

SUFAREL TEMPUS Project Videoconference; 31 Oct. 2012

Qualification frameworks in forestry sector at University of Padova





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LEAF Dept. - University of Padova, Italy

Outline

- HE system related to forestry at University of Padova
 - The Bachelor course
 - The Masters (1 in Italian; 1+3 in English)
 - The PhD
- The QA system
- Conclusion

The UNIPD educational structure in forestry

180 credits 1st cycle 3 years (BSc: "Laurea") Program in Italian 1 Master Program 120 credits 1+3 2nd cycle 2 years (Master: "Laurea magistrale") Program in Programs in Italian **English EC Erasmus** Mundus **PhD** 1 credit = 25 hrs 1 International 1 Doctoral **School** PhD program

General objectives of teaching (national level)

Study in Italy

Italian Higher Education for International Students



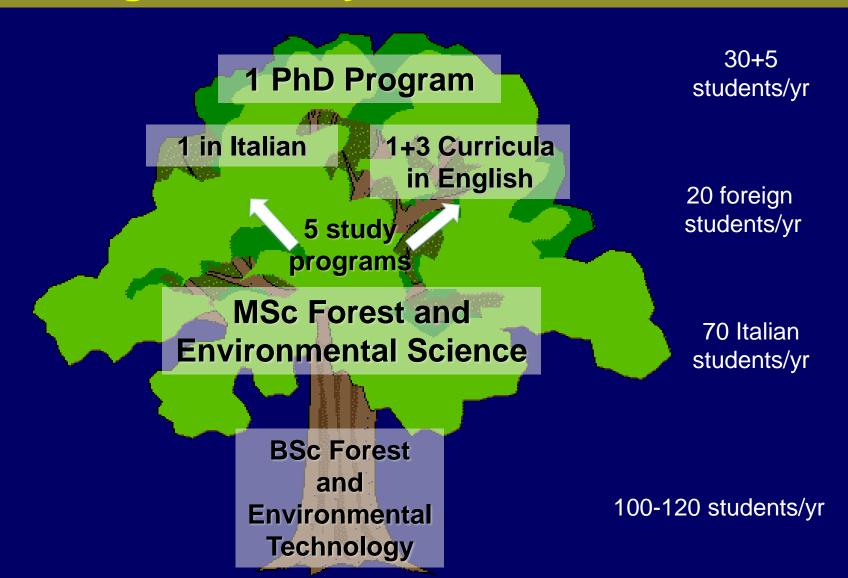
"Home "Higher Education "Studying in Italy "Course search

Agriculture, food industry and forestry

Graduates of this first degree course must:

- possess adequate basic knowledge in the fields of mathematics, physics, computer science, chemistry and biology for the purposes of application;
- know research methods and be able to participate in research and experimentation, as well as use their knowledge to solve the various practical problems in the agriculture, food industry and forestry sectors;
- possess knowledge and competence of operational procedures and lab work, in one or more of the following sectors: agriculture, food industry and forestry;
- 4. be able to give technical assistance in the agriculture, food industry and forestry sectors;
- be able to evaluate what impact agriculture, the food industry and forestry projects have on the environment;
- understand the corporate environment and the relative economic, managerial and organisational aspects of the agriculture, food industry and forestry sectors;
- possess the basic education and ability needed to constantly update their knowledge and professional competence.

Teaching in forestry science at UNIPD



General objectives of teaching (Padova) (1/2)

- A clear proposal to the students: a professional profile is reached with an educational program 3+2
- Within the national targets:
 - Expert in forest management (forest inventory, forest protection, wood harvesting, marketing and processing of forest products)

General objectives of teaching (Padova) (2/2)

- Expert in environmental education
- Expert in watershed management
- Expert in management of protected areas and wild fauna
- ... mainly in a position of consultant (reduced employment opportunities as employee by the public sector), often working in mountain areas (high concentration of forest and natural areas)

