

Professional summary

Safe, passionate, and creative professional with 11 years of experience: 5 years in diverse wood science-related research fields, 6 years in wood composites manufacturing; which include 4 years in process optimization, and 2 years in management. Proven track record of new product development.

Education

Ph.D. in Wood Science

2010 to 2013

Laval University, Quebec City (QC, Canada)

Dissertation: *Polymer nanocomposite coatings for wood*

Key knowledge, skills & ability

- In-depth knowledge and experience with raw materials (wood, adhesives, waxes, coatings, etc.), manufacturing processes, and relationships between raw materials-process-structure-properties.
- Solid knowledge and experience of wood composites (OSB, plywood, mass timber products, MDF)
- Familiar with project management techniques like the *Stage-Gate process*.
- Experience applying product compliance requirements to product testing following ASTM and APA standards, and familiar with building codes.
- Expertise using Statistical Process Control (SPC) and Statistical Quality Control (SQC) database.
- Proficient in Excel, Word, PowerPoint, etc., and able to learn other software applications.
- Excellent language skills: English (professional), French (native professional), and Italian (fluent).

Key achievements

- Developed nanocomposite coatings that allow reducing by 37% the water vapor transmission and increase by 5% the tensile strength compared to coatings without nanoparticles.
- Optimized wood composite materials process that improved product quality.
- Developed a database to trend the correlation between materials-process-product quality, and to communicate quality results to sales, marketing, and operations teams.
- Worked to create peer relationships with academia, government, and industry professionals.

Industrial experience

Norbord, Grande Prairie (AB, Canada)

Senior Process Variability Specialist, Wood Composites

Mar 2019 to Present

Responsible for process variability reduction to enhance product quality and increase productivity.

Outcomes

- Developed a digital system to measure, analyze, improve, and control key performance indicators (KPIs) that the entire mill adopted.
- Optimized manufacturing processes that allowed product quality and productivity enhancement.
- Executed resin trials that allowed 10% press time reduction without quality impacts.
- Improved forming process that allowed 2% panel weight reduction without quality impacts.

Norbord, Grande Prairie (AB, Canada)

Technical Manager, Wood Composites

Mar 2018 to Mar 2019

Led a team composed of 7 people. Supported the research department in new product development, while reducing production costs, and assisted the regional quality manager in quality audits.

People and Talent Management

1. Involved in the hiring process of technical staff as well as graduate students for internship.
2. Used performance management processes to lead employees, and tools (team building, feedback, etc.) to engage and encourage employee contribution in technical goal setting.
3. Engaged team members in career development planning and identify/develop future Leaders.
4. Maintained effective communication practices (email, meetings, etc.) within the organization, the technical department, with other departments, clients, etc.

Team Execution

1. Trained and mentored technical staff to advance their knowledge and skills in the fundamentals of wood composite materials, and statistical process control techniques for decision-making.
2. Provided leadership for employees' development and hold them accountable to meet individual and business objectives through establishment and measure of key performance indicators.
3. Monitored, controlled, and reported raw material usages & quality.
4. Developed and managed technical projects and departmental budgets (\$150,000).

Technical Execution

1. Worked with Norbord's Scientists, Engineers, and Regional Quality Managers implementing new products and processes that enhance speed, quality and productivity, and customer satisfaction.
2. Maintained the Mill Quality Assurance program with the APA-Engineered Wood Association.
3. Supported the Marketing team to assist existing customers and find new customers.
4. Worked in collaboration with vendors such as Hexion and Huntsman for lab and mill trials.

West Fraser, Blue Ridge (AB, Canada)

Senior Process Technologist, Wood Composites

Feb 2016 to Mar 2018

Responsible for process optimization to reduce production costs and improve product quality.

Outcomes

- Collaborated with Engineers at West Fraser's mills on pulp quality improvement.
- Improved refining process parameters that permitted to enhance wood fiber quality.

West Fraser, Edmonton (AB, Canada)

Production Operator, Wood Composites

Aug 2015 to Feb 2016

Set-up and operated industrial dryers for wood veneer, and assisted in plywood production: lay-up, pressing, and finishing lines.

Alta Fab, Nisku (AB, Canada)

Process Technologist, Furniture

Jun 2014 to Oct 2014

Worked on an assembly line to manufacture furniture parts ensuring that the quality of finished products met in-house specifications, and assisted production supervisor in trouble-shooting.

Walls Alive, Edmonton (AB, Canada)

Technical Advisor, Wood Coatings

Feb 2014 to May 2014

Supported the technical team in the preparation of coating formulations, and advised customers in selecting care and cleaning products for flooring and furniture.

Research experience

Laval University/FPIInnovations, Quebec City (QC, Canada)

May 2008 to Dec 2013

Research Assistant, Polymer coatings and microstructure of materials

Conducted research to develop new nanocomposite coatings, and investigate wood fiber porosity.

Outcomes

- Compared to traditional laboratory mixers, the three roll mill has permitted to obtain a better dispersion and stability of clays-based nanoparticles into the acrylic matrix.
- Demonstrated that the presence of nanoclays into acrylic UV-curable coating formulations, if well dispersed, allows improving the performance (barrier and mechanical properties) of the investigated polymer coatings.
- Validated that regardless of the wood species, differential scanning calorimetry (DSC) and mercury intrusion porosimetry (MIP) techniques show different results.

Publications

W.N. Nkeuwa, B. Riedl, V. Landry Transparent UV-cured clay/UV-based nanocomposite coatings on wood substrates: Surface roughness and effect of relative humidity on optical properties. *Journal of Coatings Technology and Research*, 14 (3) 555-569 (2017)

W.N. Nkeuwa, B. Riedl, V. Landry Wood surfaces protected with transparent multilayer UV-cured coatings reinforced with nanosilica and nanoclay. Part II: Application of a standardized test method to study the effect of relative humidity on scratch resistance. *Journal of Coatings Technology and Research*, 11 (6) 993-1011 (2014)

W.N. Nkeuwa, B. Riedl, V. Landry Wood surfaces protected with transparent multilayer UV-cured coatings reinforced with nanosilica and nanoclay. Part I: morphological study and effect of relative humidity on adhesion strength. *Journal of Coatings Technology and Research*, 11 (3) 283-301 (2014)

W.N. Nkeuwa, B. Riedl, V. Landry UV-cured clay/based nanocomposite topcoats for wood furniture. Part II: Dynamic viscoelastic behavior and effect of relative humidity on the mechanical properties. *Progress in Organic Coatings*, 77 (1) 12-23 (2014)

W.N. Nkeuwa, B. Riedl, V. Landry UV-cured clay/based nanocomposite topcoats for wood furniture. Part I: Morphological study, water vapor transmission rate and optical clarity. *Progress in Organic Coatings*, 77 (1) 1-11 (2014)

Conferences

W.N. Nkeuwa, B. Riedl, V. Landry UV-cured clay/based nanocomposite topcoats for wood furniture: Morphological study, water vapor transmission rate, optical clarity, and mechanical analysis. *9th Coatings Science International (COSI)*, 24-28 June, Noordwijk, the Netherlands (2013)

W.N. Nkeuwa, B. Riedl, V. Landry New high solids UV nanocomposite coatings based on cellulose nanocrystals and nanoclays for wood furniture. *TAPPI International Conference on Nanotechnology for Renewable Materials*, 6-8 June, Washington DC (Arlington VA) (2011)