



MEDfOR

Specialization on
Adaptive forestry strategies to
provide good and services
while coping with global
change challenge

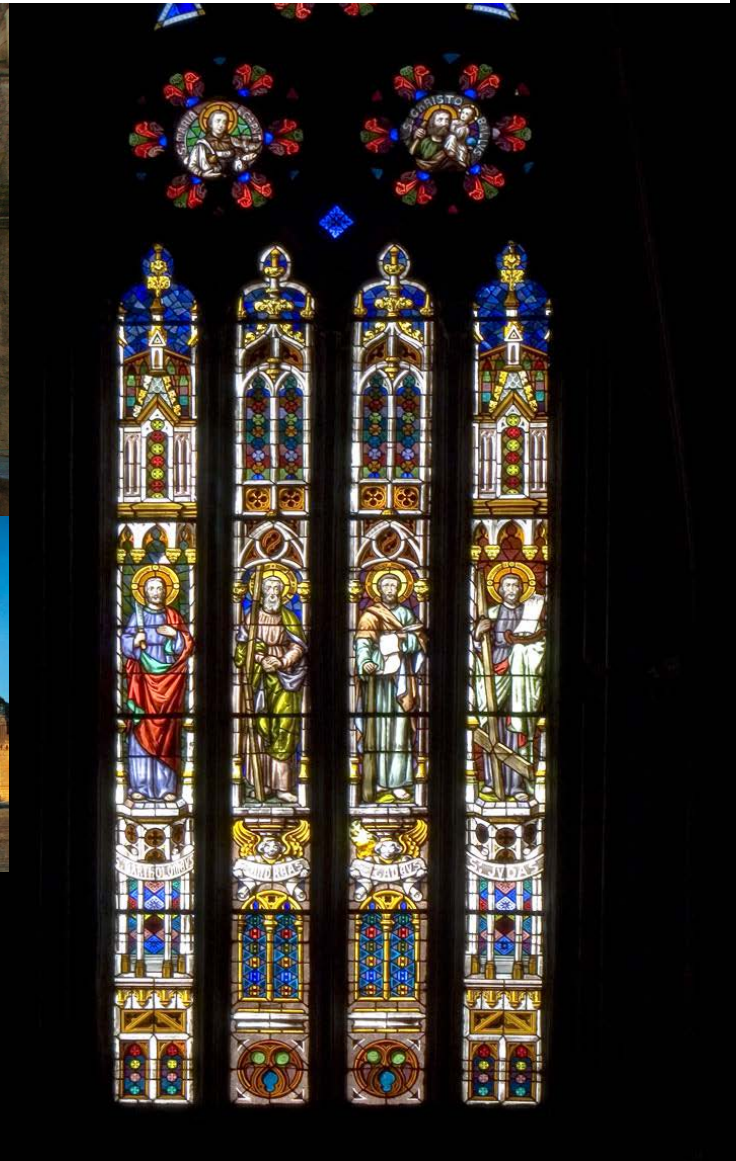
University of Valladolid, Spain



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Heritage



MEDfor

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University of Valladolid, Spain

Magnificent nature



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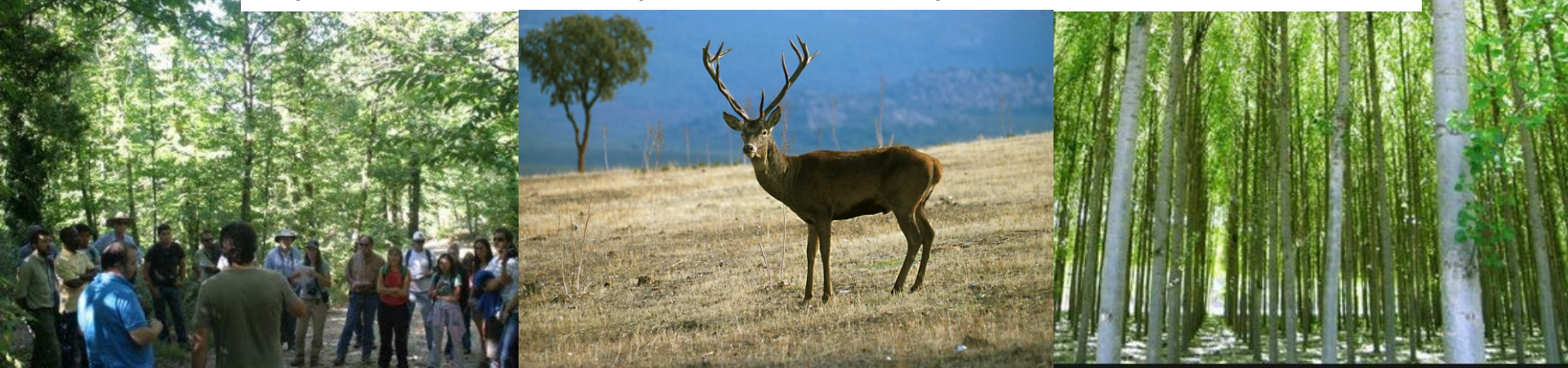
University of Valladolid, Spain