BSc Forest and Environmental Technology

(coherent with a national framework which defines minimum no. ECTS for each group of subjects, the thesis, the training activity)

| 1 st year | 68 credits Math, Physics, Inorganic and Organic Chemistry, Plant and Animal Biology, Geology, Economics |
|----------------------|---|
| 2 nd year | 68 credits Forest Genetics, Soil, Ecology, Forest Zoology, Forest Plant Botany, Applied Statistics |
| 3 rd year | 48 credits Forest Law, Forest Measurement, Geomatic, Forest Policy, Silviculture, Hydrology 12 credits Elective, 4 credits English Language (B1 <i>Threshold*</i>) 10 credits Training Activity 4 credits Thesis |

^{*} Common European Framework of Reference

MSc Forest and Environmental Science (curriculum in Italian)

(coherent with a national framework which defines minimum no. ECTS for each group of subjects, the thesis, the training activity)

| 1 st year | 20 credits Ecological Land Planning, Fluvial Morphology, Applied Silviculture 28 credits Specialization |
|----------------------|--|
| 2 nd year | 26 credits Specialization 8 credits Elective 4 credits Advanced Informatics 4 credits English Language (B2 Vantage*) 30 credits Thesis |

^{*} Common European Framework of Reference

MSc Forest and Environmental Science (specialization in <u>Italian</u>)

After the Bachelor the student enters the 2nd cycle where he/she has 5 +1 options (the last option is his/her personal study program officially approved by the University

Study programs

Forest and Environmental Science

Land Protection

Mountain Area Development

Environment and Biodiversity Management

Planning and Management of Green Areas

MSc Forest and Environmental Science (curriculum in English)

| 1 st year | 46 credits Forest Policy, Valuation and Assessment of Forest and Environmental Goods and Services, Forest and Hillslope Hydrology, Forest Landscape Management, Forest Pathology and Wood Alterations, Integrated Watershed Management, Global Change and Forest Ecosystems |
|----------------------|---|
| 2 nd year | Insect Ecology and Biodiversity Management, Mountain Fluvial Morphology and Stream Restoration, Wildlife Conservation and Management, Wood Harvesting and Transportation Systems 8 credits Elective 4 credits Advanced Informatics 4 credits English Language (B2 Vantage*) 30 credits Thesis |

^{*} Common European Framework of Reference



3 International MSc related to forestry Within the ERASMUS-MUNDUS program

MEDFOR

- Lisbona
- Padova
- Lleida
- Porto
- Viterbo
- Valladolid
- Karadeniz (TUR)

SUTROFOR

- Copenaghen
- Dresda
- Bangor
- Padova
- Montpellier

SUFONAMA

- Copenaghen
- Goettingen
- Bangor
- Padova
- Alnarp

All teaching in English (only in Montpellier: French)

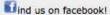
General structure

- 120 ECTS 60 (1st year 2 semesters) + 30 (2nd year 1 semester) + 30 for the thesis
- 1st year in one university (general topics) + 2nd year of specialization in another partner university with thesis work, preferably with an associated partner
- A common field course (between the 1st and the 2nd year for SUTROFOR and SUFONAMA, between the 1st and the 2nd semester for MEDfOR); 9-15 ECTS
- Double or preferably a joint degree
- Some common on line courses (Research methodologies, Climate change economics and policies, Field course preparation)

www.medfor.eu



About MEDFOR UNIVERSITIES HOW TO APPLY MEDFOR STUDE



- · Course structure
 - o First Year
 - · E-Learning Course
 - Winter School
 - Second Year
- · Degree

About MEDFOR

- ▶ Course Structure
- Degree



DEADLINES

Please note that the deadlin **NEW** scholarships are avail **NEW** scholarships are avail GmbH) - deadline: 15th Jur **CLOSED** scholarships are a

UP - Second Year

30 ECTS specialization sub-programme at University of Padova (Italy) on:

Social and Environmental responsibility in Mediterranean forestry

Students attending the specialization in "Social and Environmental responsibility in Mediterranean forestry" will aquire a knowledge and understanding of the following subjects

