis in wood beams. *Holzforschung* 66(4), 497-503.

7. Basta, C.T., Gupta, R., Leichti, R.J. and Sinha, A. (2012). Application of perpendicular-to-grain compression in real wood construction assemblies. *Wood and Fiber Science* 42(2), 155-167.
6. Sinha, A. and Kutnar, A. (2012). Green building rating system - Leadership in Energy and Environmental Design (LEED): significance for wood industry. *LesWood* 64(1/2): 1-5.
5. Sinha, A., Gupta, R. and Nairn, J.A. (2011). Thermal degradation of lateral yield strength of nailed wood connections. *Journal of Materials in Civil Engineering* 23(6), 812-822.
4. Basta, C.T., Gupta, R., Leichti, R.J. and Sinha, A. (2011). Characterizing perpendicular-to-grain compression behavior in wood construction. *Holzforschung* 65(6), 845-853.
3. Sinha, A., Gupta, R. and Nairn, J.A. (2011). Thermal degradation of bending properties of structural wood and wood-based composites.
2. Sinha, A., Nairn, J.A. and Gupta, R. (2011). Thermal degradation of bending strength of plywood and oriented strand board: a kinetics approach. *Wood Science and Technology*, 45(2) 315-330.
1. Sinha, A. and Gupta, R. (2009). Strain distribution in OSB and GWB in wood-frame shear-walls. *Journal of Structural Engineering*, 135(6), 666-675.

Book Chapters

2. Sinha, A. (2015). How good is wood? Facts and Myths Regarding wood as a green building Material. *Proceeding: Wood is Good. International Conference*. Springer.
1. Knowles, C., and Sinha, A. (2013). Green building and the forest sector. Chapter in *Global Forest Products: Trends, Management, and Sustainability*. Corvallis, Oregon. 40pp.

Non-Refereed Journal Articles or Outreach Publications, etc.

1. Knowles, C. and Sinha, A. (2011). Green building systems in North America: how do they compare. *Western Forester*: 56(5). 2p.

Non-Refereed Abstracts and Proceedings

9. MahdaviFar, V., Barbosa, A., Sinha, A., Muszyński, L., Gupta, R., (2016). Hysteretic behaviour of metal connectors for hybrid (high- and low-grade mixed species) cross laminated timber. *Proceedings of 2016 World Conference on Timber Engineering*. Vienna, Austria, August 22-25, 2016.

8. Miyamoto, B.T., Clauson, M., and Sinha, A. (2014). Revisiting the compressional design values of douglas-fir. Proceedings of International Convention, Wood is Good: Current Trends and Future Prospect in Wood Utilization, Bangalore, India, Nov 21-23.
7. King, D.T.*, Morrell, J.J. and Sinha, A. (2014). Effect of moisture intrusion on seismic performance of wood-frame shear walls. Proceedings of International Convention, Wood is Good: Current Trends and Future Prospect in Wood Utilization, Bangalore, India, Nov 21-23.
6. Sinha, A. (2014). How good is wood? Facts and myths regarding wood as a green building material. Proceedings of International Convention Wood is Good: Current Trends and Future Prospect in Wood Utilization, Bangalore, India, Nov 21-23.
5. Morrell, J.J., Love, C.S., Clauson, M. and Sinha, A. (2013). Relationship between initial treatment, decay and residual material. Properties of chromated copper arsenate treated hem-fir guardrail posts after 20 years in service in western Washington state. Proceedings of the 109th Annual Meeting of the American Wood Protection Association. 192-201.
4. Sinha, A., Gupta, R. and Nairn, J.A. (2010). The effect of heat on bending properties of wood and wood-based composites. Proceedings of World Conference on Timber Engineering, Rova del Garda, Italy.
3. Sinha, A. and Gupta, R. (2008). Strain distribution in wood-frame shear-walls during loading. Proceedings of World Conference on Timber Engineering, Miyazaki, Japan.
2. Sinha, A., Gupta, R. and Muszynski, L. (2007). Strain concentrations related to fastener performance in shear-walls with non-symmetric sheathing. Proceedings of SEM Annual Conference & Exposition on Experimental and Applied Mechanics, Springfield, MA.
1. Sinha, A., Gupta, R. and Muszynski, L. (2006). Strain profile in wood-frame shear-walls--Preliminary results. Proceedings of World Conference on Timber Engineering, Portland, OR. August 6-10, 2006.

