

TRAINING SCHOOL

„Non-native tree species in Europe in the viewpoint of climate change: challenges, risks, opportunities – trade-offs“

August 23th – 27th 2016

Host: Croatian Forest Research Institute, Cvjetno naselje 41, 10 450 Jastrebarsko, Croatia

Venue: Hotel Panorama (Zagreb)/Experimental-educational facilities in Zalesina (Gorski Kotar)

Local Organisers: Sanja Perić (sanjap@sumins.hr) and Martina Tijardović (martinat@sumins.hr)

Deadline for submission: June 24th 2016.

Objectives of the training school

The main objective of this training school is to shape the opinion and initiate brainstorming on (I) the opportunities of growing NNTS in Europe and (II) the newly emerged conflicts in NNTS management. Gaps in knowledge will be pin-pointed together with the perception on NNTS, from the viewpoint of young scientists. The training school will facilitate exchange of experience and information among young researchers, thus creating a network for future collaboration. Immediate collaboration will include a joint publication under the tentative title: „Non-native tree species in Europe in the viewpoint of climate change: challenges, risks, opportunities – trade-offs“.

***Opportunities** of growing NNTS could be substantial, for example: filling the gaps in the forest after calamities; enhancement of production and quality/diversity of products; expansion on or creation of new local markets; enhancement of options for bioenergy production; better capacity utilization (afforestation of available/uncovered land); creating better options for stability on landscape level; lowering connectivity of pests/diseases/burning material; help in sustainability of forest stands, soils, and ecosystem services, etc.*

*Besides the plenty of opportunities, there are **challenges and risks** that will be met in the future, and which will be addressed during the workshop. Major challenges related to NNTS are: lack of scientific knowledge and practical experience on their suitability to local site conditions; their adaptability to local pests/diseases; resistance and resilience to local conditions; their possible uncontrolled spread into natural forests, their invasiveness and possible disappearance of native tree species. Possible negative impact on natural tree species in terms of competitiveness will be discussed based on concrete examples from long term monitoring (data on productivity). High uncertainty of predictions of climate changes, which increase the risks of growing NNTS, will be addressed especially on localities where a decline of different allochthonous tree species has been observed.*

Ecology and productivity of NNTS and their provenances in relation to native tree species are going to be presented on the examples of four different bio-climatic regions of the Republic of Croatia. These trial plots are the object of long term monitoring, which lasts for fifty years. Without long term experiments it is hard to predict impacts of climate changes on NNTS (high uncertainty of dynamics of changes). Pilot plots have the same experimental design and the same NNTS. The long term monitoring plots provide good opportunity to make easy and visible comparisons for trainees among:

- *NNTS and native tree species; Includes (non-native): Pinus strobus, Pseudotsuga menziesii, Pinus contorta, Pinus ponderosa, Picea sitchensis, Thuja plicata, Abies grandis; Includes (native): Picea abies, Larix decidua, Pinus nigra;*
- *Different provenances of Douglas-fir, Pinus strobus, and Larix decidua;*
- *Different risks descending from NNTS vs. native tree species;*
- *Different success rates of species and provenances in different bio-climatic regions.*

Trainees requisites

PhDs and PhD students who are involved in on-going silvicultural studies dealing with NNTS will be supported. Good knowledge of English language is required. Trainees will be asked to prepare short presentation (ca 5 slides, 5 min. presentation) on forests and NNTS in their own countries

Training

Differentiated analysis of production, risks and challenges rising from climatic changes will be elaborated based on long term trial plots and supported by the international team of lecturers and the open discussions with forest practitioners. The young scientists are introduced to the way of drafting a review article and the way open questions and ideas are transformed into scientific discussion and a full review article.