- Social Responsibility by public and private institutions: principles and fundamental elements of business and government ethics as applied to forestry; role and responsibilities in institutional setting; main international initiatives in promoting a responsible use of forest resources.
- Environmental economics for Mediterranean forest resources: role of forestry in the global economy; multifunctional role of responsible managed forests in providing products and services; the international market framework; responsible trade in Mediterranean forest products and services.
- Societal marketing: forest certification and other tools: strategic marketing planning; segmentation and differentiation – marketing positioning; initiatives and instruments to implement environmental and social responsibility by both private and public organizations and actors.
- Applied statistics in forest research and Research and project design: principles, elements and tools to be
 used in organizing a research project, qualitative and quantative methods for data analysis to be applied in
 investigating the responsible production and trade in forest products and services and the problems of
 governance of the sector.

Courses

About MEDfOR

approach throughout the M

science and a multidisciplin

management and policy-making.

- 1. Social Responsibility in Forestry by Public and Private Organizations (6 ECTS)
- MEDIOR Mediterranean 2. Valuation and Assessment of Forest and Environmental Goods and Services (6 ECTS)
 - 3. Societal marketing: forest certification and other tools (6 ECTS)
- A two-year world-class Era: 4. Applied statistics in forest research (6 ECTS)
 - 5. Forest policies and conflict management in forestry (6 ECTS)

The MEDfOR emphasis is on educating the leaders of the future generation of engineers, managers, researchers, and teachers involved in Mediterranean forestry and natural resources management. MEDfOR equips students with a solid scientific habilitation and the competences for careers in innovative fields of work within the Mediterranean forestry supply chain. It will both provide the basis needed for students to pursue academic opportunities (e.g. PhD program) and the qualifications needed to fill positions in all Mediterranean forestry supply chain segments (e.g. forestry and natural resources organizations, either public or private, either national or international).

www.sutrofor.eu



Erasmus Mundus MSc in Sustainable Tropical Forestry

ABOUT SUTROFOR

UNIVERSITIES

HOW TO APPLY

SUTROFOR STUDE!

SUTROFOR

SUTROFOR Programme

The MSc Course in <u>Sustainable</u> <u>Tropical Forestry (SUTROFOR)</u> offers:

- · A two-year world class MSc
- Focus on sustainable tropical forestry
- Study at two leading European universities
- Research-based teaching
- Double Degree

FU Scholarshins





SUTROFOR ADMISSION 2

The call for Erasmus Mundus scholar selection results will be published by

Self-financed students from within the August 2012.

Deadline for the next call is 1 December 2012.

Second year at the University of Padova

University of Padova offers the specialisation: Social and environmental responsibility in tropical forestry.

The main educational aims of the programme are:

- to graduate individuals who have a thorough understanding of the main theoretical
 concepts, international framework and practical tools related to ethics in forestry,
 who are able to apply them to the marketing of tropical forest products and
 services, and who understand the potentialities and consequences of promoting a
 responsible use of forest resources worldwide;
- to develop students' intellectual, practical, critical capacity, information and communication, interpersonal / teamwork, self management and professional development skills in relation to ethics in tropical forestry and to social and environmental responsibility applied to organizations, both public and private, involved in the forestry sector;
- to equip students for a career in an innovative field of work: ethics in forestry. The
 students will acquire personal and professional skills with special reference to
 responsible trade and use of tropical forest products and societal marketing
 instruments. The growing focus on CSR, environmental communication, public
 participation and good governance in decision-making related to environment and
 social aspects of forestry is leading to a growing demand for professionals and
 experts in this field.

| Module no. | Module title | |
|------------|--|----|
| 1 | Social Responsibility by Public and Private Organisations | 6 |
| 2 | Environmental Economics for Tropical Forest Resources | 6 |
| 3 | Societal Marketing: Forest Certification and Other Tools | 6 |
| 4 | Forest Policies and Conflict Management in Tropical Forest | 6 |
| 5 | Research Planning | 6 |
| 6 | Thesis | 30 |
| | Total | 60 |

