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Kort præsentation

Jeg arbejder på at finde de grundlæggende mekanismer mellem fysiske egenskaber for træ og biomaterialer. Vand i materialets cellevægge har en afgørende rolle for stort set alle egenskaber, og mit fokus er at forstå baggrunden for dette, herunder hvordan kemiske ændringer i cellevæggene indvirker på interaktionen mellem vand og træ.

CV

Uddannelse

2011: ph.D., Danmarks Tekniske Universitet

2007: Civilingeniør, cand.polyt., Danmarks Tekniske Universitet

Ansættelser

2019- : Lektor, Københavns Universitet, Institut for Geovidenskab og Naturforvaltning

2015-2019: Postdoc, Københavns Universitet, Institut for Geovidenskab og Naturforvaltning

2013-2015: Postdoc, ETH Zürich, Institut für Baustoffe og EMPA, Abteilung Angewandte Holzforschung

2013: Adjunkt, Danmarks Tekniske Universitet, Institut for Byggeri

2011-2013: Konsulent R&D, Teknologisk Institut

2008-2011: ErhvervsPhD-kandidat, Teknologisk Institut

Videnskabelige medlemskaber

2015- : Medlem af *Marie Curie Alumni Association*

2013-2015: Medlem af styregruppen, COST Action FP1303 *Performance of biobased building materials*

2010-2013: Medlem af styregruppen, COST Action FP0904 *Thermo-hydro-mechanical wood behaviour and processing*

2009-2012: Medlem af arbejdsgruppe, COST Action FP0802 *Experimental and computational micro-characterization techniques in wood mechanics*

Ansvarsposter

2021- : Videnskabelig bedømmer af forskningsansøgninger for det europæiske *Forest Value* program, EU, for *NWO Dutch Research Council*, Holland, samt for *Czech Science Foundation GCAR*, Tjekkiet

2020- : Videnskabelig bedømmer af forskningsansøgninger for *Vinnova*, Sverige

2019- : Videnskabelig bedømmer af forskningsansøgninger for *National Science Centre*, Polen og *Academy of Finland*

2019: Gæsteredaktør for specialnummer af tidsskriftet *Forests*

2017- : Medlem af Editorial Board ved tidsskriftet *Wood Materials Science and Engineering*

2017- : National koordinator for Danmark i *Northern European Network for Wood Science and Engineering*

2017- : Medformand for National Support Group of Denmark*, Forest-based Sector Technology Platform*, EU

2017-2018: Gæsteredaktør for specialnummer af tidsskriftet *International Wood Products Journal*

2017: Hovedarrangør for konferencen *13th Annual Meeting of the Northern European Network for Wood Science and Engineering* (WSE2017) ved Københavns Universitet

2012- : Videnskabelig reviewer for en række ISI-tidsskrifter inkl. *Acta Biomaterialia*, *Cellulose*, *International Biodeterioration & Biodegradation*, *Journal of Materials Science*, *Polymer Degradation and Stability*, *Proceedings of the Royal Society A*, m.fl.

2010-2011: Bestyrelsesmedlem i *ErhvervsPhD-foreningen*

2007-2011: Bestyrelsesmedlem og bestyrelsessekretær i *Dansk Selskab for Materialeprøvning og –forskning* (DSM), Ingeniørforeningen i Danmark (IDA)

Videnskabelige publikationer

Fredriksson, M, Digaitis, R, Engqvist, J & Thybring, EE 2024, 'Effect of targeted acetylation on wood–water interactions at high moisture states', *Cellulose*, bind 31, s. 869–885. https://doi.org/10.1007/s10570-023-05678-8

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Ponzecchi, A, Alfredsen, G, Fredriksson, M, Thybring, EE & Thygesen, LG 2024, 'Localization and characterisation of brown rot in two types of acetylated wood', *Cellulose*, bind 31, s. 1875–1890. https://doi.org/10.1007/s10570-023-05680-0

Fredriksson, M, Rüggeberg, M, Nord-Larsen, T, Beck, G & Thybring, EE 2023, 'Water sorption in wood cell walls–data exploration of the influential physicochemical characteristics', *Cellulose*, bind 30, s. 1857-1871. https://doi.org/10.1007/s10570-022-04973-0

Thybring, EE & Fredriksson, M 2023, Wood and Moisture. i P Niemz, A Teischinger & D Sandberg (red), *Springer Handbook of Wood Science and Technology.* 1 udg, Springer, Cham, Springer Handbooks, s. 355-397. https://doi.org/10.1007/978-3-030-81315-4_7

De Ligne, LC, Van Acker, J, Baetens, JM, Omar, S, De Baets, B, Thygesen, LG, Van Den Bulcke, J & Thybring, EE 2022, 'Moisture dynamics of wood-based panels and wood fibre insulation materials', *Frontiers in Plant Science*, bind 13, 951175. https://doi.org/10.3389/fpls.2022.951175

Thybring, EE, Thygesen, LG, Alfredsen, G & Fredriksson, M 2022, 'Editorial: Wood decomposition: Mechanisms and prevention strategies', *Frontiers in Plant Science*, bind 13, 1081131. https://doi.org/10.3389/fpls.2022.1081131

