

Your second year track in AgroParisTech, Nancy, France

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***Paris Institute of technology
for life, food and
environmental sciences***

Campus of Nancy

AgroParisTech – key figures

**Ranked 4th world wide and 2nd European wide
in the field of "Agriculture & Forestry" in QS Top
Universities ranking 2019**

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

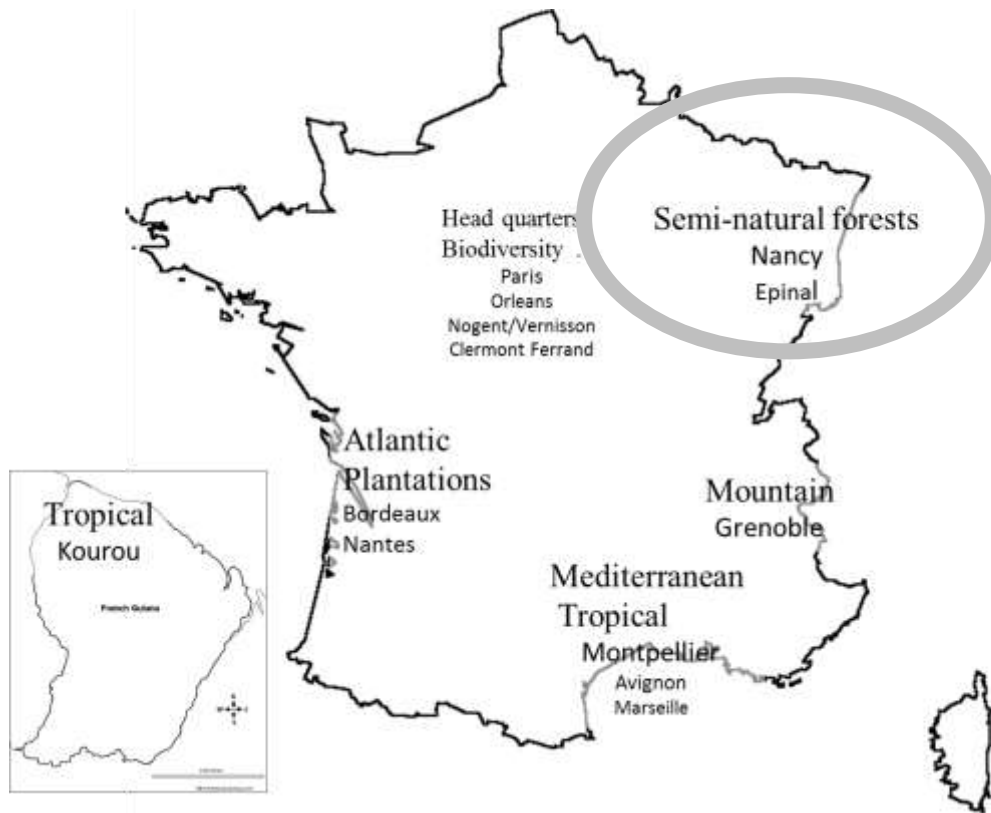
24 research groups

750 ha of experimental forests



Nancy coordinator of forest research and high education throughout AgroParisTech

Forestry and forest science in France



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



AgroParisTech Nancy - research



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 –**



Research facilities

Field facilities



Eddy flux tower of Hesse (57)

Silvicultural experiments



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



Mobile platform M-POETE

THE COMPUTREE PLATFORM

Processing LIDAR 3D point clouds



Credit logo Computree - Pierre Géloup (INRA Huesse)

Computree Computree is a processing platform for 3D point clouds, obtained with LIDAR or photogrammetry. It aims to regroup algorithms for forest metrics 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



French Forest Sector Model: version 1.0.

Presentation and theoretical foundations

Student residence

On-site residence in Nancy

- 76 rooms
- 12 studios
- Priority given to foreign students
- Monthly rent for a room \approx 185 €



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**

Welcome to international students

Nancy, ÉTONNANTE | UTILE | CULTURELLE | CITOYENNE | SPACE **ÉTUDIANTS**

Home » Student » **Student life**



Student life

Students in Nancy have chosen an outstanding, internationally renowned environment where they can enjoy living in one of France's biggest student and cultural cities!



International students

Welcome to Nancy! Here you can find information and advice to help you settle in the Capital of Lorraine !



Student life

Students in Nancy have chosen an outstanding, internationally renowned environment where they can enjoy living in one of France's biggest student and...

