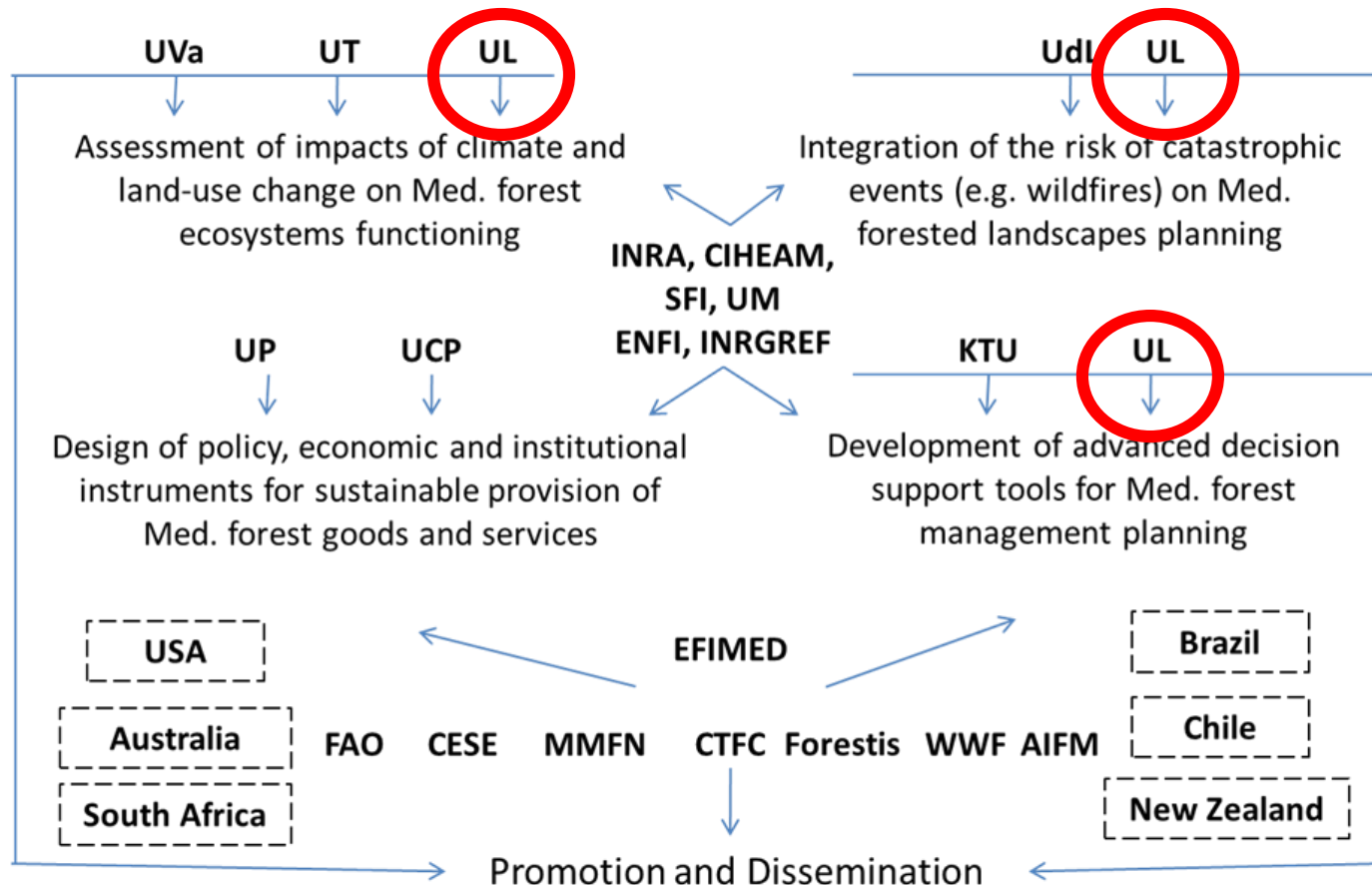


Multiple criteria decision support systems for Mediterranean forest management planning



Where does it fit within the MEDfOR Programme?

Consortium complementary roles in providing and disseminating knowledge in the core specialization areas of interest within MEDfOR



What are the learning outcomes and skills?

✓ **The question you will be asked in your professional life:**

✓ How should I manage my forest holding, landscape, park?

