Your second year track in AgroParisTech, Nancy, France

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January 2021

Paris Institute of technology for life, food and environmental sciences

Campus of Nancy

AgroParisTech – key figures

Ranked 4th world wide and 3rd European wide in the field of "Agriculture & Forestry" in QS Top Universities ranking 2020

8 campuses throughout France

~2 000 students (20% international)

~400 phD students (40% international)

A professional network > 12.000 graduates worldwide
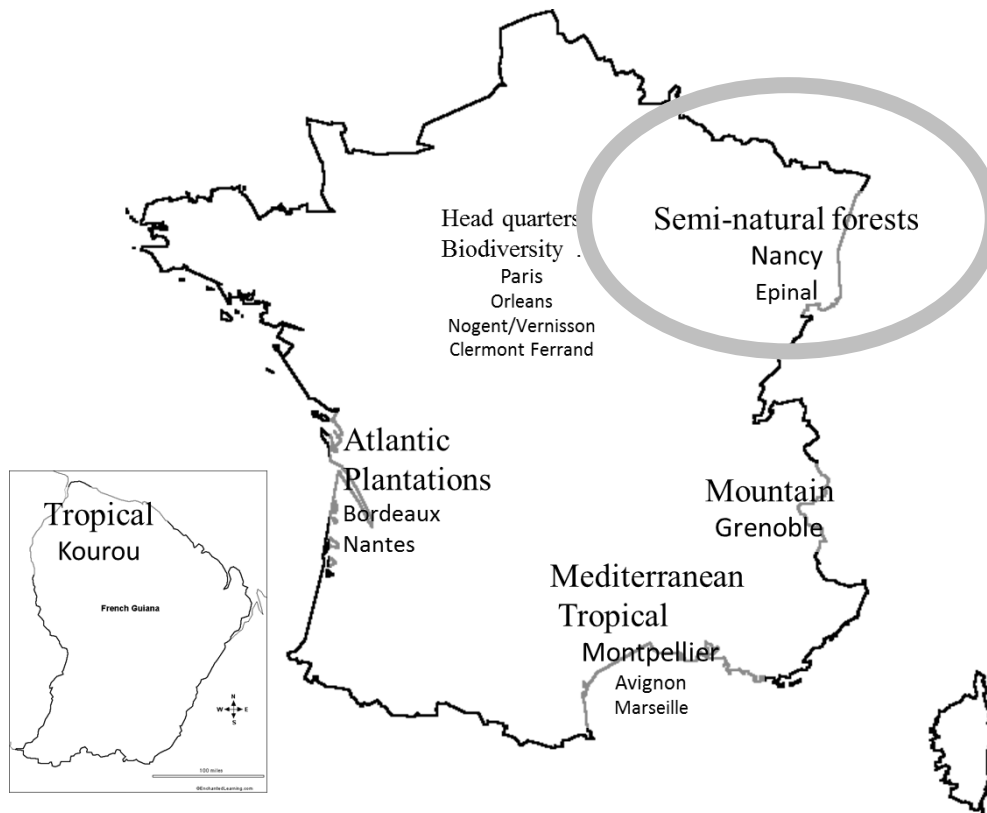
230 professors et 450 researchers

24 research groups

750 ha of experimental forests

AgroParisTech

Nancy coordinator of forest research and high education throughout AgroParisTech

Nancy – Lorraine region :

Only place where education, research, R&D, forest reporting and management are strongly linked, including all fields of forest science, from nature conservation to wood end uses.