Great diversity of forest ecosystems and plantations



Experience on multiple functionality and risks



ERASMUS MUNDUS MSc *in* Mediterranean Forestry and Natural Resources Management



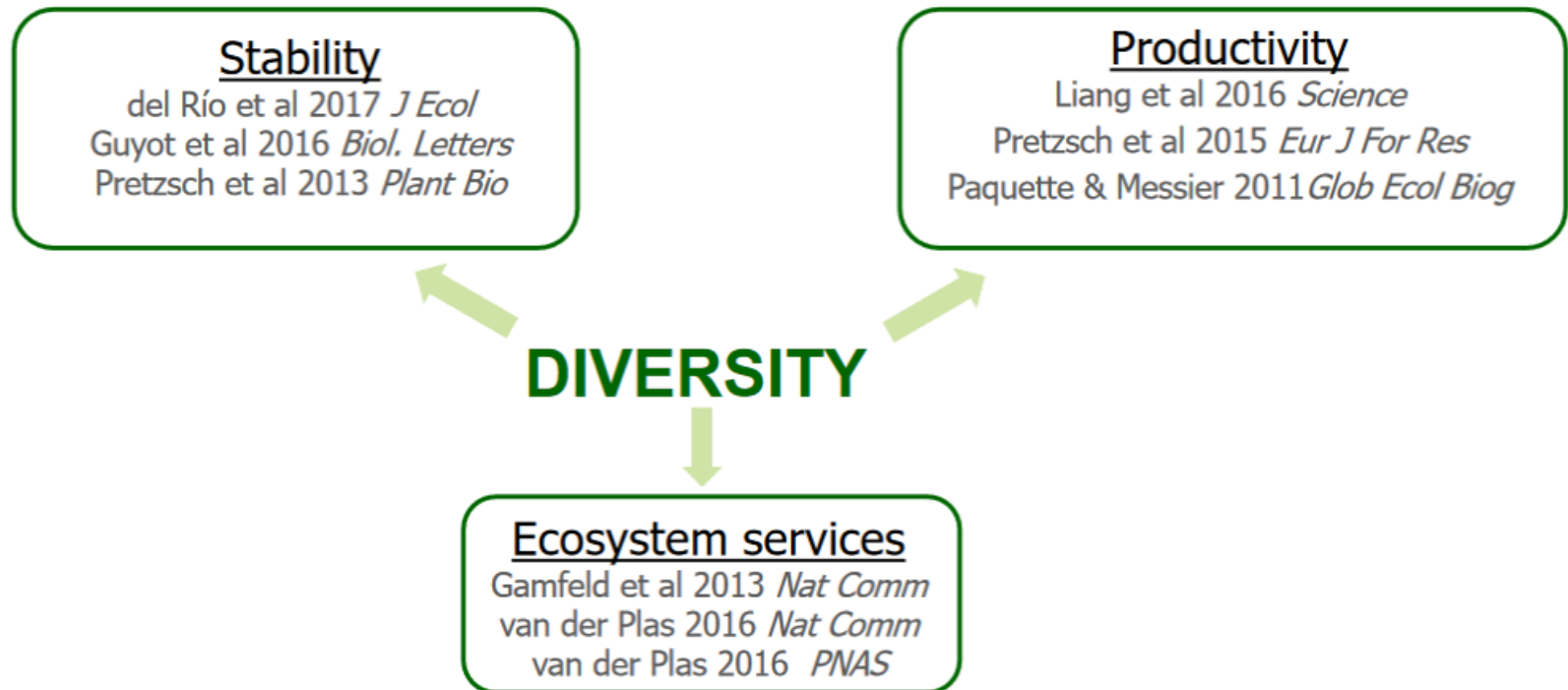
Adaptive forestry
strategies to provide
good and services while
coping with global
change challenge

- **Four courses and a seminar**
practical examples and cases study approach.