✓ To get revenues

✓ To decrease vulnerability to wildfires

✓ To sequester carbon

✓ ...

✓ In a context of environmental, budget,... constraints

✓ **The specialization will provide you with the learning outcomes and skills to answer this question – your answer will include:**

✓ An adequate schedule / plan of management options to implement in the holding, landscape, park

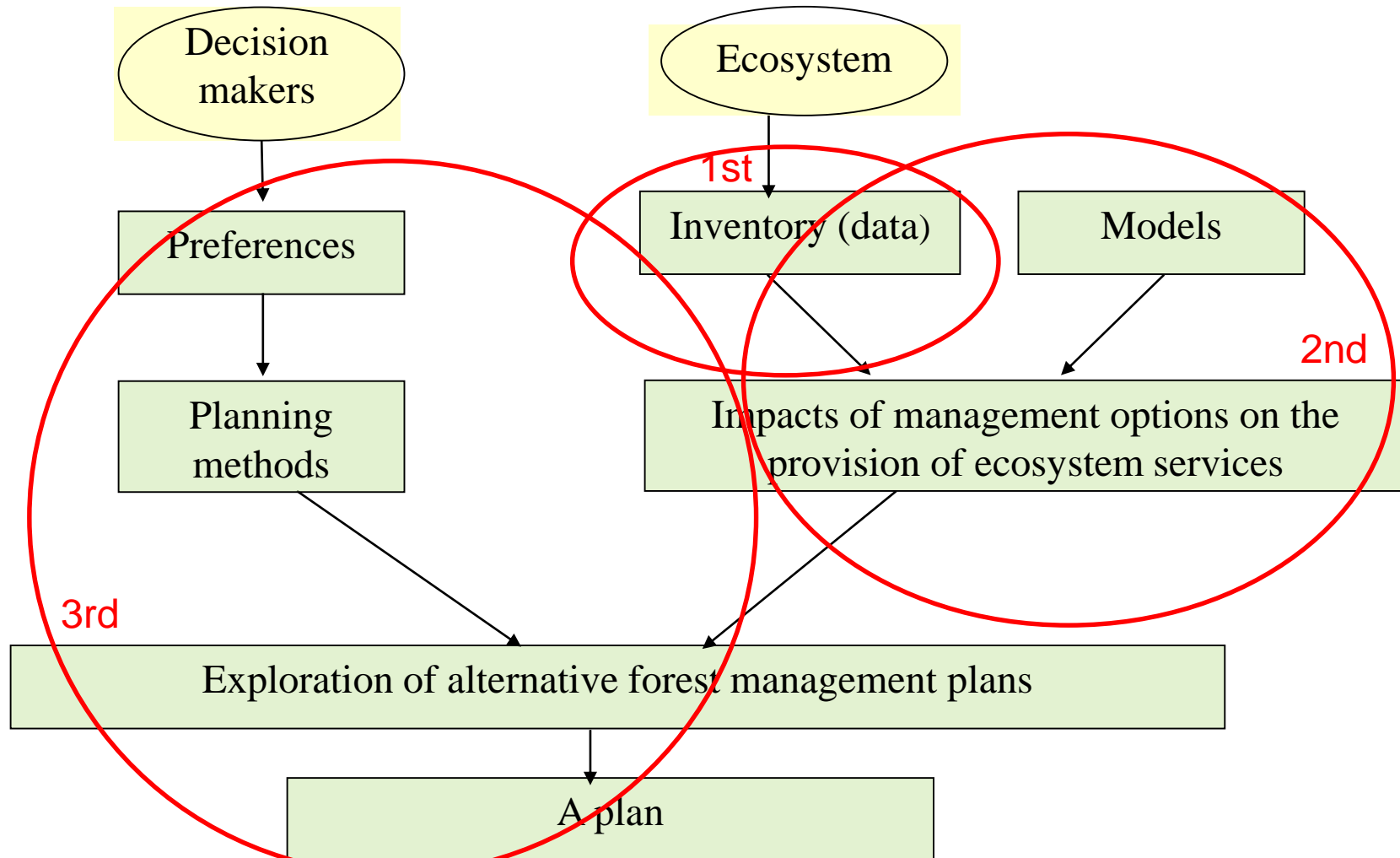
✓ Information about tradeoffs between revenues and ecosystem services

✓ Sensitivity of the plan you propose to uncertain parameters (climate change, prices,...)

