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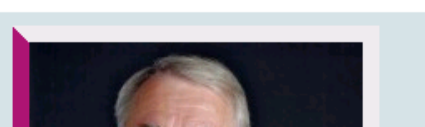
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John NR Ruddick

Professor

Research Interests: [chemistry](#), [wood durability](#)

[Contact Info](#)

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[Department of Wood Science](#)

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Areas of research include:

- Chemistry of fixation of ammoniacal/amine copper preservatives.
- Factors influencing the effectiveness of alkylammonium wood preservatives
- Novel approaches to fixation of inorganic preservatives
- Novel approaches to wood protection
- Novel approaches to recycling/disposal of contaminate wood waste

Projects

Wood preservation – factors impacting on the performance of wood preserving chemicals

BASF/Lonza Inc/Osmose/Trus Joist/MacMillan

Fixation chemistry of amine copper preservative in wood

NSERC

Professional Affiliations

American Wood Preservers Association AWPA
Association of Preservation Technology APT
Canadian Wood Preservation Association CWPa
Forest Products Society FPS

Awards

Top Teacher, Wood Science Forestry Killam Teacher Award 2008

Current Graduate Students

Wei Xue,

Current Courses

Selected Publications

Xue, W., P. Kennepohl and J.N.R. Ruddick (2013). Quantification of mobilized copper(II) in micronized copper treated wood by electron paramagnetic resonance (EPR) spectroscopy. *Holzforschung* –

Wei Xue, Pierre Kennepohl and John N.R. Ruddick (2012). Investigation of copper solubilization and reaction in micronized copper treated wood by electron paramagnetic resonance (EPR) spectroscopy *Holzforschung* *Holzforschung* 66 889-895

Xue, W., P. Kennepohl, and J. N. R. Ruddick (2012). Mobilized copper(II) concentrations in earlywood and latewood of micronized copper treated red pine -Internat. Res Group Wood Protect. Doc. No. IRG/WP IRG/WP/12-30596

Xue, W., P. Kennepohl, X. Jin and J.N.R. Ruddick (2012). The chemistry of micronized copper carbonate treated wood under the influence of soil contact. Canadian Wood Preservation Association –

Wei Xue, Pierre Kennepohl and John N.R. Ruddick (2011). Quantification of mobile copper(II) levels in micronized copper treated wood International Research Group in Wood Protection –

W. Xue, P. Kennepohl and J.N.R. Ruddick (2011). The Chemistry of Micronized Metal Treated Wood. Canadian Wood Preservation Association –

John N.R. Ruddick, Wei Xue and Pierre Kennepohl (2010). The chemistry of copper based wood preservatives

*Michael Kofoed and John N.R. Ruddick (2010). **A comparison of the corrosion of alkaline copper and micronized copper treated wood*** International Research Group in Wood Protection –

*Wei Xue, Pierre Kennepohl and John N.R. Ruddick (2010). **A comparison of the chemistry of alkaline copper and micronized copper treated wood*** International Research Group in Wood Protection- –

*J.N.R. Ruddick (2010). **Use of Chemicals to prevent degradation of wood*** J. Wiley & Sons, Inc. Uhlig's Corrosion Handbook. Ed.Winston Revie. Part II Nonmetals. 34:469 – 477.

*John N.R. Ruddick (2009). **Recent Research in Wood Preservation at UBC*** Canadian Wood preservation Association- Proceeding of Canadian Wood Preservation Association

*Fang, Z. Ruddick, J.N.R. Smith, G.D. (2009). **Selected Wood Preservatives for use with OSB. Part 2: Mechanical Properties of Boards.*** – JIWS 18(2)75-81

*Ruddick, J.N.R. (2008). **Alkaline copper treated wood for use in residential decking.*** -Internat. Res. Group Wood Protect. –

*Ruddick, J.N.R. (2008). **Corrosion of fasteners and connector in contact with alkaline copper treated wood – is it a problem.*** -Internat. Res. Group in Wood Protect. –

*Ruddick, J.N.R. (2007). **Possibilities and Pitfalls – the future of wood preservation*** -Canadian Wood Preservation Association -Canadian Wood preservation Association

*Fang, Z., J.N.R. Ruddick and G.D. Smith (2006). **Evaluating wood preservatives for use with OSB, Part 1: Compatibility with typical resin systems.*** – Journal of the Institute of Wood Science 17(4)216-222

*Fang, Z., J.N.R. Ruddick and G.D. Smith. (2006). **Selected Wood Preservatives for use with OSB. Part 2: Mechanical Properties of Boards.*** Journal of Institute of Wood Science JIWS in press

*Fang, Z, J.R. Ruddick and G. Smith (2006). **Use of a formulated wood preservative (K-HDO and fenpropimorph) to enhance the durability of PF resin bonded waferboard.*** – JIWS 17(4)216-222

*Ruddick (2005). **Corrosion of fasteners by alkaline copper treated wood*** – -Canadian Wood preserv. Assoc.

*(2004). **Selected Wood Preservatives for use with OSB. Part 2: Mechanical Properties of Boards.***

Choi, S.M., J.N.R. Ruddick and P.I. Morris (2004). **Chemical redistribution in CCA-treated decking** – Forest Products J. 54(3):33-37

Morris, P.I., J.K. Ingram, J.N.R. Ruddick, S. Choi (2004). **Protection of untreated wood by adjacent CCA-treated wood** – Forest Products J. 54(3):29-32

Jiang, X. and J.N.R. Ruddick. (2004). **Leaching of amine-copper treated Scots pine.** – For. Prod. J. 54(12):213-216.