ERASMUS MUNDUS

www.sufonama.eu





ABOUT SUFONAMA

University of Copenhagen

Swedish University of

Agricultural Sciences

University of Padova

UNIVERSITIES

SUFCRAMA > Universities > University of Padova > Second year

HOW TO APPLY

SUFONAMA STUDENTS

PHOTO GALLERY FAO CONTACT

Shire

SUFONAMA

Erasmus Mundus MSe in Sustainable F

ABOUT SUFONAMA

European Erasmus Mundus Mic.

UNIVERSITIES.

HOW TO APPLY

Bangor University University of Gottingen

SUFONAMA

SUFONAMA Programme

The MSc Course in Sustainable Forest and Nature Management (SUFONAMA) offers:

- · A two-year world class MSc
- · Focus on sustainable management and natural resources
- · Study at two leading European universities
- · Research-based teaching
- Double Degree
- · EU Scholarships

SUFONAMA

Read more



> Second year Module 1 Module 2 Module 3 Module 4 Module 5 - Thesis Academic staff

Associate partners

Second year at University of Padova

University of Padova offers the specialisation:

Mountain Forestry and Watershed Management.

This includes the following second year modules (study start 2012):

| Module no. | Research Planning Management of Mountain Forests and Logning Systems | |
|------------|--|----|
| 1 | | |
| 2 | | |
| 136 | Valuation and Assessment of Forest and Environmental Goods and Services | 6 |
| 4 | Mountain Fluvial Morphology and Stream Restoration | 8 |
| 5 | Thesis | 30 |
| | Total | 60 |

Erasmus Mundus Secretariat, SUFONAMABISE ku.dk - lest update:23 January 2012

International Year of Forests 2011

Read more



SUFONAMA ADMISSION 2012

The call for Erasmus Mundus scholarships for non-EU and EU students is closed. Final selection results will be published by the EU Commission by late April 2012.

Self-financed students from within the European Union can still apply until the 15 August 2012.

Deadline for the next call is 1 December 2012.

SUFONAMA Student Handbook

Part of Erasmus Mundus

Read more on ec europa eu



ERASMUS MUNDUS

PhD School: Land, environment, resources and health

- Animal science
- Managerial engineering and economic evaluation
- Crop production science
- Biotechnology and bio-chemistry
- Viticulture, enology and marketing in the wine sector



DOCTORAL SCHOOL Land Environment Resources and Health (L.E.R.I

Research lines Education

Admission

This PhD School is involved with:

1) the collaboration/cooperation international agreement FONASO (FOrest, NAture and SOciety). It is a world-class Erasmus Mundus Joint Doctoral Programme offered by a consortium of internationally recognised European universities (University of Copenhagen, Swedish University of Agricultural Sciences, Bangor University, Dresden University of Technology, University of Göttingen, AgroParisTech, University of Padova) and other international research organizations located in Indonesia, Australia, Canada, Kenya, Denmark:

2) three international joint PhD agreements with the following universities: 1) Austral of Valdivia, Chile; PhD

forestry, 2) Politecnics of Madrid, Spe Engineering, 3) National of Cujo, Mer Argentine; PhD Agronomy.

Several researchers, professors and field of economics, ecology & sylvicul technology, water resources, soil con watershed management, health: nutri joint up the School of Land, Environm & Health.

INTERNATIONAL SUMMER SCHOOL Sustainable management and promotion of territory (deading 30 march 2012) Programmu+ Registration form+

Dean: Prof. Mario Aristide Lergi phone +390498272684-85 fax +390498272688 email: marioaristide lerizi@unipd.tr

www.tesaf.unipd.it/school/lerh.asp

www.fonaso.eu/

General information > Ferms, facilities, library

Formation programme [Compulsory (I year) = Curriculum related +

Students and their thesis .

