

## SILVA NETWORK ANNUAL CONFERENCE 2023

Communication – a neglected topic in higher forestry education and further education?

Higher Education Globalisation: E-learning and Information & Communication Technologies

## Session II

### Higher Education Globalisation: E-learning and Information & Communication Technologies

*“Green growth for the North Karelian bioeconomy sought through digital transformation of forest services (NOMADI project, EFI)”*

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# INTRODUCTION (1)

A key pillar for reaching Sustainable Forest Management (SFM) is forestry education and training. As social demand on forests and pressure on forest resources continue to increase, forestry education should keep pace by request.

➔ Does forestry education is adapted to new social and economic conditions, i.e., to the globalisation? A lot of doubts arise about it, since some concern has even been said in several international forums about the fact present forestry education is deficient.

To improve contributions of forests to the achievement of SDGs 4, 10, and 16: forests, peaceful and inclusive societies, reduced inequality, education, and inclusive institutions at all levels.



# INTRODUCTION (2)

Knowing the current situation on the state of forestry education and training, we should ask: what solutions would be feasible to solve the problem?

- 1) Without well-trained forest managers and policy makers, it will be impossible to maximize the contribution of forests to sustainable development.
- 2) The future of forests depends on to attract brilliant students to forestry programs and provide them with the necessary knowledge and skills.

**Call to action on forest education**

- 1 Strengthen policies and strategies to improve forest education and learning
- 2 Improve the image of forest careers among youth and the general public
- 3 Build a more holistic understanding of forests, inclusive of social dimensions
- 4 Foster greater understanding of forests and forest careers in primary and secondary education
- 5 Enhance the quality of university and vocational forest education
- 6 Increase investment in forest education
- 7 Revitalize and expand continuing education, extension, and informal learning on forests
- 8 Strengthen forest education stakeholder engagement and partnerships

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# OBJECTIVES

Our research is based on the acquisition of knowledge for the suitable use of new methods and techniques of digital innovation, e-learning and access to information and communication, basic tools to support university teaching.

The main objective is to promote a debate analysing the remarkable advantages of such technologies and their possible shortcomings within the university system.



The challenges of introducing technology into the forest sector (Soares, Forestry General Manager at Hexagon's Agriculture division, 2022)

# MATERIAL AND METHODS (1)

Digitalization to the information on forestry education is essential. As well as complementary efforts to increase the profile of forestry professions in the curricula and in the community are important to improve awareness-knowledge of forests and forest-related jobs.

Developing continuing education and informal training opportunities for forest professionals, members of forest communities, private forest owners and the private and public sector is also significant.



*Quercus* spp. forest (Ancares Mountains, Galicia, NW Spain)

# MATERIAL AND METHODS (2)

In the current educational system, HEIs have undergone considerable changes, such as:

i) adapting to new methods and practices from conventional states.

ii) increasing demand from students to achieve the essential skills for continuous learning.

iii) knowledge exchange, creating opportunities for new markets and competencies.

iv) new teaching entities formed as networks whose methods are recognized by the interconnection.



An overview of knowledge management and its components (In: <https://knowledgesuccess.org>, Knowledge Success [20230406])

# PROFESSIONAL FORESTRY PRACTICE AREAS

*\* These practice areas reflect work that is usual and customary to the practice of professional forestry, requiring professional judgment and a body of procedures, practice guidance, research, and/or professional development to support forest professionals in effectively undertaking this work.*

Auditing, Inspecting, Monitoring and Verifying Forest Operations, Plans and Practices

Forest Ecosystem Assessment, Planning and Stewardship

Forest Health Damage and Invasive Species

Forest/Watershed Level Planning and Management

Forest Roads and Transportation

Forest Management in Collaboration with Indigenous Peoples

Stand Level Forest Planning and Management (Site Plans)

Timber and Forest Land Valuation

Visual Resource Management of Forests

Compliance and Enforcement in Forest Management

Forest Education and Training

Forest Inventory and Analysis

Forest Measurements (timber cruising, surveys)

Forest Tenure, Licence, Permits and Authorization

International and Interprovincial Forestry

Small Scale Forest Management

Tree Improvement/Genetics

Wildfire and Forest Fuel Planning and Management

If the work you are hiring for involves any of these practice areas, it likely requires the experience, education, or technical knowledge of a registered forest professional (e.g. RPF or RFT). Forest professionals help employers reduce environmental risks, legal liabilities, and are more trusted by the public than a non-professional.



Within each these professional forestry practice areas, some or all of the specific decisions, advice, tasks, or services are reserved. This means that by law, only a registered forest professional can be hired to do the work. This ensures forests stay healthy over time by allowing only those with the proper education, experience, and who follow a set of professional standards, undertake the work.

Forest Certification

Forest Harvest Planning

Forest Legislation and Policy Development and Administration

Forest Recreation Planning and Management

Forest Geographic Information Systems and Mapping

Landscape Level Strategic Forest Planning and Management

Supervising, Directing and Advising Forest Plans, Practices and Professionals

Tree Seed and Seedling Planning and Production

Wildfire Rehabilitation Management and Assessments

Forest Conservation

Forest Harvest Operations Management and Oversight

Forest Resources Contract Management and Administration

Forest Research and Climate Change Adaptation

Growth and Yield

Forest Silviculture

Timber Pricing and Appraisals

Urban Forest Management

Wildfire Prevention, Protection and Suppression







# RESULTS AND DISCUSSION

All these changes were achieved thanks to advance in Information and Communication Technologies (ICT), as well as new technologies and training models based on digital innovation: i) Globalisation Society; ii) importance of e-learning to achieve prosperity and quality of life; iii) ease of access and communication, and sharing of knowledge and information.

Higher Forestry Education has not been immune to these changes and a continuous adaptation to Globalisation has taken place.



# CONCLUSIONS

- 1) Higher Forestry Education has not been safe to these changes and there has been a continuous adaptation to the Globalisation.
- 2) Our work is based on the acquisition of knowledge for the proper use of new methods and techniques of digital innovation, e-learning and access to information, basic tools to support university teaching.
- 3) The goal is to promote a debate analysing the remarkable advantages of such technologies and their possible shortcomings within our university system.
- 4) In the knowledge society, networks of people are contact networks to develop cooperative learning, which offers new ideas, perspectives, cultures, and information.
- 5) In many cases, learning networks are used as a supplement to classroom courses, as an environment for teaching a full course or as part of this, as well as a forum to communicate knowledge, participation in information groups or exchange with colleagues and experts in the field and / or for access to new resources.

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**THANK YOU FOR YOUR ATTENTION!**