Omidvar, A. and J.N.R. Ruddick. (2004). **The influence of low styrene content on the decay resistance of aspen wood polymer composite.** – For. Prod. J. 54(10):57-58.

P. Chung and J. N. R. Ruddick. (2004). **Leaching of copper from ACQ treated wood exposed above ground.** – Internat. Res. Group Wood Preserv. Doc. No. IRG/WP/04-50219

Ruddick, J.N.R. (2003). **Basic copper wood preservatives: Factors which influence loss** – Proc. Can. Wood Preserv. 24:26-59

Choi, S., J.R. Ruddick, and P.I. Morris (2003). **Fungal Colonization of CCA-treated decking** – Internat. res. Grp Wood Preserv. IRG/WP/WP/10491

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Lucas, N and J.N.R. Ruddick (2002). **Determination of amine to copper ratio remaining in wood after water leaching** – Internat. Res. Grp Wood Preserv. Doc. No. IRG/WP/02-30285

Guo, A., P.A. Cooper, Y.T. Ung and J.N.R. Ruddick (2002). **Comparison of fixation rates of earlywood, latewood, sapwood and heartwood of CCA-treated Douglas-fir, southern pine, and eastern larch** – For. Prod. J. 52(5):77-80

Ruddick, J.N.R. (2002). **Fixation of amine and ammonia copper wood preservatives** – Proc. Can. Wood preserv. Assoc. 22:207-232-

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Feng, F., J.N.R. Ruddick, and S.A. Avramidis. (2001). **Application of radio frequency heating to utility poles**

Jiang, X., J.N.R. Ruddick and S.A. Avramidis. (2001). **Application of radio frequency heating to utility poles. Part 1. RF/V drying of round wood.** – Forest Products Journal, 51(7/8):6-60.

Fang, F., J.N.R. Ruddick and S. Avramidis. (2001). **Application of radio frequency heating to utility poles. Part 2. Accelerated fixation of chromated copper arsenate.** – Forest Products Journal, 51(9):53-58.

Fang, F., J.N.R. Ruddick and S. Avramidis. (2001). **Application of radio frequency heating to utility poles. Part 3. The use of RF heating to eradicate decay fungi in pole material.** – Forest Products Journal, 51(11/12):51-55.

Choi, S., J.N.R. Ruddick and P.I. Morris. (2001). **The effect of storage and subculturing on in-vitro fruit body formation and spore production in Gloeophyllum sepiarium and Oligoporus placentus.** – Internat. Res. Grp. Wood Preserv. Doc. No. 01-20232.

Choi, S., J.N.R. Ruddick and P.I. Morris. (2001). **The possible role of mobile CCA components in preventing spore germination in checked surfaces, in treated wood exposed above ground.** – Internat. Res. Grp. Wood Preserv. Doc. No. 01-30263.

Cui, F. and J.N.R. Ruddick. (2001). **Analysis of polychlorinated dibenzo-p-dioxins and dibenzofurans in pentachlorophenol treated poles.** – Internat. J. Environ. Anal. Chem. 80(2):101-113.

Ruddick, J.N.R., C. Xie and F.G. Herring. - (2001). **Fixation of amine copper preservatives. I. Reaction of vanillin, a lignin model compound with monoethanolamine copper sulphate solution.** – Holzforschung. 55:585-589.

Tang, H. and J.N.R. Ruddick. (2001). **Screening of amine chemicals for use as wood protecting agents. Part 2. Investigation of selected amine and copper amine formulations.** – Material und Organismen 33(4):261-270.

Jiang, X. and J.N.R. Ruddick. (2000). **A comparison of the leaching of copper 2-ethanolamine and copper ethylenediamine treated Scots pine.** – Internat. Res. Group on Wood Preserv. Document No. IRG/WP/00-30233.

Ruddick, J.N.R. (2000). **The use of chemicals to prevent the degradation of wood.** – Chapter 29:503-512 in Uhlig's Corrosion Handbook, 2nd edition.

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An, Y., J.N.R. Ruddick and P.I. Morris. (1998). **CCA component distribution in the heartwood of treated**

*Dubois, J. and J.N.R. Ruddick. (1998). **The fungal degradation of quaternary ammonium compounds in wood.*** – Int'l Res. Group Preserv. Doc. No. IRG/WP/98-10263.

*Dubois, J. and J.N.R. Ruddick. (1997). **Aspects of fungal degradation of quaternary ammonium compounds in liquid culture.*** – Int'l Res. Group Wood Preserv. IRG/WP/97-30160.

*Jiang, Xiao and J.N.R. Ruddick. (1997). **A comparison of the leaching resistance of diammine-copper complexes and copper carbonate precipitated in wood.*** – Int'l Res. Group Wood Preserv. IRG/WP/97-30158.

*Ruddick, J.N.R. (1997). **Treated wood: a sustainable use of forest resources.*** – In Proc. Amer. Wood Preserv. 93:144.

*Burgel, J., J. Dubois, and J.N.R. Ruddick. (1996). **Bioremediation of surfactant contaminated waste.*** Int'l Res. Group Wood Preserv. IRG/WP/96-50070. –

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*Ruddick, J.N.R. (1996). **The fixation chemistry of copper in basic preservative systems.*** – Proc. Amer. Wood Preserv. Assoc. 92:32-49.

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