AgroParisTech Campus of Nancy

Founded in 1824, located downtown in the historical site

AgroParisTech Campus of Nancy

Trains 250 students (MSc, PhD) per year

Forestry, Ecology, Plant science and Environmental economics

Several programs and tracks of MSc

Most are co-developed with UNIVERSITÉ DE LORRAINE

Hosts academic and industrial partners

Laboratoire d'excellence

ARBRE

Advanced Research on the Biology of TRees and Forest Ecosystems

**Managed by INRAE (Europe's top agricultural research institute)
4 campus in or close to Nancy, among them AgroParisTech'**

- **Key questions related to nutrient cycling, carbon storage and cycling, forest productivity, forest biodiversity, wood products, ecosystem services and sustainable forest management.**

- **A wide range of disciplines – genomics, biology, ecology, forest inventory, wood sciences, economics, sociology, silviculture, forest management –**

- **Provides Master and PhD scholarships**

Research facilities

Field facilities

Eddy flux tower of Hesse (57)

Silvicultural experiments

Mobile platform M-POETE

Labs

Forest system models

A carbon accounting tool for complex and uncertain greenhouse gas emission life cycles

Article *in* Environmental Modelling and Software · June 2018

THE COMPUTREE PLATFORM

Processing LIDAR 3D point clouds
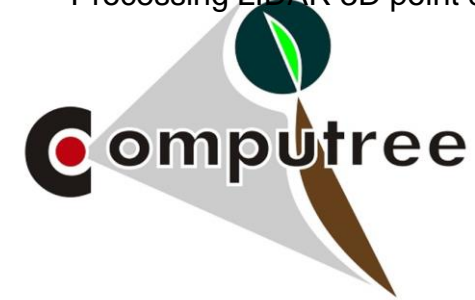
Computree

Credit logo Computree : Pierre Gelhaye (INRA Nancy).

Computree Computree is a processing platform for 3D points clouds, obtained with LIDAR or photogrammetry. It aims to regroup algorithms for forests scenes analysis, in order to extract data on structure of trees and stands.

Technical tools

Large data bases

Journal of Vegetation Science
Advances in plant community ecology

🔓 Full Access

**EcoPlant: A forest site database linking floristic data with soil and climate variables**

Jean-Claude Gégout ✉, Christophe Coudun, Gilles Bailly, Bernard Jabiol

A SYSTEMATIC NATIONWIDE INVENTORY
On the whole French metropolitan territory

French Forest Sector Model: version 1.0.
Presentation and theorical foundations

Student residence

On-site residence in Nancy

➢ **76 rooms**

➢ **12 studios**

➢ **Priority given to foreign students**

➢ **Monthly rent for a room : 195 €**

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Nancy District

➢ **300 000 residents**

➢ **University Town : 50 000 students**

➢ **Eastern France, continental Europ**

➢ **1h 30 from Paris by train**

➢ **Close to the Vosges Mountains**

➢ **Close to Belgium, Germany, Switzerland and Luxembourg**

Costs of your second year

Average 12000 euros for one year
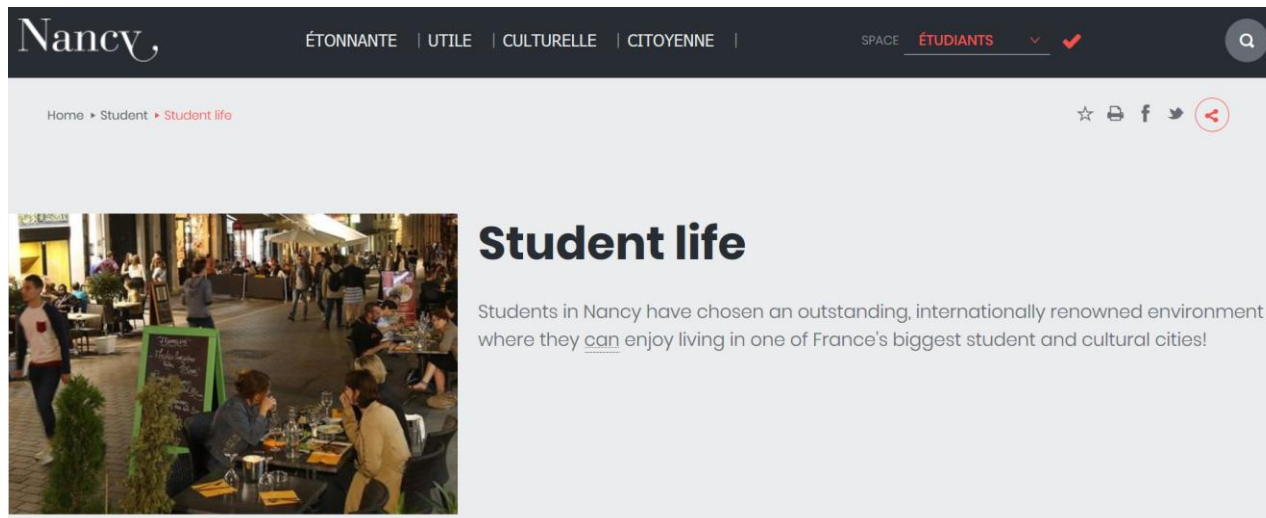*See also AgroParisTech website for more details*
http://www2.agroparistech.fr/Approximate-costs-for-1-study-year