Student associations

One of Nancy's major assets is the dynamism of its student associations. More than 160 associations of a general nature or affiliated to a particular...

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

Nancy – student events

24H de Stan



Meet the brewers

Aquacité



***Sports
Week-end hike
Restaurants
Music
Student nights***

Nancy District – History

Porte de la Craffe (14th century)



Palais ducal (16th century)



Place Stanislas (18th century)



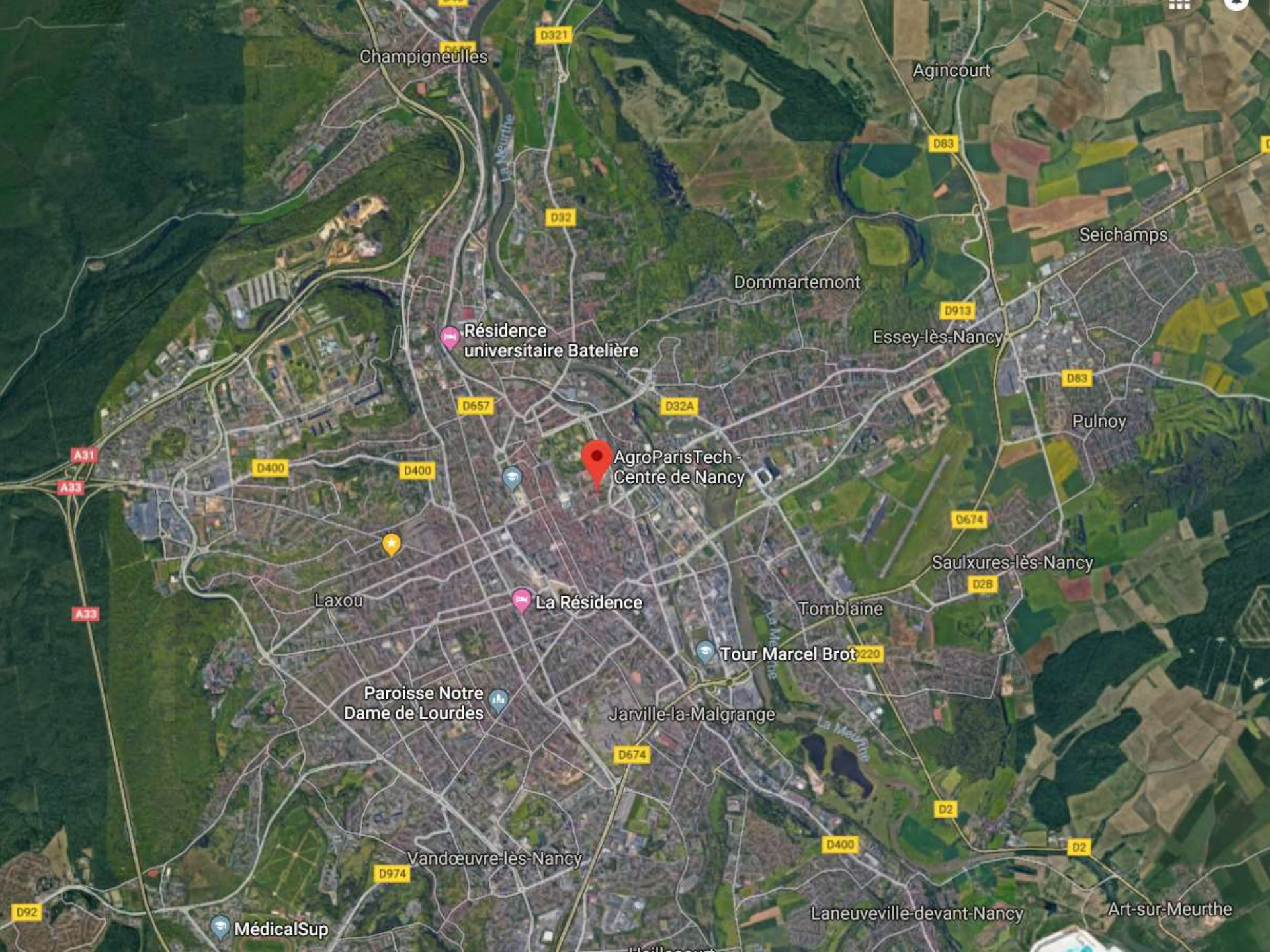
Nancy District – Green spaces



La Pépinière, 23 ha
500 m from the campus

Plateau de Malzéville,
400 ha
5 km from the campus





Champigneulle

Agincourt

Seichamps

Dommarthemont

Essey-lès-Nancy

Pulnoy

AgroparisTech -
Centre de Nancy

Saulxures-lès-Nancy

Laxou

La Résidence

Tomblaine

Tour Marcel Brot

Paroisse Notre
Dame de Lourdes

Jarville-la-Malgrange

Vandœuvre-lès-Nancy

Laneuveville-devant-Nancy

Art-sur-Meurthe

MédicalSup

Your second year in

NANCY

Welcome to AgroParisTech

2019

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 Ecology.**
 - 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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FEN's schedule – 1st semester

Forest Resource Management

ECTS

German/French ➤ 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

Student Project

6

FEN's schedule – Field courses



FEN's schedule – (1st sem.)

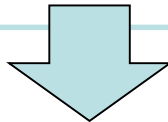
	ECTS
Forest Resource Management	
➤ Forests and forestry in a context of global change (with ALU)	3
➤ Geographical information systems (elective)	3
➤ Introduction to the forestry context in Eastern France	3
Forest Ecology	
➤ Advanced statistics (elective)	3
➤ Models in forest ecology and management	3
➤ 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

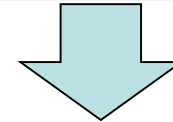
RESEARCH PROFILE (Individual)

- Integration into a research lab.
- In depth specific academic knowledge.
- Specific skills and analysis.
- Integration in a research group



PROFESSIONAL PROFILE (Team)

- Applied questions.
- Actionable projects.
- In contact with professional companies.
- An AgroParisTech supervisor and a project group method



PROJECT REPORT AND DEFENSE

FEN's schedule – project module

EXAMPLES 2019-2020

Team project 1 : 2019 fir dieback in Doller valley – answers to questions of local authorities (LABEX ARBRE, ecology lab, national forest office)

Team project 2 : Assessment of the EASYFORCLIM model, a support to decision tool based on forest ecology and economics made for forest owners to adapt forest to climate change (GIP ECOFOR, economics lab)