Research and Other Reports

11. Sinha, A., Way, D., Lawrence, C., Muszynski, L.M. and Sutfin, M. (2016). Product prequalification and mechanical property characterization of laminated panels. Freres Lumber Co. 15 pp.
10. Sinha, A. and Clauson, M. (2016). Evaluation of pole top extension in bending. Brooks Manufacturing. 8 pp.

9. Sinha, A., Clauson, M. And Miyamoto, B.T. (2016). Evaluation of spliced laminated utility poles in flexure. Test results from edge-wise and flat-wise testing. Stella Jones Co. 7 pp.
8. Sinha, A., Clauson, M., Way, D. And Miyamoto, B.T. (2015). Evaluation of spliced laminated utility poles in flexure. Stella Jones Co. 6 pp.
7. Sinha, A., and Clauson, M. (2015). Evaluation of Pile Repair Splice Design. Research Testing Report No. 17384. Oregon Department of Transportation. 13 pp.
6. Sinha, A., Clauson, M., Muszynski, L.M., Mahadavifar, V., Larkin, B., Barbosa, A.R., and Gupta, R. (2015). Pre-qualification of 3 layer CLT panels. DR Johnson Lumber Co. 12 pp.
5. Sinha, A., and White, E.M. (2015). Economic and Environmental utility of expanded green building in Oregon commercial construction and renovation. Oregon Department of Forestry. 55 pp.
4. Clauson, M., and Sinha, A. (2014). Evaluation of pole top extension ultimate load capacity. Report #2014-017, for DISTRANWood, LLC. October 2014, 7 pp.
3. Sinha, A., and Clauson, M. (2014). Evaluation of glulam crossarm beams. Report #2014-016, for DISTRANWood, LLC. July 2014, 8 pp.
2. Sinha, A., Muszynski, L., Barbosa, A., Kramer, A. and Clauson, M. (2013): Evaluation of SmartLam CLT Rig Mats. Report # 2013-1003, for SmartLam LLC, October 2013: 16 pp.
1. Sinha, A. (2007-2010). Effect of heat on wood and wood composite properties. Bi-annual Project Status Report, Wood-Based Composites Center, Blacksburg, VA.

2. Professional Meetings and Volunteered Presentations/Posters at Professional Meetings (asterisk denotes presenter)

38. Romanaggi, B.* , Sinha, A., Morrell, J.J. (2016) Variation of flexural properties in douglas-fir utility poles. 70th Forest Products Society International Convention, New Horizons for the Forest Products Industry. June 27-29, 2016, Portland, OR. (Oral)
37. Miyamoto, B.* , Sinha, A., Morrell, J.J., Leavengood.S. (2016). Utilization of western juniper in the pacific northwest. 70th Forest Products Society International Convention, New Horizons for the Forest Products Industry. June 27-29, 2016, Portland, OR. (Oral)

