



FORESTS AND THEIR ENVIRONMENT



A 2nd-year international
MSc major



Nancy, FRANCE



Decipher the organization, functioning and dynamics of temperate forest ecosystems and develop quantitative tools for their sustainable management in a context of global environmental changes...



Joint MSc program of
Université de Lorraine & AgroParisTech

Forests and their Environment

Concept and objectives

This MSc major (M2) offers a broad perspective and in-depth training on the organization, functioning and dynamics of European forests, providing a basis to address challenges arising from the environmental constraints and human uses of forests.

The objective is to prepare for 1) **professional careers in R&D or expert positions on the environmental diagnosis and management of forest ecosystems** in private/public national/international institutions, 2) **scientific careers in research institutions conducting programs in forest ecology and management**.

✓ **An introductory session** gives an overview of these forests in the framework of Sustainable Forest Management and its implications.

✓ The core of the major provides **fundamental and applied knowledge on the organization, functioning and dynamics of forest ecosystems** and communities, including tree physiology, biogeochemistry, ecology, and genetics. A specific emphasis is placed on the interaction between forest ecosystems and their environment, including global change issues.

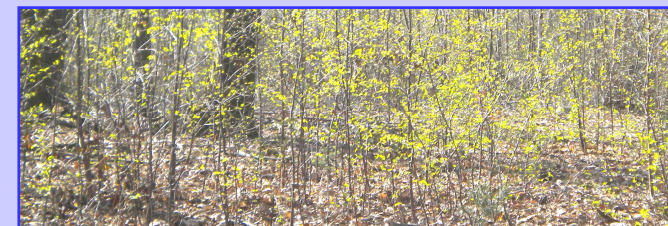
✓ **A 'tools & methods' session** provides knowledge and training on the **major quantitative tools of ecosystem observation and experiment analysis**, including GIS, statistics, and modelling, in a forest ecosystem context. This session is complemented with a **literature synthesis project**.

Institutional framework and connection to research

The MSc program provides a **research-driven approach** to the understanding and management of forest ecosystems, supported by >30 professors and senior scientists from 9 research labs of Nancy and Lorraine, from UL, AgroParisTech and INRA. Involved in 7 of these laboratories, **INRA (www.nancy.inra.fr) is an important contributor of this major** and provides updated and broadened perspective on current forest ecosystem research.

In addition to the balance between fundamental and practical/methodological knowledge, **external contributors from institutions in charge of forest R&D and forest management** will also provide a connection to applied and management forestry issues, and ensure both a professional and academic education.

The *Forests and their Environment* major has been **rated A-level (highest mark) by the Evaluation Agency for Research and Higher Education (AERES)**



Master curriculum

The **first semester (S9)** relies on **10 compulsory training units** for a total of **30 ECTS credits**. Training units are as follows:

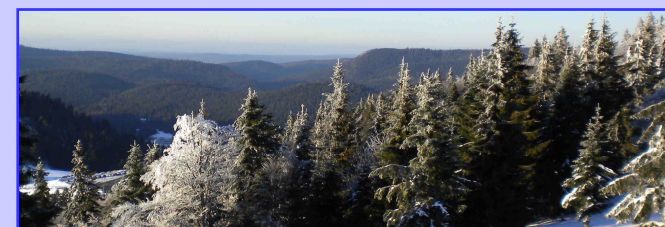
Fundamental and applied knowledge

- 1 *European forests, sustainable forest management, certification*
- 2 *Understanding tree structure and functions*
- 3 *Biogeochemical cycles in forest ecosystems*
- 4 *Dynamics of forest plant and tree communities*
- 5 *Forests and forestry in a context of global change*
- 6 *Genetic resources in forest ecosystems and forestry*

Tools and methodology

- 1 *Literature synthesis project*
- 2 *GIS analysis in forest ecology and management*
- 3 *Advanced statistics for forest science and forest ecology*
- 4 *Modelling for forest research and management*

The **second semester (S10)** is dedicated to an **internship of a duration of >20 weeks** evaluated by a written dissertation and an oral defence for **30 ECTS credits**. The internship takes place in either a research laboratory or in institutions, societies or associations of relevant fields of application. Internships can be proposed by students.

