Collaborations between METLA & INRA

EFPA Research Department

Forest, Grasslands and Freshwaters Ecology

Present situation and perspectives

Finnish-French bilateral Forest Meeting Abbaye de Sorèze 9-11 mars 2010



Forest research at INRA A network of more than 20 research units

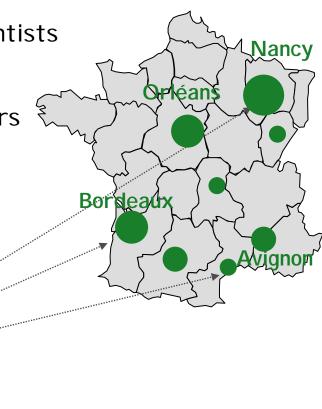
About 380 permanent staff from INRA ...

including nearly 180 researchers (scientists & engineers)

Kourou

 ... plus around 50 associated researchers (professors, lecturers, scientists, engineers from other organizations)

 ... plus around 120 PhD students and postdoctoral fellows



Present collaborations, from occasional to structural (1)

- ✓ Cost action E38 (woody root processes). Biogeochemical cycles in pine stands. and Cost action FP0803 'Belowground Carbon turnover in European forests (from May 2009, fine root turnover, oligotrophic forest ecosystems). TCEM Bordeaux
- √ Phenology and crown conditions in ICP sites (forest monitoring, common expertise EEF Nancy Punkaharju Research Station)

 http://www.metla.fi/eu/icp/phenology/index.htm).
- ✓ Co-operative mycorhizal fungi project (Norway Spruce). New research direction at Metla controlled mycorrhization of spruce plantations. "Development of commercial inoculum of spruce growth promoting ectomycorrhizal fungi" With IaM Nancy.
- ✓ Emerging deseases, rodents as reservoirs of zoonoses. (EDEN FP6, Eden-next application under assessment). Heikki Henttonen (Metla + Haartman institute) with CBGP Montpellier.

Present collaborations, from occasional to structural (2)

- ✓ Structure function modelling of trees (light interception, hydraulic function, growth). AMAP Montpellier, Ephyse Bordeaux
- ✓ Influence of climatic factors on wood formation dynamics of temperate and boreal conifers. Wowen project within WoodWisdom ERANET. Collaboration Harri Mäkinen (METLA Vantaa) with LERFOB Nancy.
- ✓ Forest Economy. A Protocol and Database for the Environmental Valuation of French/European Forests. To build a database of existing forest environmental valuation studies.

Starting EU project: NEw Ways to value and market FORest EXternalities (NEWFOREX) - 7 PCRD Collaborative Project.

Collaboration METLA (Liisa Tyrväinen) and LEF Nancy

Present collaborations, from occasional to structural (3)

Genetics and tree breeding, partners in successive EU projects:

INRA Bordeaux - INRA Orléans INRA Avignon INRA Nancy - METLA.

- ✓ NoE EVOLTREE (shared Finnish and French Intensive Study Sites), FP6 (METLA runs ISS in Punkaharju). Which framework after 2010 (committment for lasting infrastructures? EFI Programme?
- ✓ Concerted action TREEBREEDEX (FP6) creation of a (virtual) European Centre of tree breeding, common breeding programmes & data bases. Luc Pâques (INRA Orléans) member of METLA's Scientific Advisory Board.
- ✓ Collaborative project TREESNIPS. Association between molecular and phenotypic polymorphisms.

Perspectives, strengthening the relationships

A relevant and realistic thematic frame

Four research areas in the context of climate change effects

- √ Forest genetics an genomics.
- √ Wood properties & quality (anatomical, physical, chemical, environmental and genetic determinants, modelling)
- ✓ Expanding and emerging diseases and pests.
- ✓ Tree-Mycorrhizae interactions.
- ✓ Bioenergy (to be built)

By which means? Exchange of people, FP7 of EU, Forest based sector Technological platform, cooperation with third parties...

Geographical locations

Forests

Grasslands

Freshwaters

Nancy (120)

Forest and wood resources

Forest Ecology and Ecophysiology

•Forest Ecosystem Biogeochemistry

•Tree-Microorganism Interactions

•Wood as a material

Orléans (70)

•Forest tree breeding, Genetics and Physiology

Forest Zoology

Bordeaux (85)

Biodiversity, Genes and Ecosystems

•Functional Ecology and Environmental

Physics

•Soil-plant Transfer and Nutrition in

Cultivated Forests

Thonon (35)
•Alpine Centre for

Trophic webs in lentic

Ecosystems

Clermont-Ferrand (15)

•Functioning and Management of the

Grassland Ecosystem

Avignon (45)

•Mediterranean Forests

Toulouse (25)

Forest Dynamics
 in Rural
 Environments
 Wildlife Behaviour
 and Ecology

 Botany and Bioinformatics
 Applied to Plant Architecture

Montpellier (20)

French Guiana (15)
•Tropical Rainforest
Ecology

Forest sector based R&D system in France

Ca.400 staff

Basic research

Joint Research Units

Missionoriented research (natural resources and environments)

385 staff



Applied research and development

Operational observation and monitoring systems

- Universities (Nancy, Bordeaux, Orléans...)
- CNRS, National Center for Scientific Research
- MNHN, National Museum of Natural Sciences

Ca.400 staff

- AgroParisTech ENGREF : State School of Agriculture, Water Management and Forestry.
- CIRAD, Centre of International Collaboration on Agronomic research Development
- CEMAGREF, Research Inst. of Agriculture and Environment Engineering
- IRD, Research Institute for Development
- ONF, National Forest Office
- IDF, Institute of Forest Development
- AFOCEL, Association Forêt-cellulose
- FCBA, French Institute of Technology for forest based and furniture sectors
- IFN, National Forest Inventory
- DSF, Forest Health observation network

Forest sector based R&D system in France

R&D coordination structures

- •ECOFOR, Public Interest Group that co-ordinates research on functioning of forest ecosystems, forest management and monitoring.

 Network of nine scientific and professional organisations (IFN, INRA, CEMAGREF, IDF, CIRAD, CNRS, ENGREF, ONF).
- •FTP/NSG France. National support group France of the Forest-Based Sector Technology Platform (CTP, FCBA, IDF, ECOFOR, INRA).