For students *

Statute * Balan version [pdf]

Departments and centres 1

[Land Brain, Agriculture Forestry +

FONASO

Forest and Nature for Society

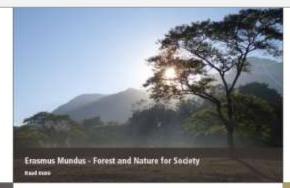
ABOUT FONASO FARTNERS RESEARCH TOPICS HOW TO APPLY FELLOWISHEPS ONGOING PROJECTS FAQ CONTACT

FONASO

Read more

Funsan

- a world-class Erasmus Mundus Joint Doctoral Programme offered by a consortium of internationally recognised European universities:
 - . University of Copenhagen
 - · Swedish University of Agricultural Sciences
 - · Banger University
 - . Dresden University of Technology
 - . University of Göttingen.
 - AgroPartsTech
 - University of Pacova



Call open - application for FONASO fellowships The call for applications for study start in the fall of 2013 is now open.

The deadline for applications is 1 November 2012.

The research topics for the call have been published and can be found here.

Application Form is available here.

his website is hosted by The Faculty of Life Sciences, University of Copenhagen

FONASO offers

A fully integrated three-year doctoral programme

Focus on the scientific fields of economics & policy and ecology & allylouture

Emphasis on applied research and joint supervision

Joint research with leading research and industry organisations in Africa, Asia, Australia, Europe and North America

Attractive BU Fellowships

Part of Emsmus Mundus



ERASMUS MUNDUS

Quality Assurance Links with the professionals

- Good and frequent links with the Association of Chartered Agronomists and Forests:
 - they are invited to make comments and suggestions on the Bachelor and Master courses organization
 - Moreover, to practice the professional activity, post-graduates have to pass a State examination organized by a mixed Commission with a majority of members from the Association → direct control of the contents and acquired knowledge of the young graduates

Quality Assurance Links with the market (employment opportunities)