Knowledge and skills needed to answer the question

- ✓ In order for you to be able to answer the question being asked by a forest owner, by a forest industry, by a park administration, by a community, by a forest or a nature conservation agency,...:
 - ✓ 1st knowledge required: You need to know the forest/inventory – data
 - ✓ 2nd knowledge required: You need to know the impacts of management options on the provision of ecosystem services – models (else how may you explain why you propose a specific management option?)
 - ✓ 3rd knowledge required: You need to know how to compare management alternatives and make a selection according to the objectives of the entity that asked you the question – planning methods and decision support systems
- ✓ Learning, literacy and life skills needed.

Knowledge and skills needed to answer the question



How are the learning outcomes and skills conveyed?

- ✓ **Courses (1st and 2nd knowledge required to answer the question):**
 - ✓ 1. Remote Sensing and Image Analysis
 - ✓ 2. Forest Models
 - ✓ 3. Wildfires: assessing and managing risk - from prevention to restoration



✓ Wood,
Biodiversity



✓ Water



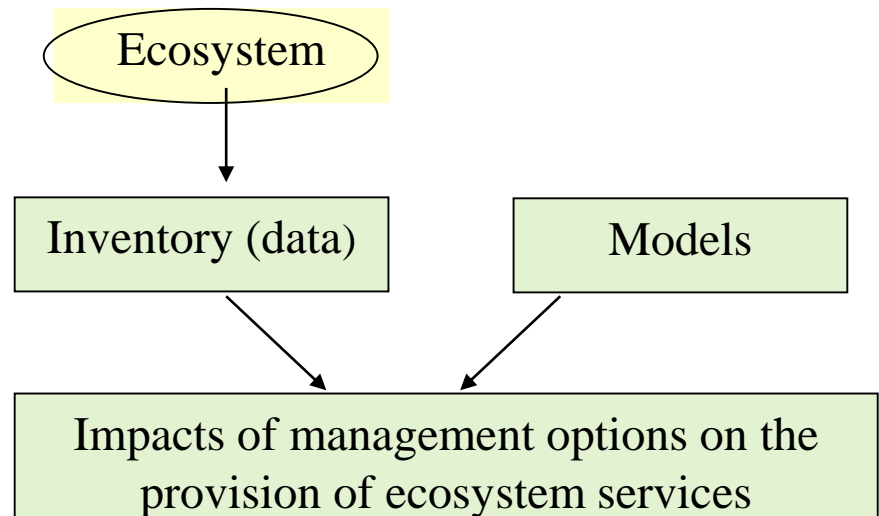
✓ Carbon



✓ Cultural



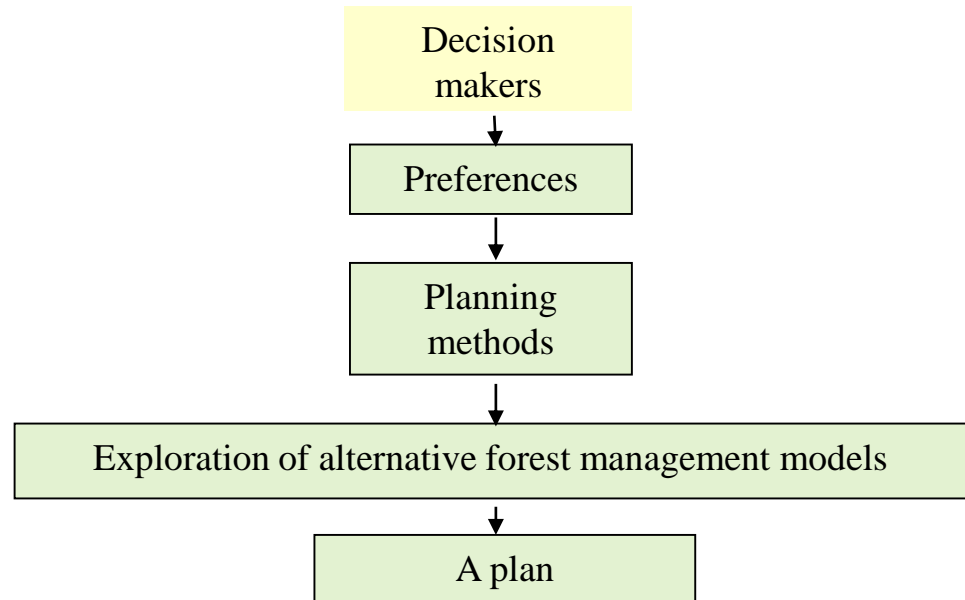
✓ Regulatory



How are the learning outcomes and skills conveyed?