Ponzecchi, A, Thybring, EE, Digaitis, R, Fredriksson, M, Piqueras Solsona, S & Thygesen, LG 2022, 'Raman micro-spectroscopy of two types of acetylated Norway spruce wood at controlled relative humidity', *Frontiers in Plant Science*, bind 13, 986578. https://doi.org/10.3389/fpls.2022.986578

Zelinka, SL, Altgen, M, Emmerich, L, Guigo, N, Keplinger, T, Kymäläinen, M, Thybring, EE & Thygesen, LG 2022, ' Review of Wood Modification and Wood Functionalization Technologies', *Forests*, bind 13, nr. 7, 1004. https://doi.org/10.3390/f13071004

Thybring, EE, Fredriksson, M, Zelinka, SL & Glass, SV 2022, 'Water in Wood: A Review of Current Understanding and Knowledge Gaps', *Forests*, bind 13, nr. 12, 2051. https://doi.org/10.3390/f13122051

Thybring, EE, Boardman, CR, Zelinka, SL & Glass, SV 2021, 'Common sorption isotherm models are not physically valid for water in wood', *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, bind 627, 127214. https://doi.org/10.1016/j.colsurfa.2021.127214

Kim, I, Thybring, EE, Karlsson, O, Jones, D, Mantanis, GI & Sandberg, D 2021, 'Characterisation of moisture in Scots pine (*Pinus sylvestris* L.) sapwood modified with maleic anhydride and sodium hypophosphite', *Forests*, bind 12, nr. 10, 1333. https://doi.org/10.3390/f12101333

Digaitis, R, Thybring, EE, Thygesen, LG & Fredriksson, M 2021, 'Targeted acetylation of wood: a tool for tuning wood-water interactions', *Cellulose*, bind 28, nr. 12, s. 8009-8025. https://doi.org/10.1007/s10570-021-04033-z

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Fredriksson, M, Thybring, EE & Zelinka, SL 2021, 'Artifacts in electrical measurements on wood caused by non-uniform moisture distributions', *Holzforschung*, bind 75, nr. 6, s. 517-525. https://doi.org/10.1515/hf-2020-0138

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Zelinka, SL, Houtman, CJ, Hirth, K, Lacher, S, Lorenz, L, Thybring, EE & Hunt, CG 2020, 'The Effect of Acetylation on Iron Uptake and Diffusion in Water Saturated Wood Cell Walls and Implications for Decay', *Forests*, bind 11, nr. 10, 1121. https://doi.org/10.3390/f11101121

Yang, T, Thybring, EE, Fredriksson, M, Ma, E, Cao, J, Digaitis, R & Thygesen, LG 2020, 'Effects of changes in biopolymer composition on moisture in acetylated wood', *Forests*, bind 11, nr. 7, 719. https://doi.org/10.3390/F11070719

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Zelinka, SL, Bourne, KJ, Glass, SV, Boardman, CR, Lorenz, L & Thybring, EE 2018, 'Apparatus for gravimetric measurement of moisture sorption isotherms for 1-100 g samples in parallel', *Wood and Fiber Science*, bind 50, nr. 3, s. 244-253. <https://wfs.swst.org/index.php/wfs/article/view/2691>

Beck, G, Thybring, EE, Thygesen, LG & Hill, C 2018, 'Characterization of moisture in acetylated and propionylated radiata pine using low-field nuclear magnetic resonance (LFNMR) relaxometry', *Holzforschung*, bind 72, nr. 3, s. 225-233. https://doi.org/10.1515/hf-2017-0072

Thybring, EE, Kymäläinen, M & Rautkari, L 2018, 'Experimental techniques for characterising water in wood covering the range from dry to fully water-saturated', *Wood Science and Technology*, bind 52, nr. 2, s. 297-329. https://doi.org/10.1007/s00226-017-0977-7

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Zelinka, SL, Glass, SV & Thybring, EE 2018, 'Myth versus reality: Do parabolic sorption isotherm models reflect actual wood–water thermodynamics?', *Wood Science and Technology*, bind 52, nr. 6, s. 1701-1706. https://doi.org/10.1007/s00226-018-1035-9

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Engelund, ET & Svensson, S 2011, 'Modelling time-dependent mechanical behaviour of softwood using deformation kinetics', *Holzforschung*, bind 65, nr. 2, s. 231-237. https://doi.org/10.1515/hf.2011.011

Thygesen, LG, Engelund, ET & Hoffmeyer, P 2010, 'Water sorption in wood and modified wood at high values of relative humidity. Part I: Results for untreated, acetylated, and furfurylated Norway spruce', *Holzforschung*, bind 64, s. 315-323. https://doi.org/10.1515/hf.2010.044

Engelund, ET, Thygesen, LG & Hoffmeyer, P 2010, 'Water sorption in wood and modified wood at high values of relative humidity. Part 2: Appendix. Theoretical assessment of the amount of capillary water in wood microvoids', *Holzforschung*, bind 64, nr. 3, s. 325-330. https://doi.org/10.1515/hf.2010.061