Names of trainers

1. *Prof. Valeriu-Norocel Nicolescu – Faculty of Silviculture and Forest Engineering, Transilvania University of Brasov, ROMANIA*
2. *Andreas Rigling PhD – Swiss Federal Research Institute WSL, SWITZERLAND*
3. *Prof. Robert Brus – University of Ljubljana, Biotechnical Faculty, SLOVENIA*
4. *Martina Tijardović PhD, scientific assistant at Department for Silviculture, Croatian Forest Research Institute, CROATIA*
5. *Sanja Perić PhD, scientific advisor at Department for Silviculture, Croatian Forest Research Institute, CROATIA*
6. *Prof. Milan Oršanić, - Faculty of Forestry, University of Zagreb, CROATIA*

How to apply

To apply, send an email to Elisabeth Pötzelsberger (elisabeth.poetzelsberger@boku.ac.at) and Martina Tijardović (martinat@sumins.hr) with the following information:

- ✓ Curriculum vitae
- ✓ Full address
- ✓ Motivation letter (which includes current position and research interest)

Email subject line: „2016 Training school Cost FP 1403 NNEXT, Croatia”.

Applications need to be submitted by **June 24th 2016**. Applicants will be informed about the application result by **July 1st 2016** and will be required to confirm their participation by **July 5th 2016**.

The financial support is an individual grant for each trainee. It does not necessarily cover all expenses related to attending the training school. The exact amount will be decided based on the number of participants. More details on the venue and the logistic will be provided after the selection of participants.

Trainees eligible for reimbursement:

1. Trainees from COST countries;
2. Trainees from approved near neighbour countries (NNC) institutions;
3. Trainees from approved European Research and Technological Development (RTD) Organisations.

Trainees not eligible for reimbursement:

1. Trainees from approved international partner countries (IPC) institutions;
2. Trainees from approved International Organisations, the European Commission and EU Agencies;
3. Any other trainees not specifically mentioned as being eligible.

For more information on regulations, please refer to the Vademecum of COST Actions.

COST Action FP1403 (NNEXT) Non-native Tree Species for European Forests – Experiences, Risks and Opportunities (<http://nnext.boku.ac.at/>)



Programme

Tentative training school programme			
Day 1 (Meeting point in the conference room, Hotel Panorama)			
09:00 – 09:30	Introductory presentations	➤ Introductory notes on COST Action FP 1403 NNEXT (Sanja Perić PhD)	Hotel Panorama Conference room
09:30 – 10:00		➤ Introductory notes on Host Institution and Croatian forests (Martina Tijardović PhD)	
10:00 – 10:30		➤ Background issues on growing non-native tree species (NNTS) (Prof. Valeriu-Norocel Nicolescu)	
10:30 – 11:00		➤ Non-native tree species forest cultures in Croatia (Prof. Milan Oršanić)	
11:00 – 11:30		Coffee break	
11:30 – 12:00		➤ Climate change and non-native tree spec. (Andreas Rigling PhD)	
12:00 – 12:30		➤ Impact of non-natives on the environment (Prof. Robert Brus)	
12:30 – 13:00		➤ Nursery production and non-native tree species (issues and legislation) (Sanja Perić PhD, Martina Tijardović PhD)	
13:00 – 14:00	Lunch (Hotel Panorama Restaurant)		
14:00 – 14:30	Workshop	➤ Introduction to the concept of workshop (Sanja Perić PhD)	Hotel Panorama Conference room
14:30 – 16:00		➤ Introduction of trainees (5 min. presentation of trainees about their non-native tree species experiences)	
16:00 – 17:30		➤ „What lies in the future: challenges, risks, opportunities“ – guidelines for writing papers and discussion; dividing trainees into three groups (ca 5 people each) (Martina Tijardović PhD)	
19:00 – 20:00	Dinner (Hotel Panorama Restaurant)		
20:00	Sightseeing – Zagreb (Optional)		

