

Valentin Mathieu

Research Engineer

✉ valentin.mathieu@agroparistech.fr 📍 14 rue Girardet, Nancy, France 📞 0000-0002-0696-6979
🎓 Google Scholar 🔗 vlmathieu

Summary

A French research engineer in forest economics working at the intersection of international trade, economic geography, and data science to analyse the structure and dynamics of the forest-wood sector.

Education

Université de Lorraine, Université de Strasbourg, AgroParisTech, CNRS, INRAE, BETA, Economics • Thesis: Wood, Cities, and Trade — An Economic Analysis of the Global Urban Demand for Wood Products and the Dynamics of International Wood Trade. • Supervisors: Sylvain Caurla (EIB), Jean-Marc Roda (CIRAD), Serge Garcia (INRAE). • Committee: Anne Toppinen, Philippe Cadène, Clément Nedoncelle, Meriem Fournier.	Nancy, France 2020 – 2023
AgroParisTech, Forest Science • Major: Forest Resources and Forest-based Industries (RFF).	Nancy, France 2015 – 2019
Université de Lorraine, Economics • Major: Economics of Energy, Environmental and Digital Transition (ETEEN).	Nancy, France 2016 – 2019
AgroParisTech, Forest Sciences	Nancy, France 2016 – 2019
AgroParisTech, Université de Lorraine, Agrosiences, Environment, Territories, Landscape, Forest (AETPF) • Major: Wood, Forest, Sustainable Development (BFD).	Nancy, France 2018 – 2019
AgroParisTech, International experience	Paris, France 2017 – 2018
Lycée Privé Sainte Geneviève, Life Sciences • Major: Biology, Chemistry, Physics, Earth Sciences (BCPST).	Versailles, France 2013 – 2015

Experience

Université de Lorraine, AgroParisTech, INRAE, UMR Silva, Research Engineer Assessment of the economic and environmental impact of setting up a forest-based biorefinery in the Grand Est region of France. • Disciplines: Resource economics (forest economics), International economics (international trade), Economic geography, Urban economics. • Methods: Applied mathematics and data science (Graph theory, Machine Learning), Geographic Information Systems, Bilateral trade / forest data (FAOSTAT, UN Comtrade). • Research themes: Forest-wood sector, Wood products, Trade, Forest-based bioeconomy, Forest Policy, Urbanisation. • Teaching responsibilities: In charge of the Forest Information and Resource Strategies (FIRS) major at AgroParisTech (M.Sc.2).	Nancy, France 2024 – present 2 years
--	--

Université de Lorraine, Université de Strasbourg, AgroParisTech, CNRS, INRAE, BETA, Research Engineer Assessment of the economic and environmental impact of setting up a forest-based biorefinery in the Grand Est region of France. • Supervision: Sylvain Caurla (INRAE), Verónica Acurio Váscquez (Université de Lorraine). • Related project: Hy-C-Green (Production of low-carbon hydrogen and bio-sourced materials in Eastern France with an integrated biorefinery concept). • Production: Mathieu, V. (2020). Hy-C-Green project — Evaluation of the economic and environmental impacts of the implementation of a forest biorefinery in the Grand Est region, Project report (INRA). https://hal.science/hal-04920115	Nancy, France 2019 – 2020 1 year
Université de Lorraine, Université de Strasbourg, AgroParisTech, CNRS, INRAE, BETA, Master Thesis Analysis of wood trade flow models from the perspective of notions of place, space, and scale. • Supervision: Sylvain Caurla (INRAE), Craig Johnston (University of Wisconsin-Madison). • Production: Mathieu, V. (2019). Forest Sector Modeling-A critical analysis from the perspective of the notions of space, place, and scale (Doctoral dissertation, AgroParisTech). https://hal.science/hal-04920111	Nancy, France Mar 2019 – Aug 2019 6 months
UR Forêts et Sociétés, CIRAD, Research Assistant Biomass valorization for energy in Malaysia and Indonesia, including the financialization of agriculture and forestry and the rise of agribusiness corporations. • Supervision: Jean-Marc Roda (CIRAD).	Kuala Lumpur, Malaysia 2017 – 2018 1 year
Wood Department, Nord-Alsace Branch, Office National des Forêts, Assistant Engineer Review and update of standing timber to processed timber conversion price lists, to identify resource volumes to be marketed. • Supervision: Julien Prinnet (National Forest Office of France).	Ingwiller, France June 2017 – Aug 2017 3 months

Publications

A meta-analysis on wood trade flow modeling concepts

Based on a meta-analysis of 499 publications, this paper provides the first comprehensive overview of wood trade flow models, showing that they are predominantly used for policy analysis, rely on a narrow set of factors, and largely overlook emerging drivers such as urban dynamics.

Valentin Mathieu, Jean-Marc Roda

doi.org/10.1016/j.forpol.2023.102930

Wood, Cities, and Trade — An Economic Analysis of the Global Urban Demand for Wood Products and the Dynamics of International Wood Trade

This thesis assesses the capacity of wood trade flow models to support sustainable resource management by examining their theoretical foundations, factor coverage, and data quality, while proposing new approaches that integrate urban dynamics, improve trade data reliability, and enhance the modeling of the global wood economy.

Valentin Mathieu

hal.univ-lorraine.fr/tel-04594758

Panorama des recherches sur la forêt et le bois du département EcoSocio INRAE

Climat et carbone, risques, biodiversité, artificialisation des sols, bioéconomie ; les forêts, dans les régions tempérées comme tropicales, sont à l'intersection de nombreux enjeux économiques, sociaux et environnementaux. La recherche sur la gestion, la conservation et la valorisation de ces écosystèmes particulièrement vulnérables offre des perspectives stimulantes pour analyser et comprendre comment les sociétés réagissent face aux crises environnementales et comment elles redéfinissent leurs rapports aux ressources naturelles.

Philippe Delacote, Valentin Mathieu, Claire Montagné-Huck

doi.org/10.22004/ag.econ.336034

Skills

Coding and software: Python, R, [Snakemake](#), [GRASS GIS](#), [Quarto](#), Markdown, Git, [Claude Code](#).

Multimedia graphics: [Affinity](#), Adobe Photoshop.

Languages

French

Native speaker

English

Fluent

Interests

Data Science: Machine learning, Deep learning, Bayesian modeling, Network analysis

Computational Reproducibility: Version control, Environment control, Workflow, Computational document

Projects

Scable-dev

2025 – 2027

Scaling cable yarding for low-impact timber harvesting in France.

- Macroeconomic impact of the national expansion of cable yarding on the forest-wood sector.
- Comparison of the costs and availability of wood between harvesting methods.
- Determinants of the costs and harvesting speed.

Dominos

2022 – 2027

Studying the determinants of the rise of a forest-based bioeconomy in France.

- Attitudes and behaviors of the French people towards the use of wood for construction and energy.
- Hierarchical cognitive modeling.
- Discrete choice experiment.