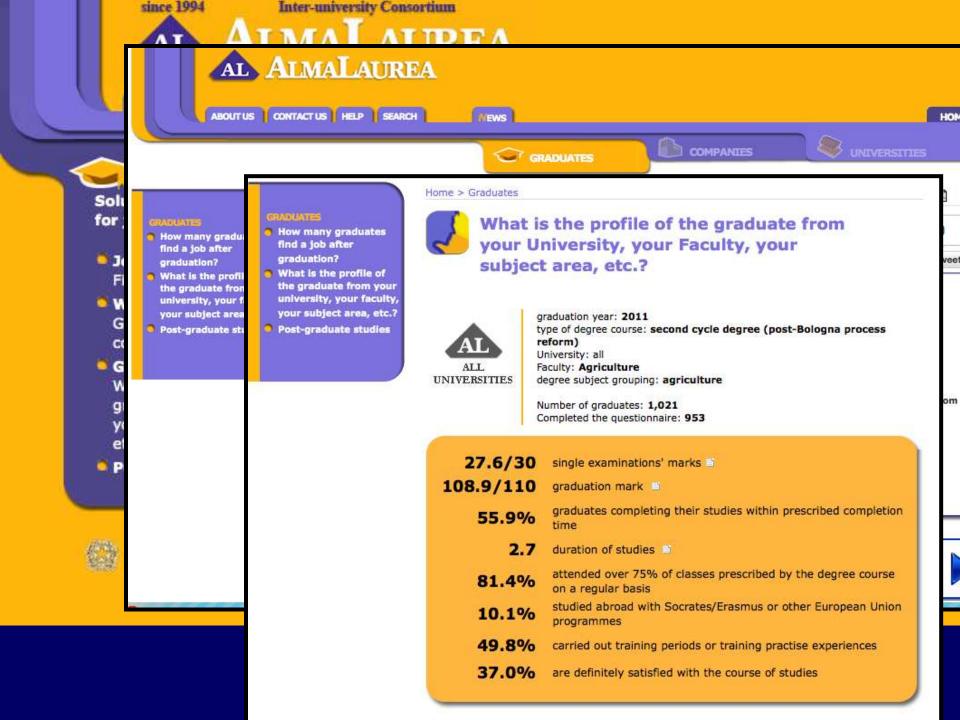
About MEDFOR

MEDFOR - Mediterranean Forestry and Natural Resources Management

A two-year world-class Erasmus Mundus Master Course Programme that answers a call for a coordinated approach throughout the Mediterranean basin to develop reliable information and tools - based on sound science and a multidisciplinary approach, in order to improve Mediterranean forestry and natural resources management and policy-making.

The MEDfOR emphasis is on educating the leaders of the future generation of engineers, managers, researchers, and teachers involved in Mediterranean forestry and natural resources management. MEDfOR equips students with a solid scientific habilitation and the competences for careers in innovative fields of work within the Mediterranean forestry supply chain. It will both provide the basis needed for students to pursue academic opportunities (e.g. PhD program) and the qualifications needed to fill positions in all Mediterranean

The consultation panel is coordinated by EFIMED and in order to enhance and strengthen the interaction of MEDfOR with stakeholders and the Mediterranean forest community it further includes key stakeholders such as the Mediterranean Forest Owners Association (arcMED), the World Wildlife Fund Mediterranean Office (WWFMed), the Association Internationale Forêt Méditerranéenne (AIFM) and the Food and Agriculture Organization (FAO)



Quality Assurance The students' evaluation

Erasmus Mundus MSc pro overview of student applica

1. Background information The Erasmus Mundus MSc p www.sutrofor.eu) was approv students (also known as Editi SUTROFOR was applied for students (Edition VI) were en Commission with an overview programme. The main source discussions among consortiur

2. Status for the SUTROFO The SUTROFOR programm The EC approval of the second 2015 with the last students gr

2.1 Basic statistics (applica Table 1, based on SUTROFO to the programme and the no 40 countries (with application the student body are female. and actually starting their stud the quality of applications complete the programme - d

Table 1: Overview of num # SUTROFOR, 2006-12

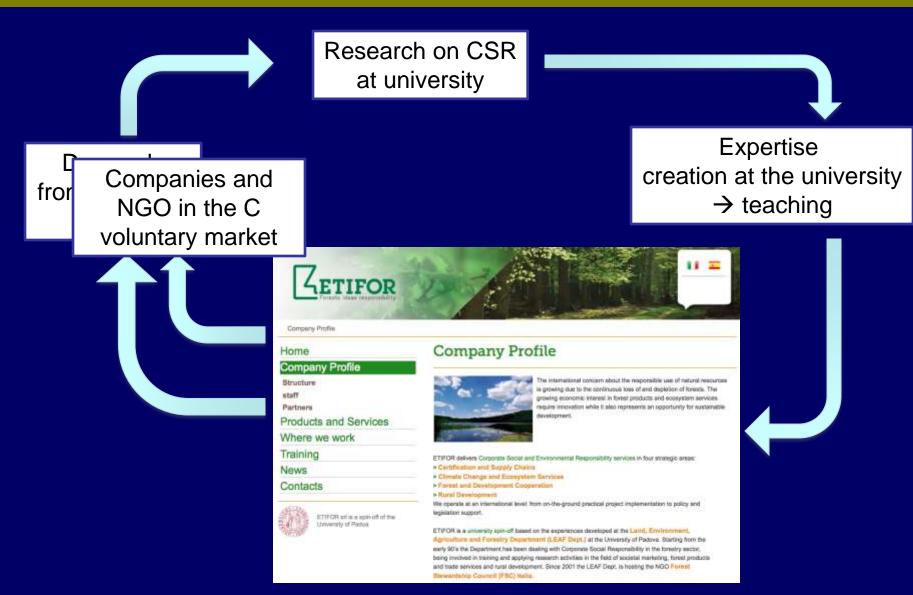
| Data | 2006 |
|-------------------------------|------|
| No. of applicants | 267 |
| No. of accepted students | 23 |
| Percent accepted | 8.6% |
| No. of students graduating | 23 |
| Percent drop-outs | 0% |