Specialization: Adaptive forestry strategies

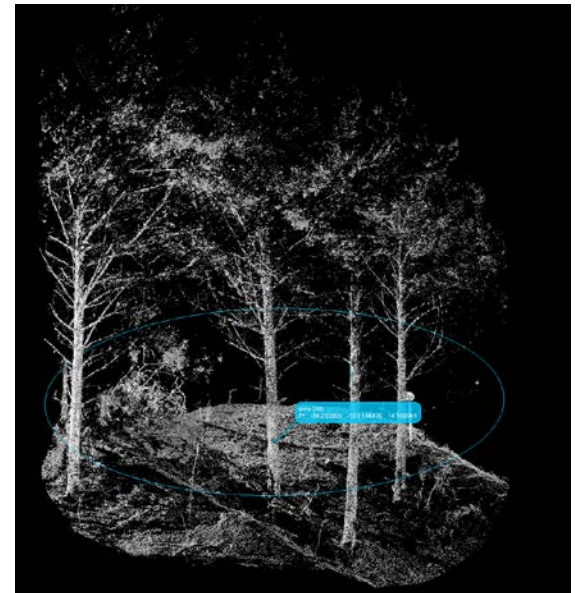
1. Silviculture under multifunctional objectives (6 ECTS)
2. Genetic resources conservation and Molecular Markers (6 ECTS)
3. Forest pest and diseases (6 ECTS)
4. Geo-Statistical Analysis (6 ECTS)
5. Learning by doing in forestry: New tools for new challenges (6 ECTS)

Specialization: Adaptive forestry strategies



Specialization: Adaptive forestry strategies

MASTER ON FOREST MANAGEMENT BASED ON DATA SCIENCE



Course: Silviculture under multifunctional objectives

Focused on *Bioecological scientific principles as basis for the management of Mediterranean forests.*

Special emphasis on *Non woody productions, Wildlife, Water, Risk prevention*



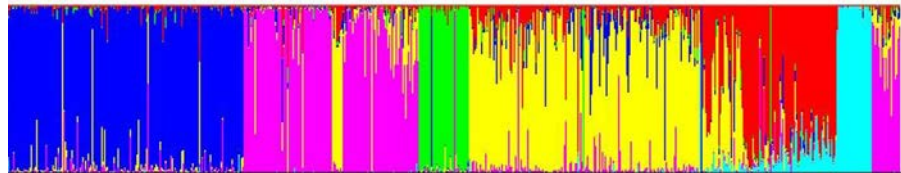
Subjects

- **Silvicultural diagnostic** of the forest ecosystem
- Tools for evaluate the **impacts and effects** of the silviculture on the forest ecosystem
- **Design silvicultural treatments** to attain specific objectives

Course: Genetic Resources Conservation and Molecular markers

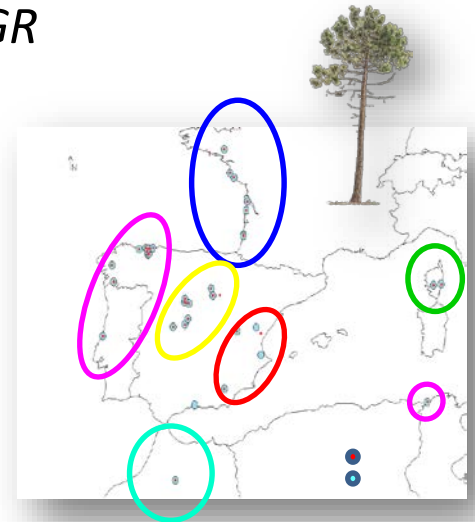
Focused on

- i) Main problems and strategies for conservation and use of FGR*
- ii) Molecular tools to measure diversity and support decisions*



Subjects

- ✓ Evaluate the **need of conservation** of particular GR
- ✓ Decide the **strategy of conservation and use**
- ✓ Choose the **molecular tools** suitable to identify genotypes and measure diversity in forest species



