

## Cost Action FP0905 Training Course

### New Genetic Engineering Techniques for Tree Improvement

Training school supported by EU COST Action FP0905 “ Biosafety of Forest Transgenic Trees: improving the scientific basis for safe tree development and implementation of EU policy directives”

**Target audience:** Early stage researchers (ESR) at PhD or postdoctoral level with research interest in plant genetics, genomics, and regulatory implications of applied plant genetics. Financial support is available for up to 25 students (see selection below).

#### Scientific Management Team (STM):

Jeremy Sweet, Gilles Pilate, Matthias Fladung, Jorge Paiva, Susana Araújo, Pedro Feveiro.

Dates: 12-14 February 2014

**Location:** Instituto de Tecnologia Química e Biológica (ITQB)/Instituto de Biologia Experimental e Tecnológica (IBET), Oeiras, Portugal (near Lisbon Airport).

#### Application:

To be filed and submitted online with enclosures

1. Curriculum vitae (download template)
2. a motivation letter (1 page) clearly explaining the benefit of attending the Training School.

#### Submission:

The application with enclosures must be submitted by this link:

<http://www.cost-action-fp0905.eu/training-school>

**Deadline:** for application is 10/01/2014. Successful applicants will be advised before 15/01/2014

#### Selection:



Sponsored participants are limited to 25 from COST Countries participating at the COST Action FP0905 (see participant list at [http://www.cost.eu/domains\\_actions/fps/Actions/FP0905?parties](http://www.cost.eu/domains_actions/fps/Actions/FP0905?parties)).

If more than 25 applications are received, the Scientific Management Team will rank them according to the following criteria:

- Early Stage Researcher (ESR), preferentially with a PhD with less than 8 years of Post Doctoral experience or active PhD students.
- Gender balance
- Regional spread
- Benefit from/necessity of training

Further information on EU COST Action FP0905 Biosafety of forest transgenic trees can be found at <http://www.cost-action-fp0905.eu/training-school/traininglisbon2014>

#### Costs and Expenses

Costs for infrastructures on site and material for lessons will be covered for all applicants by ITQB/IBET (local organizers)

Students will be reimbursed from the COST Action FP0905. Maximum granted amount is 700 Euros per attendee covering travel and subsistence. The reimbursement will be made directly to each participant from the Grant Holder of the COST Action FP0905 within 1 month after the end of the Training School.

Contact for information: Jorge Paiva / Susana Araújo (trainingfp0905@gmail.com)

## Cost Action FP0905 Training Course

### New Genetic Engineering Techniques for Tree Improvement

#### Program

**Venue:** Campus Oeiras (Oeiras, 15 km from Lisbon)

**Dates:** 12-14 February 2014

#### **Day: 12 February**

9.00 –Registration

9.30 – Welcome and Introduction. *Jorge Paiva (P) & Matthias Fladung (D)*

#### ***Session 1 - In Vitro Tree Differentiation And Transformation***

10.00 – In vitro tree differentiation and transformation of forest trees. *Steve Strauss (USA)*

11.00 – Break

11.30-12.30 – Importance of field trials to assess transgenesis stability. *Matthias Fladung (D)*

12.30 -13.30- Lunch

Practical: *in vitro* culture/transformation. *Susana Araújo(P)*

19:00 Dinner

#### **Day: 13 February**

#### ***Session 2 - New Molecular Breeding Techniques***

09.00 - Introduction to new molecular breeding techniques (NMBT) *Andrea Gennaro (I)*

10. 00 - NMBT – gene knock-out and gene modification (meganucleases, ZFN, TALEN, CRISPR). *Fabien Nogué(F)*

11.00 – Break

11 .30 - NMBT – gene expression modification (RNAi with MicroRNAs ) *Dulce Santos(P)*

12.30 – Lunch

13.30 - NMBT – gene expression modification (Modulation of DNA/Histone Methylation)  
*Pedro Fevereiro(P)*

**Session 3 – Possible Practical Applications**

14.30 Application of NMBT in forest tree improvements. *Steve Strauss (USA)*

15.30 Practical SDN vector design

19.00 Dinner

**Day: 14 February**

9.00 Case study on Molecular Breeding technologies: The Biomass production perspective. *Isabel Allona (E)*

9.45 Case study on Molecular Breeding technologies: Improving disease resistance in Chestnut. *Rita Costa (P)*

10.30 Coffee break

**Session 4 – Environmental Risk Assessment and Regulation**

11.00 –Biosafety considerations for products of NMBT . *Patrick du Jardin(B)*

12.00 - Lunch

13.00 - Environmental Risk Assessment of trees produced by GM and other NMBTs.  
*Jeremy Sweet(UK)*

14.00 -NMBT- Regulatory Implications . *Boet Glandorf (NL)*

15.00 Post Market Environmental Monitoring of GM plants. *Ana Paula Carvalho (P)*

16:00 –Break

16:30 - General Discussion

17:30 - Departure