



# FoResTTraC: Forest ecosystem genomics Research: supporting Transatlantic Cooperation

Coordination & support action

ENV.2009.2.1.6.2 Forest Ecosystem Genomics

Duration: Jan 2010 – Dec 2011

FoResTTraC





# Partners

N°	Participant full name	Partner	Country
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# Main goal & objectives

## Goal

To build a roadmap for future collaborative research project linking North American and European countries regarding "Adaptation of North temperate forests to climate change".

## Objectives

Facilitate scientific cooperation between Europe and North America on forest genomics

Exchange experiences, harmonize approaches between the two science communities in North America and in Europe

Identifying common research objectives

Developing and formulating joint strategies for future research



# Expected impact

Alignment of research efforts around a common strategy and objectives in Europe and North America

Alignment of donor commitments in the two regions



# Main questions

What is the current state of knowledge and research going on in forest genomics?

What are the main research questions that should be addressed?

What resources and means can be linked and strengthened?



# Workpackages

WP1	Overview of current research capacity in forest genomics in Europe, Canada and USA
WP2	Identifying research needs to better understand how tree populations respond to climate and environmental change
WP3	Defining the Research Roadmap and proposed implementation
WP4	Setting up common resources for future research collaboration
WP5	Dissemination and validation



## Research topics in forest ecosystem genomics related to climate change

1. Evolutionary genetic change in response to climate change
2. Long distance gene flow and adaptation
3. Epigenetic responses to climatic changes
4. Role of foundation species in ecological processes
5. Computational methods in landscape genomics
6. Genomic mutations and adaptation



# Setting up common resources for future collaborative research

1. Evaluation of current status of genomic resources in conifers and Fagaceae
2. Upgrade existing genomic resources
3. Interoperability of electronic databases between Europe and North America

Workshops: 8-12 international experts invited

Consolidate state-of-the-art research outcomes (review papers)

Identify the key research priorities



# Overview of current research capacity in forest genomics

1. Map the current state of the art in the field of forest ecosystem genomics in Europe and North America
2. Consolidate the information in a well structured report
3. Carry out a preliminary analysis of gaps and overlaps in activities across the two regions examined (Europe and North America)

Focus: the most ecologically and economically important forest tree families on the two continents: Salicaceae, Fagaceae and Pinaceae



# Overview of current research capacity in forest genomics

## Collect information on

- forest ecosystem genomics research activities;
- existing genomic resources: eg., EST sequences, libraries, genetic maps, etc.;
- existing consortia and projects, key organizations and scientists; infrastructures, databases, etc.;
- traditional genetic studies: eg, those species and provenance tests with the largest collections, open pollinated progenies, transatlantic plantations, etc.;
- modeling studies;
- key literature.



# FoResTtraC

Forest ecosystem genomics Research: supportIng Transatlantic Cooperation

- Welcome
- Project
- Results
- e-Resources
- Dissemination

## Thanks for accepting to contribute to the FoResTtraC project!

The main objective of this collaborative project is to prepare future research activities on forest trees adaptation to climate changes, strengthening the collaboration between Europe and North America, via a strategic research roadmap, jointly developed.

In the files below you can find some raw information that will be used to prepare a review of all research activities recently concluded and ongoing on forest ecosystem genomics. We are also collecting information on more traditional genetic research findings, on research infrastructures established, research expertise, facilities, and resources available. This will be the benchmark for future research planning.

The analysis of the compiled information will be available later in a report presented online on the project website. All contributors to the review will be fully acknowledged in the report. We also plan to regularly update the information available online.

## Acknowledgments

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## Documents

The files present in a raw format the information gathered so far, with a file for each tree genus documented. We would be grateful if you could provide additional information, to the extent possible, regarding species which you are familiar with. Click on this link to access the documents:

[Document repository](#)

Documents are protected so that they can only be edited by registered users (please log in to view the documents). [Click here](#) if you do not have an account yet.

<http://www.foresttrac.eu/index.php/edit-documents-start/>



# Dissemination and validation

- Dissemination of FoResTTraC activities and results through various channels and events
  - Project website (stakeholder platform)
  - E-Newsletter (or E-News)
  - PA materials (press releases, leaflets, etc.)
  - Dissemination seminars
  - Other relevant events



# Dissemination target groups

- Funding bodies/organizations
  - EC, European Science Foundation, etc
- Scientific community
  - EVOLTREE, EUFORGEN, IUFRO, etc
- Industrial groups
  - Forest-based Sector Technology Platform, etc
- International policy frameworks
  - Forest Europe, CBD, IGWG-FGR (FAO), etc



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