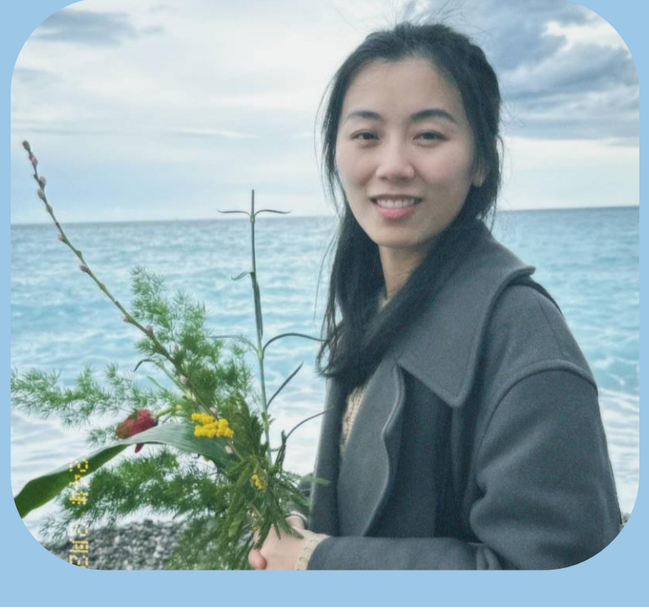
Campus Agro Paris-Saclay, Palaiseau (91)
linkedin.com/in/jingwenchenmegan

**Jingwen CHEN**
*PhD student*
*jingwen.chen@agroparistech.fr*

Début du projet : 2023

## A PROPOS DE MOI

Dual masters' degree in Food Science and Engineering & Marine Biotechnology.
My strong curiosity to discover unknown knowledge and love for delicious foods prompt me to pursue the PhD !



## Équipe GéPro

*Génie des Produits*
Superviseurs : Sandra Domenek, Giana Almeida Perré, Chloé Chevigny, Milena Martelli Tosi

## Mots-clés

Valorisation, nanocellulose, biobased packagings materials, active nanoparticles

# Valorisation of Byproducts from the Agro-food Industry to Active Coatings and Bio-based Packaging to Prevent Food Losses

## Graphical abstract

ByProdAct
ANR FAPESP 2023-2026

This PhD project is a part of the **joint French-Brazilian ANR/Fapesp project ByProdAct**, including a **one-year stay** in the Brazilian laboratories.

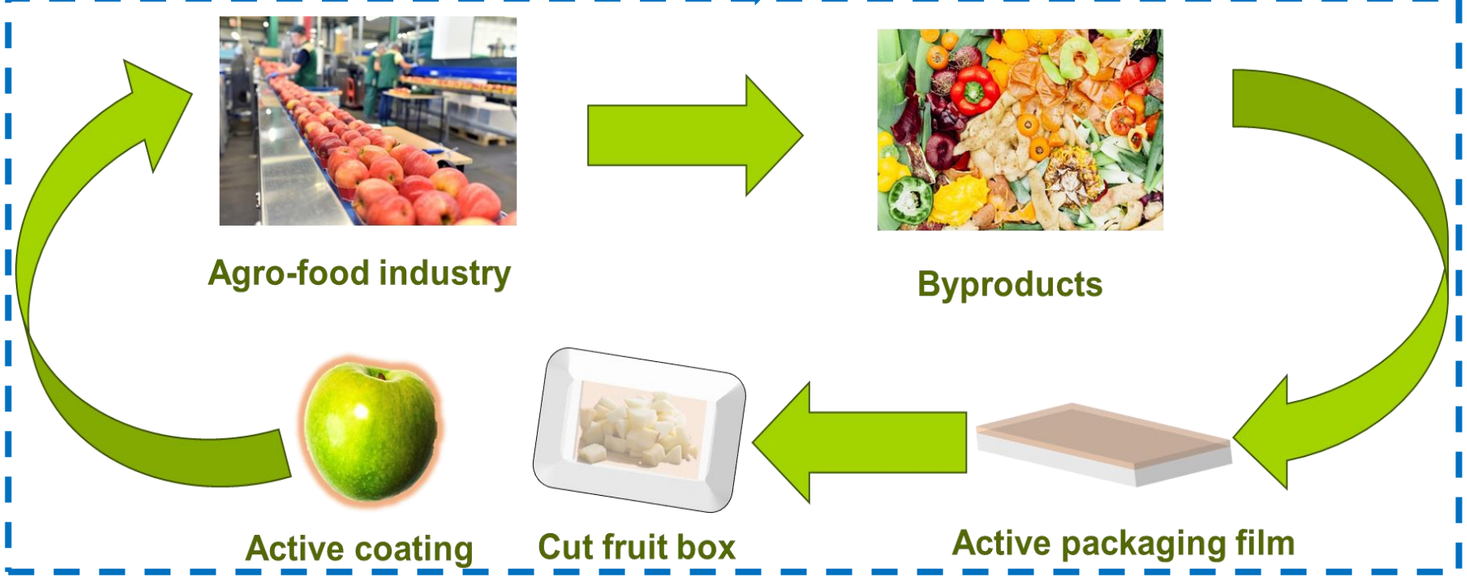
### Plastic Pollution

- Total production = **390.7 million tons** (Mt) in 2021 (98.5% of plastic is petroleum-based)
- **8 Mt** of plastic waste escapes into the oceans from coastal

### Byproducts from agro-food industry

=**12.1 Mt** of dry matter in France

Byproducts → Upcycling → Active coatings & Bio-based Packaging




## Objectives

- Develop the **valorization of by-products** from the agri-food industry into high value-added materials
- Improve the **compatibility of nanocellulose surface**
- Understand the **transport properties** of PLA/nanocellulose materials
- Extend the **shelf life of food** thanks to new active ingredients.

## Experimental approach

- Extraction of bioactive compounds
- Encapsulation
- Nanocellulose extraction
- Materials characterization
- Modeling

## Financeurs & Collaborateurs

anr agence nationale de la recherche
CentraleSupélec
FAPESP FUNDAÇÃO DE AMPARO À PESQUISA DO ESTADO DE SÃO PAULO
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