COMMENTS

➤ **Life is cheap in Nancy. AgroParisTech residence is very cheap**

➤ **In France, health is free for students**

IINCOMES

➤ **Scholarships for self paying students**

  ✓ **LABEX ARBRE (2500 Euros, only one semester, application June)**

  ✓ **AgroParisTech foundation (selective, variable amount, application April)**

➤ **In France, internships are granted (the law is 3.9 €/hour so ≈ 3300 euros / internship)**

https://www.nancy.fr/nancy-in-english/student/student-life-1197.html

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Nancy – student events

24H de Stan

Meet the brewers

© Céline Lesot

Aquacité

Sports
Week-end hike
Ski in Vosges
Restaurants
Music
Student nights

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Nancy District – History

Porte de la Craffe (14th century)

Palais ducal (16th century)
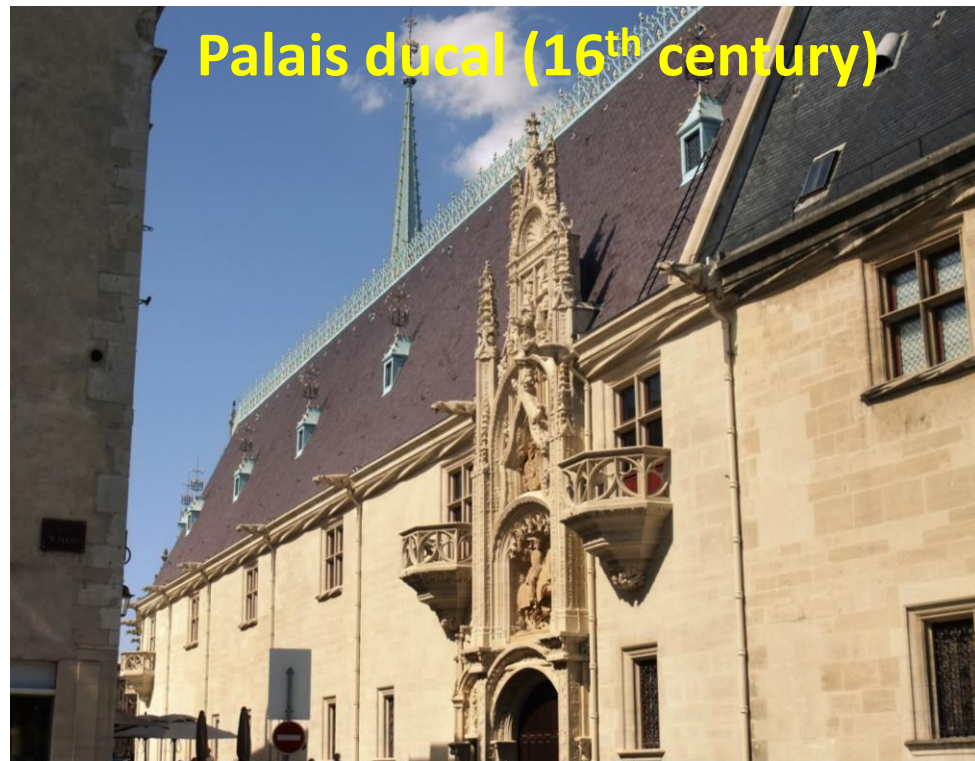
Place Stanislas (18th century)