36. Mahdavifar, V. *, Barbosa, A., Sinha, A., (2016). Shear and withdrawal capacity of fasteners on hybrid cross laminated timber. 70th FPS International Convention, New Horizons for the Forest Products Industry. June 27-27, 2016, Portland, OR. (Oral)
35. Milaj, K. *, Sinha, A., Miller, T.H. (2016). Assessment of environmental impacts of wood substitution in commercial construction. 70th FPS International Convention, New Horizons for the Forest Products Industry. June 27-27, 2016, Portland, OR. (Oral)
34. Way, D. *, Sinha, A., Kamke, F.A. (2016). Proof of concept of a strand-based molded core sandwich panel. 70th Forest Products Society International Convention, New Horizons for the Forest Products Industry. June 27-29, 2016, Portland, OR. (Oral)
33. McKinley, P. *, Kamke, F.A., Sinha, A. (2016). Multi-scale investigation of adhesive bond durability. Forest Products Society International Convention, New Horizons for the Forest Products Industry. June 27-29, 2016, Portland, OR. (Oral)
32. Girod, H. *, and Sinha, A. (2016). Lateral load-carrying connection properties and withdrawal capacities of juniper. 70th FPS International Convention. June 27-29, 2016, Portland, OR. (Poster)
31. Kamke, F.A. *, Nairn, J., Sinha, A., McKinley, P., Ching, D., Zauner, M., Xiao, X. (2015). Micro x-ray computed tomography study of adhesive bonds in wood. 58th SWST International Convention, Renewable Materials and the Bio-Economy. June 7-12, 2015, Jackson, WY. (Oral)
30. McKinley, P. *, Kamke, F.A. , Sinha, A. (2015). Multi-scale investigation of adhesive bond durability. 58th SWST International Convention, Renewable Materials and the Bio-Economy. June 7-12, 2015, Jackson, WY (Oral).
29. Way, D. *, Sinha, A., and Kamke, F.A.. (2015). Manufacturing and mechanical characterization of a 3D molded core strand panel. 58th SWST International Convention, Renewable Materials and the Bio-Economy. June 7-12, 2015, Jackson, WY. (Oral)
28. Miyamoto, B. *, Sinha, A. and Morrell, J.J. (2015) Durability assessment of laminated bamboo lumber. 58th SWST International Convention, Renewable Materials and the Bio-Economy. June 7-12, 2015, Jackson, WY. (Poster)
27. Larkin B. *, Muszyński, L., Sinha, A., Barbosa, A., Gupta, R. (2015): Effective adhesive systems and optimal bonding parameters for hybrid CLT. 58th SWST International Convention. Renewable Materials and the Bio-Economy, June 7-12, 2015, Jackson Lake Lodge, Grand Teton NP, Jackson, WY. (Oral)

26. Sinha, A.* , Barbosa, A.R., Kramer, A. (2015). Design and performance of steel energy dissipators to be used in cross-laminated timber self centering systems. 58th SWST International Convention, Renewable Materials and the Bio-Economy. June 7-12, 2015, Jackson, WY. (Oral)
25. McKinley, P.* , Kamke, F. and Sinha, A. (2015). Multi-scale investigation of adhesive bond durability. 58th SWST International Convention. June 7-12, 2015, Jackson, WY. (Poster)
24. McKinley, P.* , Kamke, F. and Sinha, A. (2015). Multi-scale investigation of adhesive bond durability. IWCS 49th Symposium, April 21-22, 2015. Seattle, WA. (Poster)
23. Mirzaei, B*., Sinha, A. and Nairn, J.A. (2015). The role of resin toughness in wood composite fracture. FPS 69th International Convention, June 10-12, 2015. Atlanta, GA. (Oral)
22. Mirzaei, B*., Sinha, A. and Nairn, J.A. (2014). Effect of moisture exposure on the resistance of structural wood composites to fracture. Oregon BESTFEST, Sep 2014, Portland, OR. (Poster)
21. Miyamoto, B.T., Clauson, M. and Sinha, A.* (2014). Revisiting the compressional design values of douglas-fir. International Convention Wood is Good: Current Trends and Future Prospect in Wood Utilization, Nov 21-23. Bangalore, India, (Oral)
20. King, D.T., Morrell, J.J. and Sinha, A.* (2014). Effect of moisture intrusion on seismic performance of wood-frame shear walls. International Convention Wood is Good: Current Trends and Future Prospect in Wood Utilization, Nov 21-23. Bangalore, India. (Oral)
19. Sinha, A. (2014). How good is wood? Facts and myths regarding wood as a green building material. International Convention Wood is Good: Current Trends and Future Prospect in Wood Utilization, Nov 21-23. Bangalore, India. (Oral)
18. Sinha, A., Kramer, A. and Barbosa, A.R. (2014). Cross laminated timber using hybrid poplar. SWST International Convention, June 21-25, 2014. Zvolen, Slovakia. (Oral)
17. Kutnar, A. and Sinha, A* . (2013). Environmental impact of thermally modified wood. FPS 67th International Convention, June 9-11, 2013. Austin, TX. (Oral)
16. Sinha, A*., Way, D. and Mlasko, M. (2013). Structural properties of laminated bamboo lumber. FPS 67th International Convention, June 9-11, 2013. Austin, TX. (Oral)
15. Alldritt, K., Sinha, A* ., and Miller, T.H. (2013). The effect of strand orientation on structural performance of oriented strandboard. FPS 67th International Convention, June 9-11, 2013. Austin, TX. (Oral)

