



Nicolas LIENART

PhD student

Project: Cambioscop

Supervisor(s):

Lorie HAMELIN (TBI, INRAE)

Thibaut LECOMPTE (IRDL, UBS)

Funding: Lorie Hamelin INRAE Junio Professor Chair and INSA Toulouse

Key words: Consequential Life Cycle Assessment; Bio-based Chemicals and Materials; Residual Biomass

Background

- 2022 – Sustainability and environmental engineering (Specialized Master) – Toulouse School of Agricultural and Life Sciences (ENSAT), Toulouse INP
- 2021 – Computer engineering (Dipl.-Ing.) – ESIEE Paris (ex. ESIPE), Gustave Eiffel University

Currently working on

Transforming residual biomass into bio-based materials and chemicals towards a sustainable national bioeconomy strategy – building the biomaterial foundation for a life cycle optimization platform. My subject involves modelling the environmental footprint of different processes for transforming residual biomass (mostly comprised of agriculture waste and co-products) into biomaterials and chemicals for the industry. This work involves tools like Life Cycle Assessment (LCA) and input-output analysis methods to estimate environmental impacts. I also teach life cycle assessment courses to bachelor and master students at INSA Toulouse and INP Purpan.

Scientific communications

- A stepwise framework for screening high climate mitigation potential bio-based products from country biomass feedstock: France residual biomass for chemicals case [in progress]
- Liénart, N., Lecompte, T. and Hamelin, L. (2025) "From residual biomass to bio-based products and molecules at country scale: where to focus for high impact in a jungle of possibilities," in. *12th INTERNATIONAL CONFERENCE ON LIFE CYCLE MANAGEMENT*, poster, p. 1. Available at: <https://hal.inrae.fr/hal-05171446>

Contact me

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