Team project 3 Extending the application of the Private Property Rights Index in Forestry and analysing its explanatory value as governance indicator (AgroParisTech)

One research profile (Ignatius Kristia) : confocal microscopy applied to wood formation study (Lab Silva in INRAE)

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Internship and master thesis (2nd s.)

The internship is a **PAID (in FR)** professional or research experience

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

Leading to an internship thesis

An innovative question you have to solve with rigorous methods. In research labs or any institution (but with an academic tutor)

HOW ?

- **FIND** a topic (an innovative question) proposed with the host institution.
- **SELECT** host institution, in Nancy, in any part of France or abroad.
- **IDENTIFY** a supervisor in the host institution.
- **PICK** an academic tutor.

We provide help

See you all here !

Questions ?

Vosges mountains, autumn

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)



AgroParisTech Nancy - research



Laboratoire d'excellence

ARBRE

Advanced Research on the Biology of TRees and Forest Ecosystems



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

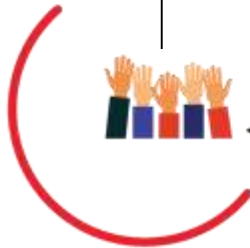
FEN's schedule – project module

TEAM PROJECT STRUCTURE

**Bibliography synthesis
(selection of indicators
and studied region)**



**Impact of forest
management on wood
energy biomass and
biodiversity in Grand
Est France**



**Discussion and
communication with
professionals (NFI,
Coopératives Forestières,
MNHN)**

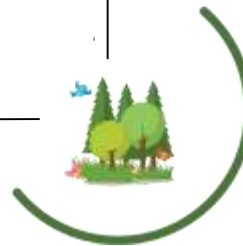
NFI Database
extraction (Acces/GIS)



Estimation of potential
wood energy volume per
forest management
modality
(R)

**Potential wood energy
volume and forest
management**

Analyses (effects of forest managements types &
wood energy volume (taking into account
environnemental factors, private/public forests...)
(GIS; R)



**Biodiversity and patrimonial
value associated to forest
management**

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
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Host institution	Canadian Forest Service, Great Lakes Forestry Centre
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Supervisor	Dr. Paul HAZLETT
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Academic tutor	Dr. Daniel EPRON
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Léa is now pursuing a doctorate degree in Canada