Student evaluation of the entire SUTROFOR programme includes questions closely related to the five Dublin Descriptors for the second cycle (i.e. MSc level educational programmes). The Dublin Descriptors are essentially indicators for general skills that students should possess upon completion of an MSc Programme. These are interesting as they allow us to report on student evaluation of SUTROFOR in relation to widely accepted general European indicators. Table 4 below reports the consortium level results for each of the nine provided questions; the official goal of SUTROFOR is to obtain mean scores of at least 4.0 (very good) in each category.

Table 4: Student assessment of the entire SUTROFOR programme using programme adapted Dublin Descriptor questions (scale of 1-5 with 5 being full agreement/excellent)

| Ni D. Ni D | | | Mean score | 2 | Overall mean |
|------------|--|-----|------------|----------|-----------------|
| INI | Nine Dublin Descriptor focused questions | | 2007-09 | 2008-101 | |
| 1. | My two years with SUTROFOR have provided me with knowledge and understanding of key tropical forestry issues (enhancing my Bachelor level knowledge). I can use this to develop and apply ideas, including in a research context. | 4.7 | 4.6 | 4.5 | 4.6 |
| 2. | I can apply my knowledge, understanding and problem solving skills in new or unfamiliar environments to address contemporary issues in tropical forestry. This includes collecting, analysing and evaluating appropriate qualitative and quantitative information and using it creatively. | 4.7 | 4.3 | 4.5 | 4.5 |
| 3. | I have the ability to handle complexity and formulate judgements in relation to contemporary tropical forestry issues characterised by incomplete or limited information. | 4.4 | 4.4 | 4.0 | 4.3 |
| 4. | I am able to reflect on social and ethical aspects of contemporary tropical forestry issues. | 4.7 | 4.5 | 4.2 | 4.5 |
| 5. | I can communicate my conclusions, and the knowledge and rationale underpinning these, clearly, concisely and confidently in spoken and written formats to specialist and non-specialist audiences. | 4.7 | 4.5 | 4.2 | 4.5 |
| 6. | The learning skills I have acquired will allow me to continue to study in a manner that may be largely self-directed or autonomous. | 4.9 | 4.5 | 4.3 | 4.6 |
| 7. | I find the SUTROFOR programme excellent. I do not hesitate to recommend it to others. | 4.9 | 4.6 | 4.4 | 4.6 |
| 8. | The SUTROFOR programme was just like I expected at the time of application. | 4.5 | 3.8 | 4.2 | 4.2 |
| 9. | By completing the SUTROFOR programme, I have become very competitive in the relevant international job market. | 4.5 | 3.9 | 4.0 | 4.1 |

An example of the positive loop research-marketteaching-crwation of new employment opportunities



Quality Assurance the process of accreditation (international context)

ENQA

The European
Association for Quality
Assurance in Higher
Education disseminates
information, experiences
and good practices in the
field of QA)in higher
education to European
QA agencies, public
authorities and higher
education institutions

ESG

Standards and
Guidelines for
Quality
Assurance in the
European
Higher
Education Area

EQAR

The European
Quality Assurance
Register for Higher
Education,
established in 2008
to increase the
transparency of
quality assurance
in higher education
across Europe

Quality Assurance the process of accreditation (international context)