Nancy District – Green spaces

**La Pépinière, 23 ha
500 m from the campus**

**Plateau de Malzéville,
400 ha
5 km from the campus**

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Your second year in

NANCY

AgroParisTech

Welcome to AgroParisTech

2019

AgroParisTech

5 master majors

➢Plant-environment interactions (in French)

➢Natural ecosystem conservation and restoration (in French)

➢Forest and farm ecosystem management (in French)

➢Wood, forest and sustainable development (in French)

➢**Forests and their environment (FEN) (in English)**

FEN's objectives

➢ **Train experts in the assessment and monitoring of Forest Ecosystems and Ecosystem services**

    ➢ **strong expertise in <u>Ecology.</u>**
- Forest system models
- Statistics
- GIS

    ➢ **Global and local issues in Forestry.**
- Environmental Economics
- Ecosystem service assessments

➢ **Small groups (10 to 15 students; French & Intl.)**

➢ **Many options for pursuing a doctorate degree.**

FEN's schedule

First semester (Sept –Jan)

➢**10 courses (30 ECTS) among them the « project module »**

➢**French course (elective).**

Second semester (Feb – Aug)

➢**A 5 to 6-mo. internship (30 ECTS)**

  ▪ **Data collection, analysis and writing of thesis.**

  ▪ **Defense in early Sep.**

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ECTS

Forest Resource Management

France/Germany ➤ **Forests and forestry in a context of global change (with ALU)** — 3

➤ **Geographical information systems (elective)** — 3

Field course ➤ **Introduction to the forestry context in Eastern France** — 3

Advanced Forest Ecology

➤ **Advanced statistics (elective)** — 3

➤ **Models in forest ecology and management** — 3

➤ **Biogeochemical cycles in forest ecosystems** — 3

➤ **Understanding tree structure and functions** — 3

Field course ➤ **Forest plant communities** — 3

Forest Economics and Policy

➤ **European forests (environmental economics)** — 3

Project module

6

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	ECTS
Forest Resource Management	
➢ Forests and forestry in a context of global change (with ALU)	3
➢ Geographical information systems (elective)	3
➢ Introduction to the forestry context in Eastern France	3
Forest Ecology	
➢ Advanced statistics (elective)	3
➢ Models in forest ecology and management	3
➢ Biogeochemical cycles in forest ecosystems	3
➢ Understanding tree structure and functions	3
➢ Forest plant communities	3
Forest Economics and Policy	
➢ European forests (environmental economics)	3
Project module	**6**

FEN's schedule – project module

2 PROFILES

RESEARCH PROFILE (Individual)

- **Integration into a research lab.**
- **In depth specific academic knowledge.**
- **Specific skills and analysis.**
- **Supervisors are AgroParisTech, INRAE or University supervisors**
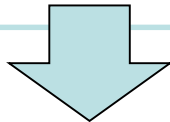
PROFESSIONAL PROFILE (Team)

- **Applied questions.**
- **Actionable projects.**
- **In contact with professional companies and local/european policies**
- **AgroParisTech supervisors and a project group method**
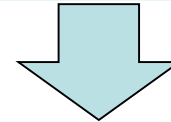
PROJECT REPORT AND DEFENSE

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EXAMPLES 2020-2021

Team project 1 :Impact of climate change on forest flora phenology.

Team project 2 : Diagnosis with local foresters and people of climate change vulnerability of forests in Deodatie area: Application of the living lab approach.

Team project 3 Analysis of the property rights system in forest utilization and adapting it to the forests installed on former agricultural land

3 research profiles :
- **Silvicultural experiments on natural regeneration (SILVA lab, silviculture team)**
- **Economics of forest recreative uses (Economics lab)**
- **Remote sensing and LIDAR (ONF Remote sensing lab)**

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The internship is a <u>PAID (in FR)</u> professional or research experience

- private company.
- public forest organization.
- Research lab.

