



Training Course on the Use of Stable Isotopes in Forest Ecology

Organised by: Erwin DREYER and Oliver BRENDEL

UMR 1137 INRA, Nancy-Université "Ecologie et Ecophysiologie
Forestières"

Venue: INRA-Nancy, F 54280 CHAMPENOUX

REGISTRATION before January 30th 2009

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Objective of the workshop/training course

Small variations in the ratio of stable isotopes (^{13}C , ^{15}N , ^{18}O , ^2H) have become very useful indicators for sometimes complex processes in ecosystems. These subtle changes are now easily quantified, and may be used, provided proper experimental designs have been set up, to document the genetic variability of traits in tree populations and in off-spring. The workshop will provide a up-to-date view of the theory that backs the use of these isotopes, and concentrate on examples of the use of these isotopes to document functional diversity in trees and associated micro-organisms.

Date: March 16-20 2009.

Teachers/Lecturers: A preliminary list of lecturers includes:

- Oliver BRENDEL (INRA Nancy, France)
- Daniel EPRON (Nancy-Université, France)
- Arthur GESSLER (University Freiburg, Germany)
- Rolf SIEGWOLF (Paul Scherer Institute, Switzerland)
- Nina BUCHMANN (ETH, Zürich, Switzerland)
- Erwin DREYER (INRA Nancy, France)
- Alexander KNOHL (ETH Zurich, Switzerland)
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The definitive programme is still under construction. It should be available by the end of October.

Location: The training course will be held at INRA Nancy, F 54280 CHAMPENOIX, 10 km east of Nancy, France. <http://www.nancy.inra.fr/>

Credit for students: The training course will be supported by the Doctoral School RPPE (Nancy-Université) and will be validated as one of the teaching units for PhD students. The organisers will provide all required information to have the course validated by the Doctoral Schools of participants who wish to do so; it should provide about 30 ECTS.

Outline of the course:

The course will comprise three sections:

1. *A general introduction into the use of the natural abundance of different stable isotopes in forest and grassland ecology as tracers of ecological and physiological processes, as well as into labelling procedures with stable isotopes. Different lectures will provide an up-to-date view of the applications, the theory and limitations of these applications.*

2. *A series of examples of how natural abundance and labelling procedures with stable isotopes may be used as indicators of the genetic variability of traits in trees and associated micro-organisms. Traits will concentrate for instance on ¹³C and water use efficiency, ¹⁸O and transpiration, and ¹⁵N and nitrogen fixation. This will be approached by lectures and short presentations.*
3. *An introduction into the techniques of measuring stable isotopes, and of running experiments evidencing genetic variability. This will be done by visiting facilities and by personal work.*

Reimbursement:

Researchers participating to the network of Excellence "Evoltree", you may be supported by a grant covering travel expenses and accommodations costs. No registration fees will apply and no training costs will be charged to any participant.

If you are participating to "Evoltree"

- Fill in the **"Travel & Accommodation costs declaration"** available on the Evoltree platform
- Send a copy of the invoices to INRA Transfert (marie.de-premesnil@paris.inra.fr or Natasa.pele@paris.inra.fr)

INRA-Transfert will reimburse the participation costs to the participant institute according to the total budget available (20000 euros for all participants). If the costs incurred by all participants are larger than the total budget available, the reimbursement will be readjusted accordingly. In this case the institute will have to contribute for the remaining part of the costs.

There is at the moment no financial support available for participants outside Evoltree, but the organisers are still trying to raise some additional funds. No registration fees will apply and no training costs will be charged.

Housing:

Accommodation will be provided in University facilities at Nancy and in Hotels. A transport to Champenoux will be organised. Lunches and coffee breaks will be provided at INRA.

Sponsoring:

The training course is organised in the frame of the European Network of Excellence "Evoltree" ("Evolution of Trees as Drivers of Terrestrial Biodiversity", <http://www.evoltree.eu/>) which will provide financial support. It will be validated as a training unit (MST 22) of the Doctoral School of Nancy-Université "Sciences et Ingénierie des Ressources, Produits, Procédés et Environnement" (<http://www.rp2e.inpl-nancy.fr/>). It is also an activity within the Trinational network "NFZ.forestnet between Nancy, Freiburg and Zürich (<http://www.nfz-forestnet.org/>).