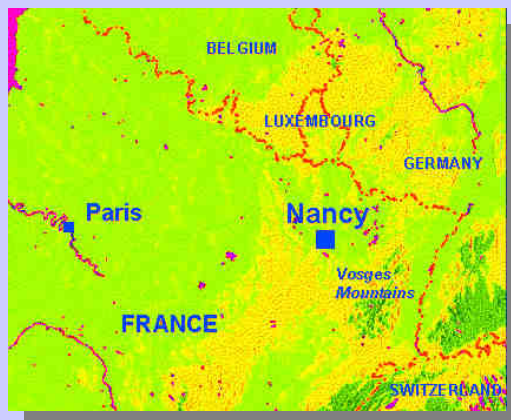


UNIVERSITÉ
DE LORRAINE

AgroParisTech

Want to study abroad in Europe?

Come to Nancy!



✓ An urban area of >400.000 inhab and >50.000 students (University of Lorraine and 10 higher Engineering schools)

✓ Easily accessible from Paris by the TGV high speed train (1h30), and close to several European countries

✓ Nancy has a great building heritage (inscribed on the UNESCO list) including the *Art Nouveau* period, and is surrounded by forests and hills, apt for recreational activities

✓ Many cultural and entertainment events occur throughout the year (e.g. *NJP Jazz festival*, *le Livre sur la Place* book fair).

More info at: www.nancy-tourisme.fr



European/International partnerships

* **Université de Lorraine, AgroParisTech and INRA are members of the NFZ forest network** (Nancy–Freiburg–Zürich) for higher education and research (www.nfz-forestnet.org).

* **AgroParisTech belongs to the European consortium of the Erasmus Mundus MSc European Forestry** and offers the major *Forests and their Environment* as the educational support for the 2nd year (www.uef.fi/europeanforestry).

* **INRA and AgroParisTech are members of the European Forest Institute (EFI). The Observatory for European Forests (OEF) regional office of the EFI is located in Nancy** (www.eficent.efi.int/portal/oef/).

* International network opportunities further arise from **international research collaborations of the labs of Université de Lorraine, AgroParisTech and INRA**, involved in this major.



Application and Admission

The *Forests and their Environment* major seeks to recruit 15 students on selective bases.

Depending on their education, applicants should justify a **1st-year MSc level (M1) or a master's degree or equivalent (M2)**, as acknowledged in the EHEA (European Higher Education Area), and educational background in the fields of **forestry, plant science, ecology, eco-physiology, or environmental science...**

A **B2 level of English** is required. See the self-assessment grid of Common European Framework of Reference (CEFR) at: <http://europass.cedefop.europa.eu/en>. **Equivalent qualifications** are: IELTS >5, TOIEC >700, TOEFL IBT > 90, or Cambridge FCE.

Applications should include 1) the **Europass** documents (<http://europass.cedefop.europa.eu/en/documents>), 2) **marks** obtained over the **previous educational year**, 3) a **letter of application**, and 4) **one letter of recommendation from a senior professor/scientist** of earlier educational courses/internships.

Application deadline is May 30 of each year.

Contact and Information

Jean-Daniel BONTEMPS - AgroParisTech (www.agroparistech.fr)
Associate-Professor in Forest Science
e-mail: jean-daniel.bontemps@agroparistech.fr

Daniel EPRON – University of Lorraine (www.univ-lorraine.fr)
Professor in Plant Ecology and Ecophysiology
e-mail: daniel.epron@univ-lorraine.fr

Managing secretariat: Isabelle GREIBER – AgroParisTech
e-mail: isabelle.greiber@agroparistech.fr

Addresses:
AgroParisTech – Centre de Nancy
14 rue Girardet – CS 14216
F-54042 Nancy Cedex

Université de Lorraine
Faculté des Sciences et Technologies
Boulevard des Aiguillettes - BP 70239
F-54506 Vandœuvre-les-Nancy