Course: Forest Pest and Diseases

*Focused on
identification, diagnostic and sustainable management of most relevant Forest Pest
and Diseases in Mediterranean ecosystems*

Subjects

- ✓ **Biology and dynamics** of main native and invasive insects
- ✓ **Sustainable management** of forests pest by semiochemicals
- ✓ **Biological control** of forest pests
- ✓ **Diagnostic of abiotic and biotic pathogens**
- ✓ **Management** the main forest pathogens from the Mediterranean forest



Course: Geo-Statistical Analysis

Focused on

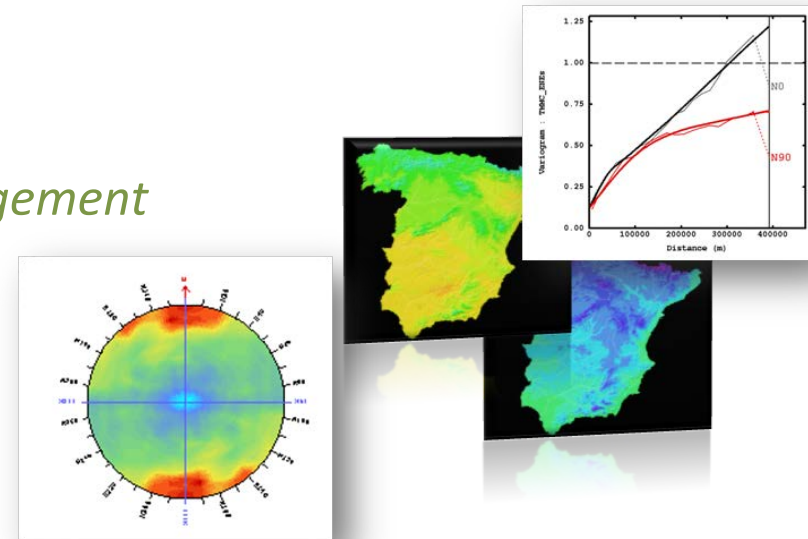
Geo-statistical analyses applied to forest management

Data gathering (LiDAR, UAVs, Copernicus)

Q-GIS & R packages

Subjects

- ✓ **Visualizing and exploring spatial data**
- ✓ **Point pattern analysis with “R”**
- ✓ **Unmarked, Multitype and marked point patterns**
- ✓ **Geostatistics: Univariate structural analysis and spatial prediction**
- ✓ **Geostatistics: Bivariate structural analysis and spatial prediction**
- ✓ **Spatial regression**
- ✓ **Data gathering: LiDAR (ALS, TLS), UAVs (Drones) and Copernicus**



Learning by doing in forestry: New tools for new challenges

*Focused on
Adaptive forest management*

Subjects



- ✓ **Identify the main impacts of global change** on forestry and its opportunity to **mitigate** the Global Change effects
- ✓ Use different **quantitative approaches** to evaluate, monitor and design silvicultural methods
- ✓ Elaborate **models** to project silvicultural paths
- ✓ **Design experiments** to obtain useful information to operational forestry