14. Kramer, A*., Barbosa, A. and Sinha, A. (2013). Flexural behavior of cross laminated timber panels made from hybrid poplar. FPS 67th International Convention, June 9-11, 2013. Austin, TX. (Oral)
13. King, D.T.*., Morrell, J.J. and Sinha, A. (2013). The effect of prolonged weather exposure on wood I-Joists. FPS 67th International Convention, June 9-11, 2013. Austin, TX. (Oral)
12. Sinha, A.* and Kutnar, A. Evaluation of environmental impact and performance of aluminum, plastic, and wood window frames. North American Doors and Windows Symposium, April 18-19, 2013. Roseville, MN. (Oral)
11. Alldritt, K.*., Miller, T.H. and Sinha, A. (2012). The effect of strand orientation on structural performance of oriented strandboard. 66th International Forest Products Society Convention. June 3-5, 2012. Washington D.C. (Poster)
10. Sinha, A.*., Nairn, J.A. and Gupta, R. (2011). Fracture toughness of structural wood composites using R curve analysis. FPS 65th International Convention, June 19-21, 2011. Portland, OR. (Oral)
9. Sinha, A.*., Gupta, R. and Nairn, J.A. (2011). Thermal degradation of yield strength of nailed wood connection. FPS 65th International Convention, June 19-21, 2011. Portland, OR. (Poster)
8. Sinha, A.* (2010). The effect of elevated temperature on mechanical properties of wood and structural wood-based composites. Wood-Based Composites Center NSF Industry/University Cooperative Research Center advisory board meeting and technical forum, Corvallis, OR. (Oral)
7. Sinha, A., Gupta, R.* and Nairn, J. (2010). Effect of heat on the mechanical properties of wood and wood composites. World Conference on Timber Engineering June 21-25, 2010, Riva del Garda, Italy. (Oral)
6. Sinha, A., (2009). Thermal degradation of strength of plywood and oriented strand board: A kinetics approach. Presented at SWST international convention, Boise, ID. (Poster)
5. Sinha, A.*., Nairn, J.A. and Gupta, R. (2009). The effect of heat on mechanical properties of wood and wood-based composites. FPS 63rd International Convention, Boise, ID. (Oral)
4. Sinha, A.*., Nairn, J.A. and Gupta, R. (2008). The effect of heat on mechanical properties of wood and wood-based composites. Wood-Based Composites Center advisory board meeting, Corvallis, OR. (Oral)

3. Sinha, A. and Gupta, R*. (2008). Strain distribution in wood-frame shear-walls during loading. World Conference on Timber Engineering, Miyazaki, Japan. (Oral)
2. Sinha, A. (2007). Strain profile in oriented strand board in wood-frame shear-wall using digital image correlation. 41st International Wood Composites Symposium & Technical Workshop, Seattle, WA. (Oral)
1. Sinha, A.*, Gupta, R. and Muszynski, L. (2006). Strain profile in wood-frame shear-walls--preliminary results. World Conference on Timber Engineering, Portland, OR. (Oral)

Invited Presentations

3. Sinha, A.* (2016). Cross Laminated Timber Research in the Pacific Northwest. West Virginia University workshop for Forest Service, June 14, Morgantown, WV.
2. Sinha, A* and Knowles, C. (2013) Certification of sustainable housing in the United States. SME Villab Workshop, March 21-22 2013, Koper, Slovenia.
1. Sinha, A.* , Nairn, J.A. and Gupta, R. (2010). Thermal degradation of bending strength of plywood and oriented strand board: A kinetics approach. FPS 64th Annual international convention, Madison, WI.

Other presentations

2. Sinha, A.* , Kamke, F., Morrell, J.J., Gupta, R., Muszynski, L. and Nairn, J.A. (2012). Research on service-life prediction of new and emerging building products and systems. Presented at OSU Foundation site visit for Murdock Charitable Trust, March 7, 2012. Corvallis, OR.
1. Sinha, A., (2011). The Joplin Diary: Damage Assessment after EF5 Tornado. Departmental Seminar, Department of Wood Science and Engineering, Oregon State University, November 2, 2011. Corvallis, OR.