Leading to a master thesis

An innovative question you have to solve with rigorous methods. In research labs or any institution (but both a supervisor in the host institution and an academic tutor)

HOW ?

➢ **THINK about a topic (the " innovative question") proposed by host institutions.**

➢ **FIND the host institution, in Nancy, in any part of France or abroad. French research is very active on the tropics (CIRAD)**

➢ **IDENTIFY a supervisor in the host institution.**

➢ **PICK an academic tutor.**

We provide help

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See you all here !

Questions ?

Vosges mountains, automn

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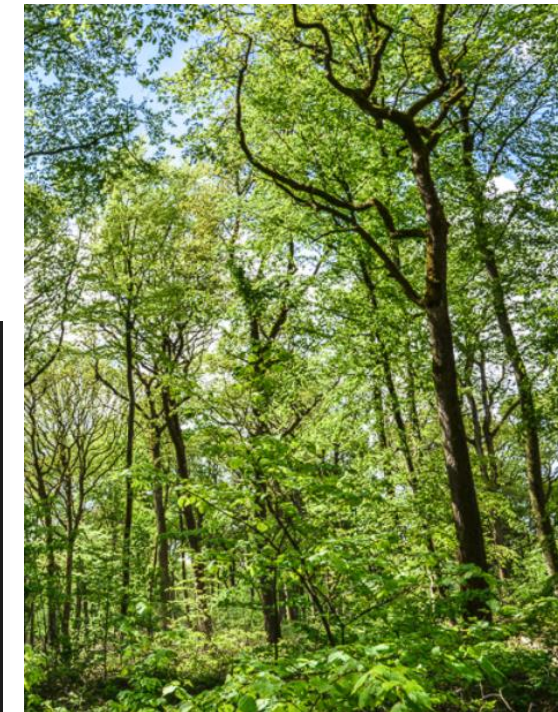# AgroParisTech forests

➢ **Forest of Brin**

➢ **20 km from Nancy**

➢ **600 ha**

➢ **Many issues**

- **Wood production, Oak and beech silviculture**
- **Hunting**
- **Recreation (close to the city of Nancy)**
- **Risks & climate change** (drought, processionary caterpillar)
- **Biodiversity, water management (pond)**
- **History (battlefield of the world wars)**

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Advanced Research on the Biology of TRees and Forest Ecosystems

AgroParisTech — INRAe — UNIVERSITÉ DE LORRAINE — Forêt Privée Française — Office National des Forêts — Crittbois — IGN

4 campuses (in or near Nancy)

135 permanent researchers & teachers , 110 phd students & post-doc.

6 academic research units (INRA, AgroParisTech, Université de Lorraine)

1 research unit for forest inventory (NFI – IGN)

2 R&D departments, of Forest National Office, of private forest organizations.

1 Center of wood technology transfer & innovation (« CRITT Bois »)

1 « livinglab » (Forest Inn Lab) for entrepreneurship and debates

Several projects with industries, local communities, forest managers, nature conservation, citizens …

Master courses make you meet LabEX staff

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Example of internship

Sanjoy Roy (2018)

Title	**Biomass and mineralomass assessment in forest stands intensively managed for fuel wood**
Host institution	**INRA** **BEF Lab (**Biogeochemical cycles in forest ecosystems**)**
Supervisor	**Dr. Jean-Michel LEBAN, Dr Laurent SAINT-ANDRÉ**
Academic tutor	**Dr. Bruno FERRY**

Sanjoy is now pursuing a doctorate degree

Example

Lea Darquié (2018)

Title	**Effects of harvesting on composition, structure and growth of a maple-birch forest in Ontario, Canada**
Host institution	**Canadian Forest Service, Great Lakes Forestry Centre**
Supervisor	**Dr. Paul HAZLETT**
Academic tutor	**Dr. Daniel EPRON**

Léa is now pursuing a doctorate degree in Canada

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