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Spanish language course



Curso académico
PRIMAVERA/OTOÑO

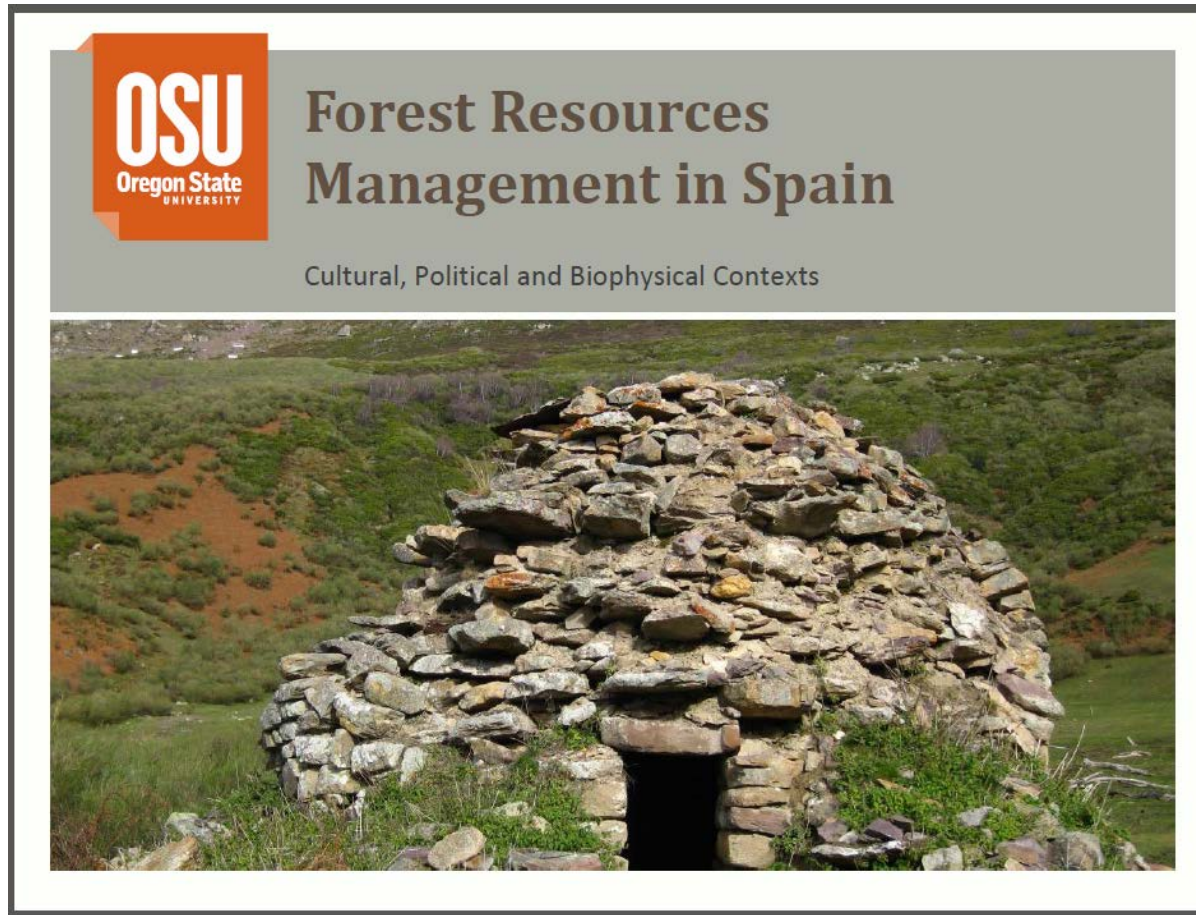
Field trip jointly with other Masters #DataForest, Montes...

Les Landes (France)

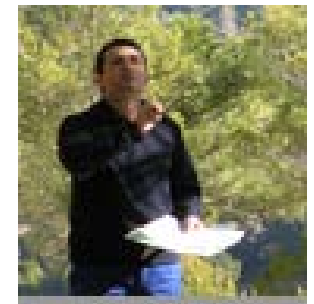
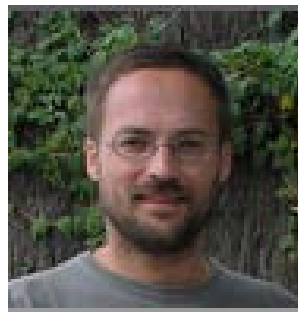
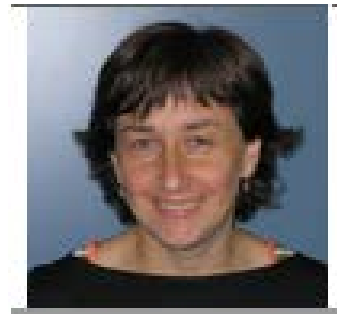
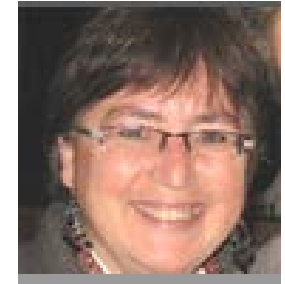
EFI Forest
plantations
facility, INRA,
Bordeaux
Agriculture and
Forestry School...