3. Grant and Contract Support

External Competitive Grants

7. Sinha, A. (2015). Evaluation of timber pile splices. Oregon Department Of Transportation (DOT). \$14,227. Duration: 6 mo.
6. Kamke, F. and Sinha, A. (2014-2016). Multi-scale accelerated weathering of wood composite materials. National Science Foundation (NSF) Industry/University Cooperative Research Center (I/UCRC) for

Wood-Based Composites. \$111,750. Duration: 2 years. (Sinha's share: \$90,000)

5. Muszynski, L.M., Sinha, A., Barbosa, A and Gupta, R. (2014-2016). Commercialization of Cross Laminated Timber Panel in Oregon. Oregon BEST commercialization grant, \$150,000. Duration: 2 years. (Sinha's share: \$35,000)
4. Muszynski, L.M., Sinha, A., Barbosa, A and Gupta, R. (2013-2016). Hybrid CLT panels for sustainable building solutions. USDA - National Institute of Food and Agriculture (NIFA) Forest Products Research Program, \$289,942. Duration: 3 years. (Sinha's share: \$79,485)
3. Kamke, F.A. and Sinha, A. (2013-2015). Multi-scale investigation of adhesive bond durability. National Science Foundation. \$196,191. Duration: 2 years. (Sinha's share: \$98,000)
2. Nairn J.A. and Sinha, A. (2013-2015). Methodologies for ranking resin by the effects on durability of wood composites. NSF IUCRC for Wood-based Composites. \$124,681. Duration: 3 years. (Sinha's share: \$62,340)
1. Humar, M., Sinha A., Kutnar, A., Kamke, F. and Morrell, J.J. (2012). Service-life prediction of wood claddings and environmental impacts. Slovenian Ministry for Science and Technology. Travel expenses covered. Duration: 1 year.

Non-Competitive Research Contracts

5. Sinha, A. (2017-2018). Performance evaluation of Mass Plywood Panel. Freres Lumber Company. \$95,800.
4. Sinha, A., Leavengood, S., and Morrell, J.J. (2014-2016). Development of engineering design values for use of Western Juniper. Sustainable Northwest through USDA and Oregon DOT. \$93,000. Duration: 2 years. (Sinha's share: \$70,000)
3. Sinha, A. (2015). Environmental utility of wood in the built environment. Oregon Department of Forestry. \$20,200. Duration: 6 mo.
2. Sinha, A. and Kamke, F.A. (2013-2015). Proof of concept of strand TrussCore panels. TrussCore Specialities. \$66,250. Duration: 18 months. (Sinha's share: \$40,125)
1. Knowles, C, Sinha, A., Theodoropoulos, Griffin, C. and Burnard, M. (2012). Green Building Materials: a gap analysis Oregon Forest Resources Institute. \$12,789. Duration: 1 year. (Sinha's share: \$6,394)

Internal Competitive Grants

8. Stuedlin, A and Sinha, A. (2017-2019). Design of timber pile ground improvement for liquefaction mitigation. TDI ARS. \$150,000. (Sinha's share: \$30,000)
7. Sinha, A and Barbosa, A. (2017-2020). Mitigating fire performance concerns through fire endurance models. TDI ARS and US Endowment \$136,000.
6. Higgins, C., Barbosa, A. And Sinha, A. (2017-2020). Composite concrete-CLT floor systems for tall building design. TDI ARS. \$250,000. (Sinha's share: \$80,000)
5. Barbosa, A., Sinha, A., and Higgins, C. (2017-2020). Seismic performance of cross laminated timber and cross laminated timber-concrete composite floor diaphragms. Tallwood Design Institute (TDI) ARS. \$250,000. (Sinha's share: \$120,000)
4. Sinha, A., Nairn, J.A. and Miller, T.H. (2016 - 2019). Fastner solutions for tall wood buildings. IWFL ARS. \$150,000. Duration: 3 years. (Sinha's share: \$110,000)
3. Muszynski, L., Kamke, F.A., Sinha, A., and Leavengood, S. (2015). DIC/DVC Optical Measurement System: Increasing Access, Restoring Functionality and Upgrade. Research Equipment Reserve Fund, Research Office. \$49,609.
2. Sinha, A. (2012). Design and evaluation of novel wood-based green composite panels for structural applications. General Research Funds, Research Office, OSU. \$10,000. Duration: 1 year.
1. Sinha, A. and Morrell, J.J. (2011-2013). USDA Wood Utilization Research Grant – Developing service life estimates for wood based green building materials. \$ 53,000. Duration: 2 years.

