Workshop "Monitoring seasonal dynamic of wood formation" in Otocec (Slovenia) from April 20th to 22nd 2009

Since long time scientists have been using dated tree-ring series as a source for reconstructing past environmental conditions. The relationships between tree-ring characteristics (e.g. ring-width, wood density, wood structure or isotopic composition) and recorded environmental conditions are classically described using relational statistical models that can also be used to simulate future tree-ring characteristics. However, despite these evident relationships, little is known about the detailed mechanisms responsible for the environmental signatures found into the annual ring features.

Analysis of cambium activity and xylo- and phloemo-genesis during the growing season can lead to a functional understanding of the mechanisms involved in wood and phloem formation. Xylem cells, originating from cambium division, pass through a phase of cell enlargement, and of cell wall thickening and lignification before reaching their definitive and permanent mature stage. Cambium activity determines timing and rate of cell formation and, in turn, the characteristics of the annual ring. Advancing our understanding of what rules wood formation at intra-annual time scale do not only give a higher confidence and a more sound use of tree-rings but can additionally expand the application of this proxy toward higher time resolutions (intra-annual) and to other ecotones where growth is not ruled by a single dominant environmental factor. A detailed mechanistic understanding of wood formation is also fundamental for the elaboration of future scenarios of growth responses under changing environment (i.e., global warming).

Despite of complex sampling designs, tedious microscopic observations and problematic data elaborations, in an increasing number of groups from several countries are currently dealing with intra-annual analyses of cambium activity and xylo- and phloemo-genesis in ecophysiology, forestry and climatology studies. The different techniques actually used to study wood formation include repeated wood anatomy analyses by using microcore sampling or pinning. Nonetheless, these techniques are still in progress which implies the necessity to update and refine standards for sampling procedure and data analysis.

In order to acknowledge the progress realized in the recent years in the field of cambium activity and xylo- and phloemo-genesis monitoring, we intend to organize a workshop in order to provide an overview of the state of the art of monitoring techniques, exchanges experiences and data, define common protocols of survey and discuss future development and challenges.

The detailed program of workshop will be known when the list of participants will be completed. We will contact each of the participants and discuss about the topic and length of presentation.

Nevertheless, we are planning to have seminars in the morning, practical work in the afternoon and round table in the evening. There will be a light microscope; therefore, we encourage the participants to bring their own material (microscopic slides, samples etc.) so that we will be able to discuss about concrete examples.

People who are interested in participation of the workshop should send a confirmation e-mail to: jozica.gricar@gozdis.si

In addition, if you notice that we have forgotten someone who is also working on this topic and might be interested in participation the workshop; please feel free to forward this e-mail.

Please note that there are very tight deadlines:

1. participant confirmation - **15th February 2009**
2. abstract submission – **1st March 2009**

Organization board: Dr. Cyrille Rathgeber, Dr. Patrick Fonti and Dr. Jozica Gricar

The workshop will follow the next TRACE meeting in Otocec Slovenia and will last for 3 days, from April 20th to 22nd 2009.