Field trip jointly with Oregon State University



A highly qualified and motivated
Research & Education Staff: UVa-
INIA



Internships on different forest situations (ecosystems and social dimensions)



föra
forest technologies



Internships on different forest situations (ecosystems and social dimensions)



**International
Model Forest
Network**

***Internships** on different forest situations (ecosystems and social dimensions)*



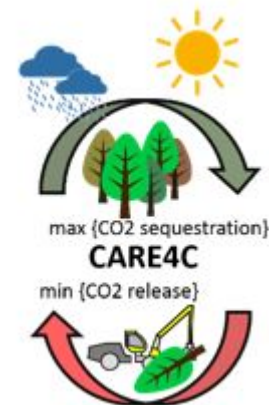
EFI

Connecting knowledge to action

















The European Forest Institute is an international organisation established by European States. We conduct research and provide policy support on forest-related issues, connecting knowledge to action.

Internships on different forest situations (ecosystems and social dimensions)

















<http://www.care4c.eu/>

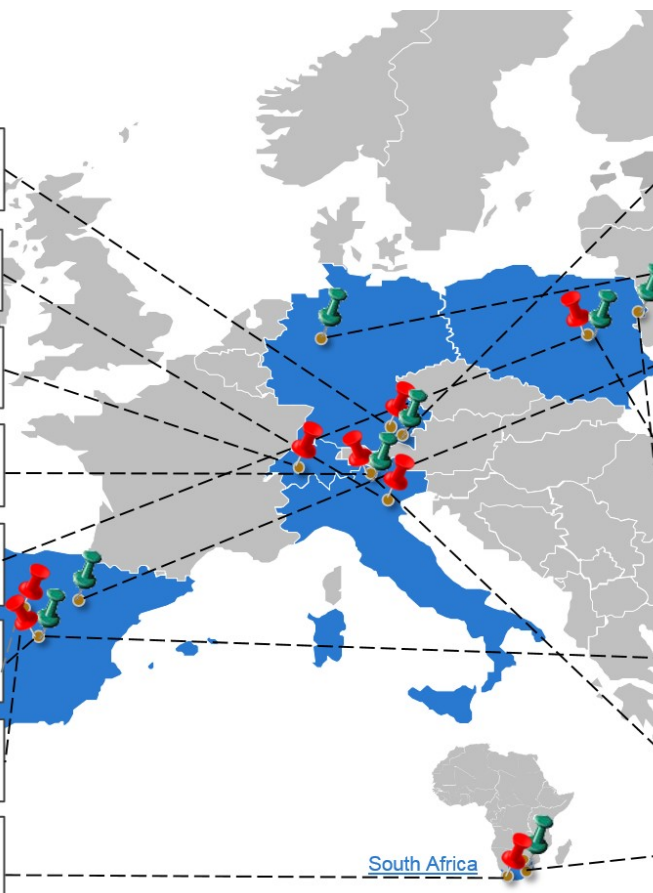


Academic sector

- B1 (TUM): Technische Universität München [CO]**
 
- B2 (UP): University Padova**
 
- B3 (HAFL): Berner Fachhochschule**
 
- B4 (UNIBZ): Free University Bolzano**
 
- B5 (SGGW): University Warsaw**
 
- B6 (INIA): Nat. Inst. for Agriculture & Food Research & Technology**
 
- B7 (UVA): University Valladolid**
 
- P1 (SU): Stellenbosch University**
 

Non-Academic sector

- B8 (FETS): Forest Enterprise Traunstein**
 
- B9 (FBZ): Landesbetrieb Wald und Holz NRW**
 
- B10 (FORA): FÖRA Forest technologies**
 
- B11 (LASZ): State Forest Poland**
 
- B12 (BPN): Białowieża National Park**
 
- B13 (AG): Agresta S. Coop**
 
- B14 (PB): Province of Bolzano, Italy**
 
- P2 (HM): Merensky Timber, South Africa**
 



South Africa

Carbon matters in Forests – Participants of the CMF consortium

Internships on different forest situations (ecosystems and social dimensions)



<http://bioecon.eu/>



Sustainability
effective and long-lasting

Caring for the future



Internationalization
diverse and multi-cultural

Capacity for students and staff



Investment in Sustainable
Forestry
organic and sustainable

Bridging economy and ecology

Internships on different forest situations (ecosystems and social dimensions)



Ethiopian Environment and Forest Research Institute
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Internships on different forest situations (ecosystems and social dimensions)