Testing Contracts Recieved

Contracts with 7 different company totalling upto \$165,000.

Other Research/teaching/outreach Support Received

8. College of Forestry (COF) Board of Visitors (BOV) \$3240 for Mentor – Protege Program for mentorship of Haley Girod and Raquel Albee. 2015-2016.
7. Kelley Foundation scholarship for Byrne Miyamoto, \$2500. 2013-2014.
6. COF Strengthening Education and Employment of Diverse Students (SEEDS) \$3240 for Mentor – Protege Program for mentorship of Byrne Miyamoto. 2013-2014.

5. COF SEEDS \$2160 for Mentor – Protege Program for mentorship of Diana Avilla. 2013-2014.
4. COF SEEDS \$3216 for Mentor – Protege Program for mentorship of Diana Avilla. 2012-2013.
3. COF BOV \$1750 for Mentor – Protege Program for mentorship of Maya Li-Giddings. 2012-2013.
2. Mlasko, S., Way, D., Student Sustainability Initiative Grant – Bamboo in Structural Uses. Faculty Advisor: Arijit Sinha. \$3000. 2012.
1. COF BOV \$4240 for Mentor – Protege Program for mentorship of Jarriid Raney. 2011-2012.

McIntire-Stennis Projects

1. Sinha, A. (2012-2017). USDA McIntire-Stennis Grant – Service-life prediction and life-cycle analysis for wood-based material. \$219,497. Duration: 5 years.

Other Information

Media or Press Coverage:

Phys.org. (November 29, 2016). New prototype plywood panels may be world's largest

Portland Business Journal. (November 30, 2016). Oregon lumber company bets big on new panel technology as alternative to cross-laminated timber

Corvallis Gazette Times. (December 5, 2016). Freres going big with new facility for 'massive plywood panels

College of Forestry FOCUS magazine, Oregon State University. "Seeking Safer Sustainable Structures". Spring 2012.

Oregon Business Journal. "OSU researches bamboo." January 31, 2012.

Daily Journal of Commerce. "OSU research may boost bamboo business." January 30, 2012.

Interview with Mary Loos 1190/102.3 KEX Portland, OR. August 9, 2011.

Physorg. "Increase in tornado, hurricane damage brings call for more stringent building standards". August 8, 2011.

KBND Northwest Quadrant. "Wind Study Reveals Need for Code Changes". August 8, 2011.

ScienceDaily.com. "Increase in Tornado, Hurricane Damage Brings Call for More Stringent Building Standards." August 8, 2011.

Journal of Sciences. "Increase in Tornado, Hurricane Damage Brings Call for More Stringent Building Standards." August 8, 2011.

First Science, CE Bulletin. "Increase in Tornado, Hurricane Damage Brings Call for More Stringent Building Standards." August 8, 2011.

Interview and B-roll video with news media at Oregon State University: "Increase tornado hurricane damage brings call for more stringent building codes." (<http://youtu.be/T6CboNmlqAY>). August 5, 2011.

Daily Journal of Commerce. "Researchers say Oregon can learn from Joplin, Mo., structural problems" June 7, 2011.

All Business. "Researchers say Oregon can learn from Joplin, Mo., structural problems" June 7, 2011.

D. Service

1. University Service

COF Search committee for Assistant Director for the Center of Advanced Wood Products Manufacturing and Design, member, 2016.

WSE Search Committee for Renewable Material Instructor and Mentor, member, 2016.

COF International Programs Advisory Committee, member, 2011-Present.

COF Dean's Investment Fund Scholarship for International Engagement Selection Committee, member, 2014- Present.

Advanced Wood Processing Building Steering Committee, member, 2015- present.

WSE Professional Development Committee, Chair, 2014- Present.

WSE ad hoc Committee on Advanced Wood Processing Center and Lab space use, member, 2014 –present.