Day 2 (start at 8:00 in front of the hotel Panorama)			
09:30 – 11:00	Field trip / workshop	➤ „Productivity of NNTS in relation to native tree species“ – former <i>Pseudotsuga menziesii</i> seed stand + <i>Pinus strobus</i> , <i>Picea abies</i> commercial stands - BIOCLIMATIC REGION 1	Forest administration Koprivnica, forest office Varaždin, subcompartments 8 d, 13 i
11:00 – 15:00		➤ „Introduction to <i>Juglans nigra</i> seed stand“ - BIOCLIMATIC REGION 1	Forest administration Varaždin, forest office Čakovec
15:00 – 16:30	Lunch (Forest cottage „Babinac“ – organised)		
16:30 - 18:30	Trip to facilities of Faculty of forestry in Zalesina (Gorski Kotar region)- organised accomodation until the end of workshop		
18:30 – 20:00	Welcome in behalf of Faculty of forestry (Prof. Milan Oršanić) Introductory notes on review paper (report) and work assignments		
20:00 – 21:00	Dinner at Zalesina		
Day 3 (start at 8:00 in front of the facilities in Zalesina)			
09:00 – 11:30	Field trip / Workshop	➤ „Productivity of NNTS and their provenances in relation to native tree species“ – gathering data on long term trial plots (provenances of <i>Pseudotsuga menziesii</i> and success of six different conifers) – BIOCLIMATIC REGION 2	Forest administration Karlovac, forest office Duga Resa, Pilot object „Lokve“
11:30 – 14:00		➤ Establishment of <i>Paulownia</i> plantations (private forests)	Location „Žakanje“, private forest (Expert Forest Advis. service)
14:00 – 16:00	Return to Zalesina and lunch		
16:00 – 20:30	Field trip / Workshop	➤ Natural regeneration and tending of auchthonous <i>Fagus sylvatica</i> stand – comparison with NNTS	Forest administration Delnice, forest office Skrad, Unit Čedanj
		➤ Natural regeneration and tending of auchthonous <i>Abies alba</i> stand – comparison with NNTS	Forest administration Delnice, forest office Skrad, Unit Čedanj
		➤ Protected tree of <i>Tilia</i> sp. (ca 6 m in perimeter) – (Forest office Skrad)	„Buzin“ locality
		➤ „Productivity of NNTS and their provenances in relation to native tree species“ (<i>Picea sitchensis</i> , <i>Abies grandis</i> , <i>Abies alba</i> , <i>Pseudotsuga menziesii</i> , <i>Picea abies</i> , <i>Thuja plicata</i>) BIOCLIMATIC REGION 3	Forest administration Delnice, forest office Skrad, Pilot object „Rogi“
20:30 – 21:30	Dinner at Zalesina		

Day 4 (start at 8:00 in front of the facilities in Zalesina)			
09:30 – 14:00	Field trip / Workshop	➤ „Productivity of non-native tree species and their provenances in relation to native tree species“ – long term trial plots (provenances of <i>Pseudotsuga menziesii</i>) – BIOCLIMATIC REGION 4	Forest administration Buzet, Pilot object „Kontija“
14:00 – 15:00	Lunch in the restaurant in Kontija (Istria)		
15:00 – 17:30	Field trip / Workshop	➤ „Productivity of non-native tree species and their provenances in relation to native tree species“ – long term trial plots (provenances of <i>Pseudotsuga menziesii</i>) – BIOCLIMATIC REGION 4	Forest administration Buzet, Pilot object „Kontija“
17:30 – 19:30	Sightseeing of Istria		
19:30 – 21:00	Return to Zalesina		
21:00 – 22:00	Dinner in Zalesina		
Day 5 (workshop organised in facilities in Zalesina)			
09:00 – 10:30	Workshop	➤ Joint work of all WG-s – brainstorming on trade-offs between opportunities, risks and challenges	Zalesina
10:30 – 11:00		Coffee break	
11:00 – 12:15		➤ Basic conclusions and guidelines for work at home (Sanja Perić PhD, Martina Tijardović PhD)	
12:15 – 12:30		➤ Closing the training school (Sanja Perić PhD)	
12:30 – 14:00	Lunch in Zalesina		
14:00 – 16:30	Return to Zagreb (Leaving Zagreb or optional stay for one additional night in Zagreb)		