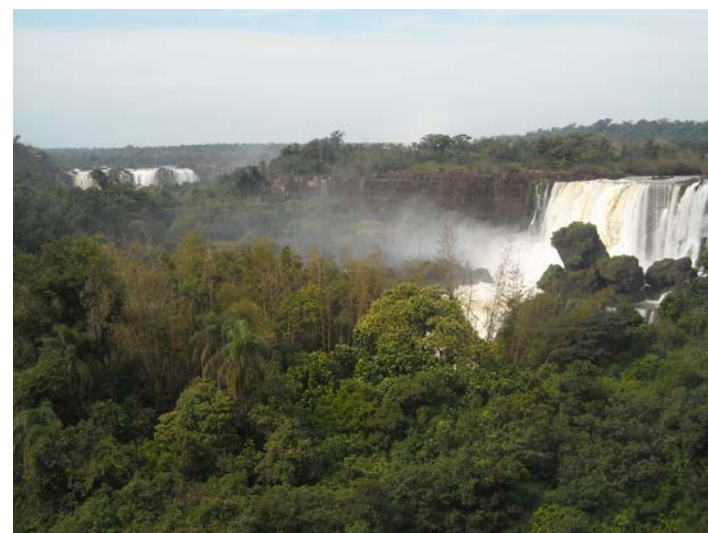
TROPICAL Forests



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NACIONAL
DE COLOMBIA



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HAWASSA UNIVERSITY



MASTER THESIS (30 ECTS)

Forest risks & protection:
Fires, pests, diseases

Silviculture:
Biodiversity, REDD+,
Mushrooms,...

Modelling:
Growth, Spatial analysis,
Cloud computing

Genetics

Social forestry

Acción COST FP1406: PINE pitch canker: STRategies for managEmEnt of Gibberella circinaTa in greenHouses and forests (PINESTRENGTH)



COST es una red Europea intergubernamental de coordinación de la investigación científica y técnica, abierta a todas las disciplinas, cuyo objetivo fundamental es fortalecer la investigación europea por medio de la cooperación y colaboración de investigadores europeos. Esta línea de proyectos ha aprobado recientemente una nueva Acción COST "PINESTRENGTH" dentro del Dominio "Forest, their Products and Services (FPS)", la cual está liderada por el grupo de Patología Forestal del Instituto Universitario de Gestión Forestal Sostenible (UVA-INIA) ubicado en la Escuela Técnica Superior de Ingenierías Agrarias de Palencia.



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Social forestry



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www.simanfor.eu

Support system for simulating Sustainable Forest Management Alternatives

Inventories

Start session



TreeCollect
Android app



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Mushrooms,..

Modelling:

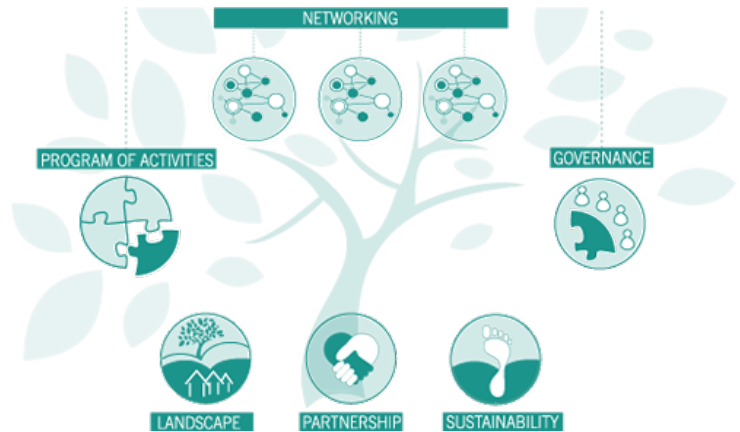
Growth, Spatial analysis,
Cloud computing

Genetics

Social forestry

MODEL FOREST

Landscape level approach process



International
Model Forest
Network



Gestión del monte: servicios ambientales y bioeconomía



26 - 30 junio 2017

Plasencia
Cáceres, Extremadura

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And beyond the Master Thesis...



EUROPEAN FOREST INSTITUTE



Oregon State
UNIVERSITY



INTERNATIONAL UNION
OF FOREST RESEARCH
ORGANIZATIONS



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HAWASSA UNIVERSITY



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**See you back in
Palencia!!**

Thanks