ENQA

www.enqa.eu

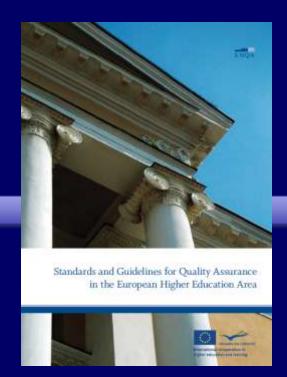


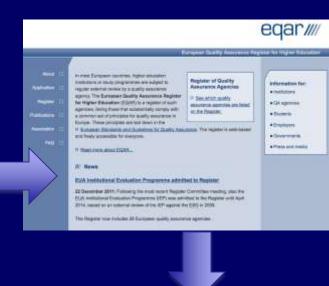
www.enqa.eu/files/ESG_3 edition%20(2).pdf



www.eqar.eu

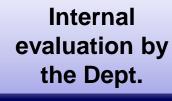






28 National QA Agencies registered

Quality Assurance the process of accreditation (national system still in progress)





External accreditation (for 5 years)



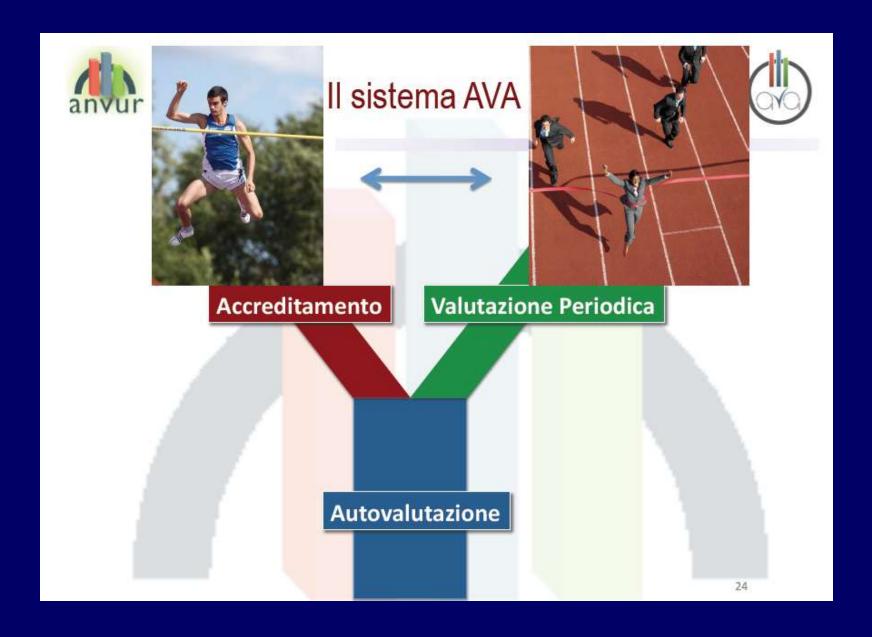
Public funding to the University



AVNUR's criteria

- endorsed by the Ministry
- defined in coherence with the EHEA's Standards and Guidelines for Quality Assurance in the European Association for Quality Assurance in Higher Education

Periodical internal evaluation



Source: Castagnaro, 2012

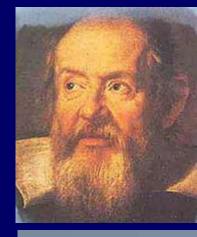
Conclusion

- From a training aimed to educate the future official of the forest administration (till the '80s) to a mix of professional profiles:
 - forest professional working mainly as a self-employed consultant
 - forest officers for many public organizations (NPs, research organizations, ...)
 - forester working in NGOs and companies (wood working, certification, ...)
- In the forestry sector the first cycle (i.e. Bachelor) has only a role of defining a background, solid, scientific basis for the Master: the proposal for the students is 3+2 as one single co-ordinated program
- More professional, specific knowledge is acquired in the 2nd yr of the Master
- Focus on soft skills (communication, work in groups) and future learning skills

 Still very dynamic, unstable and not consolidated experiences

- With a continuous process of integration, challenging problems to be considered:
 - Problems related to internal governance
 - Problems related to general context of governance

Welcome to Padova next May!





СПАСИБО!







This presentation can be downloaded from: www.tesaf.unipd.it/pettenella/