



Newsletter of the Association for Tree-Ring Research

No. 9, August 2011

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**TRACE Conference 2011**

By Philippe Rozenberg

The TRACE 2011 conference, the annual conference initiated by the 'Association for Tree-Ring Research' (ATR), was held on May 11-14, 2011 in Orléans, France. The conference brought together over 120 professionals and students from 15 countries across Europe, to share their experiences, to learn from one another and to debate the future development of tree-ring analysis and its application to all fields of dendroecology, such as tree rings and archaeology, climate, geomorphology, genetics and breeding, glaciology, fire history, hydrology, physiology, stable isotopes.

The conference was structured into five sessions including 40 oral presentations and 37 posters. The five sessions were "Tree-rings in Archaeology" (with four presentations), "Climate signal in tree-rings" (with seven presentations), "Adaptation to climate and tree-rings" (with twelve presentations), "Non-climatic signal in tree-rings" (with seven presentations) and "Tree-rings challenges and frontiers" (with ten presentations). Three prominent scientists were invited to present key-note speeches. They were Dr. Nicola Macchioni, from IVALSA CNR, Florence, Italy, presenting "Tree - rings and archaeological wood: an integrated approach", Dr. Hubert Morin, from the Université du Québec à Chicoutimi, Canada, presenting "Dynamics in space and time of spruce budworm outbreaks in North-Eastern North America: a multi-proxy analysis" and Dr. Ignacio García González, from the Universidad de Santiago de Compostela, Spain, presenting "Earlywood anatomical features as a dendroecological tool for ring-porous trees: a general overview".

As during past TRACE conferences, a high scientific level was maintained, while additionally

providing an informal forum to give young scientists and students the opportunity to discuss concepts, ongoing and finished work with more experienced researchers. Following the informal tradition of the last TRACE meetings, a relaxed atmosphere was maintained all along the conference, culminating on the aperitif with luthiers (violin makers) and live music at the social dinner location at the château de Morchesne in Saint-Cyr-en-Val.

ATR Awards 2010/2011

This year, five people were awarded during the TRACE 2011 Conference.

For the best oral presentation at TRACE 2011 and the outstanding Master thesis 2009

Karina Hennig from GFZ Potsdam with a talk entitled: "Is there an additional value of stable isotope records in tropical tree-rings? A case study on teak (*Tectona grandis*) from Java, Indonesia" and her thesis on "Dendroklimatologische Untersuchung jahrringbildender Tropenhölzer in Indonesien".

For the best poster presentation at TRACE 2011

Susanne Spann from University of Erlangen-Nürnberg with her poster about "Which factors control tree growth in a tropical mountain forest? The case of *Cedrela montana* in Southern Ecuador".

For the outstanding Master thesis 2010

Cathrin Meinardus from University of Erlangen-Nürnberg for her thesis about "Dendroökologische Untersuchungen an *Betula nana* L. entlang eines Schneegradienten in der unteren alpinen Stufe Südnorwegens".

For the outstanding PhD-thesis 2009/2010

Britta Eilmann from WSL Birmensdorf (now Wageningen UR) for her thesis on "Water availability and tree growth of Scots pine and pubescent oak - a multiproxy analysis".

For the outstanding PhD-thesis 2010

Bettina Wagner from WSL Birmensdorf (now University of Göttingen) for her thesis entitled "3D Modeling of Tree Roots: Combining 3D Laser Scans & 2D Tree-Ring Data".

**20th Anniversary of the
Tree-Ring lab in Bonn, Germany**

By Achim Bräuning, pictures by Karina Hennig

On January 29th 2011, the tree-ring laboratory at the Institute of Geography in Bonn celebrated its 20th anniversary with a symposium. ATR has a special relationship with the Bonn laboratory since the first TRACE meeting in 2002 was held in Bonn under the chairmanship of Prof. Matthias Winiger and Burkhard Neuwirth. Almost all speakers were either presently active members of the Bonn Institute or had started their dendrocarrier as students there. Presentations were given by Fritz Schweingruber, Jan Esper, Holger Gärtner, Kerstin Treydte, Burkhard Neuwirth and Jörg Löffler. Topics addressed were state-of-the-art overviews of applications in wood anatomy, stable isotopes, climatology, and the use of other plants beside trees in dendroecology. Prof. Matthias Winiger was leading through the program. After the presentations, a panel discussion addressed future challenges of tree-ring research. Panel members were Thomas Franke, Jan Esper, Gerhard Schleser, Kerstin Treydte, Gerd Helle, and Holger Gärtner (in photograph from left to right). The discussion was moderated by Achim Bräuning.