WSE Search Committee for Assistant Professor in Architecture and Wood Design, member, 2014-2015.

COF Forest Science Complex Architect Selection Committee, member, 2014.

WSE Graduate Admissions Committee, member, 2011-2014.

WSE Search Committee for Renewable Material Anatomist, member, 2012.

OSU Library Use and Facilities Focus Group, member, Winter Term 2010.

COF Computer Use Committee, member, 2009.

Student Evaluation Committee for promotion and tenure of two faculty members, Chair, 2009.

Professional Development Committee, Winter Seminar Series Chair, 2007-2008.

Graduate Affairs Committee, member, 2006-2007.

2. Service to the Profession

a) Membership/Leadership in Professional Organizations

American Society of Civil Engineers, 2008 - Present

Chair, Committee on Wood Research (2012 – 2017)

Vice Chair (2011 – 2012)

Member, Committee on Wood Education (2011 - 2017)

Forest Products Society, 2009 - Present

Co-Chair, Wood Engineering TIG (2011-2013)

Society of Wood Science and Technology, 2009 – Present

Member of Society for Experimental Mechanics, 2001—Present

Member of Cascadia Green Building Council, 2011—2012

b) Service as Proposal and Manuscript Reviewer

Proposals Reviewed:

Canada First Research Excellence Funds. Government of Canada.
Proposal Reviewer, May 2016 (1).

National Science Foundation CMMI SMM review panel, Washington, DC. June 6, 2013 (4).

West Virginia University – Faculty Senate Grant Program 2011 (1).

Manuscripts Reviewed:

Manuscript Reviewer for:

Journal of Structural Engineering
Wood and Fiber Science
Journal of Materials in Civil Engineering
Forest Products Journal
BioResources
Materials
Natural Hazards
Construction and Building Materials
Journal of Cleaner Production
Engineering Structures
Journal of Bridge Engineering
International Journal of Physical Science
Maderas Ciencia Tecnologia
Journal of Cellular Plastics
Buildings
Journal of Testing and Evaluation
Wood Material Science and Engineering
Philippine Journal of Science
Materials and Structure
Composites: Part A

c) Other Service to Professional Organizations

Associate Editor, Wood and Fiber Science (2017-present)

Board Member. Consortium for Research on Renewable Industrial Materials (2016- present).

Executive committee for FPS international Convention (2016).

Editorial Board, Wood and Fiber Science (2015- present).

Session Organizer and Chair. Novel techniques for a new era of wood construction. SWST 2015 International Convention, Jackson, Wyoming, USA. (2015).

Session Organizer and Chair. Timber Structures. SWST 2014 International Convention, Zvolen, Slovakia. (2014).

Judge. Wood Award Competition. Forest Product Society (2013).

Session Chair. Convincing that Wood and Grass are Good. Forest Products Society International Convention, Austin, Texas. (2013).

Session Organizer (Chair). Innovative Wood Materials and Structures. Forest Products Society International Convention, Washington DC. (2012).

Student Poster Competition Judge. Forest Products Society International Convention, Washington D.C. (2012).

3. Service to the Public

2016 – Building plan review for City of Eugene – technical expert for CLT diaphragm design and connection review for permitting of a downtown 4 story building on Broadway Street, Eugene, OR.

2016 – Exquisite Surfaces, Los Angeles – evaluator for validation of reclaimability claims for hardwood flooring.

2012-2016 – McFarland Cascade – technical expert for evaluation of laminated utility poles and design guidelines.

2012 – Bamboo Revolution – technical expert for product development and structural property evaluation.

2012 – Skylift Roof Riser – technical code expert.

Wood Magic Instructor in both Corvallis (2009- present), and Portland (2011 – present).

Wood Magic, Tour Guide, 2004 – 2008.

Professional Registration

LEED Green Associate, ID: 0688591 (2011 – Present)

E.I.T – State of Washington, License No. 30280 (2009 – Present)

E. Awards, Honors and Other Recognitions

National Awards:

Wood Award 2010 for the most outstanding research in the field of wood and wood products presented by Forest Products Society at 64th Annual International Convention, Madison, WI.

First Place, 2009 Society of Wood Science & Technology Student Poster Competition, Boise, ID.