✓ Courses (3rd knowledge required to answer the question):

- ✓ 4. Natural Resources Management
- ✓ 5. Forest Governance



How are the learning outcomes and skills conveyed?

✓ Courses

- ✓ 6. Mediterranean forest management planning research problems and case studies

Independent studies class that may be linked to the dissertation.

You select a management planning problem of interest to you (e.g., a question by a forest owner, an industry, a community, a park administration, a forest or a nature conservation agency) and explore and discuss methods to help answer it with the guidance of the instructor



Who conveys the learning outcomes and skills?

- Key Faculty –
- Key stakeholders engagement -



✓ Margarida Tomé
Expert on Forest Models
https://www.researchgate.net/profile/Margarida_Tome3



✓ José G. Borges
Expert on Forest Management Planning
https://www.researchgate.net/profile/J_Borges



✓ José M. C. Pereira
Expert on Fire Ecology and Management
https://www.researchgate.net/profile/Jose_Pereira21



✓ Pedro Ochoa
Expert on Forest Governance
<https://www.researchgate.net/profile/Pedro-Carvalho-23>

- ✓ **Research and project leaders in management boards of international organizations** – European Forest Institute (EFIMED, IEFC), European Agroforestry Federation, International Union of Forest Research Organizations, International Savanna Fire Management Initiative,...

Who conveys the learning outcomes and skills?

- Regular participation of international scholars –



✓ Marc E
McDill
PSU, USA
https://www.researchgate.net/profile/Marc_McDill



✓ Keith M.
Reynolds
USFS PNW
https://www.researchgate.net/profile/Keith_Reynolds2



✓ Sándor
Tóth
UW, USA
https://www.researchgate.net/profile/Sandor_Toth3



✓ Luiz Carlos
Estraviz R
S. Paulo, Brazil
https://www.researchgate.net/profile/Luiz_Carlos_Rodriguez2

✓ **More opportunities for networking and internships**

Who conveys the learning outcomes and skills?

- More opportunities for networking and internships -



Recent graduates from ISA



✓ Logan
Bingham, USA

✓ Methods for ecosystem services auctions, project scholarship in 2020-2021 at ISA, currently developing a PhD program at the Tech University of Munich



✓ Ecological-economic planning in agroforest landscapes, currently Head of Department at the University of Gondar, Ethiopia, developing a PhD scholarship at ISA, currently with Jose Borges at PSU, USA




✓ Dagm Abate, Ethiopia

✓ Ecosystem management planning , project scholarship at ISA in 2020-2021, currently developing a PhD program at the Norwegian University of Life Sciences

✓ Olha Nahorna, Ukraine

Recent graduates from ISA


- ✓ Martin Bagaram from Togo excelled in the Natural Resources Management class in Lisbon with Jose Borges within MEDfOR, took a PhD from the U Washington with Sándor Toth and currently is in a top position in Amazon in Seattle as applied scientist. From his LinkedIn profile:




Martin B. Bagaram, Ph.D. · 1st
Applied Scientist at Amazon


Seattle, Washington, United States · [Contact info](#)

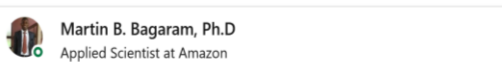
500+ connections

 Margarida Tome, Peter Bufeh, and 36 other mutual connections

[Message](#) [More](#)





 Amazon

 University of Washington



Martin B. Bagaram, Ph.D.
Applied Scientist at Amazon

← Education

-  **University of Washington**
Doctor of Philosophy - PhD, Data Science and Optimization
2017 - Dec 2020
-  **University of Washington**
Master of Science - MS, Industrial Engineering
2019 - 2020
-  **University of Lisbon**
Master's Degree, Decision Support Systems
2015 - 2017
Grade: 18/20
-  **National Forest School of Engineers**
Engineering, Geomatics
2010 - 2014

Discussion

- ✓ Course objectives and contents
- ✓ Ongoing projects the specialization may link too
 - ✓ Internship opportunities
 - ✓ Dissertation topics

Contact at: joseborges@isa.ulisboa.pt