Panel discussion at tree-ring symposium in Bonn

After the scientific part of the symposium, personal affairs had to be handled. Prof. Matthias Winiger, one of the founding members and member of the scientific advisory board of ATR, took his leave to go to retirement. Burkhard Neuwirth also took leave from the tree-ring lab in Bonn. ATR is deeply indebted to both of them for all their activities in the tree-ring community and we wish both of them all the best for their individual plans – hopefully not without tree rings.



Prof. Matthias Winiger and Dr. Burkhard Neuwirth during the Dendrosymposium in Bonn.

**200-year-anniversary of
Forest Sciences in Tharandt**

By Björn Günther and Britt Grundmann

On the 15th of June 2011 the Faculty of Forestry of the TU Dresden celebrated its 200-year-anniversary in Tharandt, Germany. The silviculturist Heinrich Cotta established the first German forest school in the neighborhood of the Forest of Tharandt near to Dresden in the year 1811. Only five years later the school was raised to the Royal Forest Academy of Saxony. After the forest academy in Saint-Petersburg (founded in 1803) Tharandt represents one of the world's oldest forest academies. Not only the German forestry was influenced by Tharandt. Already in the early 19th century, students came to Tharandt from Russia, Switzerland, Austria and Spain. The establishment of a number of

forest academies is attributed to graduates from Tharandt. The term of sustainability was first characterized by Hans Carl von Carlowitz in 1713 (in "Sylvicultura oeconomica") and gained worldwide distribution due to Tharandt's teaching. Additionally to the academy's foundation the world's oldest arboretum was established at the same time.



Campus at Tharandt

Next to the importance for general scientific issues, Tharandt became known as the cradle of the European dendrochronology. The botanist Bruno Huber established the dendrochronology after Douglass for the more complex European forest site conditions (1934). He developed together with his co-workers the first European oak chronology for the period 1390-1670. Students of Huber, Zittwitz (1939) and Wittke (1940) wrote the first European dendrochronological theses in Tharandt. The tradition of dendrochronological research is still continued by a small working group. The main subjects are dendroclimatology (Dr. Britt Grundmann), urban dendroecology (Sten Gillner), genetics and dendroecology (Dr. Matthias Meyer) and X-ray densitometry (Björn Günther).

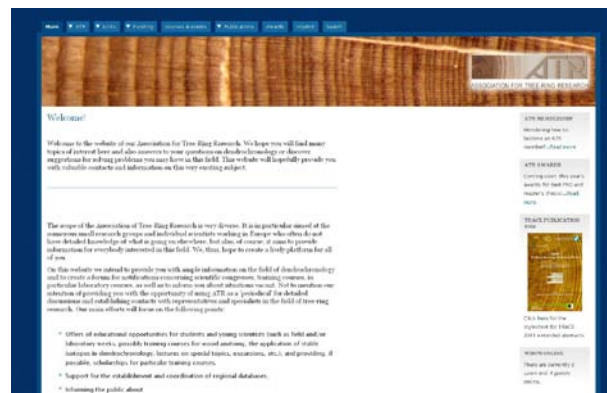
New ATR Homepage online!

By Achim Bräuning

As probably most members have already noted, the newly designed ATR homepage is meanwhile online (<http://tree-ring.org/>). Beside a

new design, the structure and functionality of the Homepage have been updated and new features have been implemented. For example, under ATR/locations, the locations of tree-ring labs where ATR members are situated shows up on a google map surface. This feature will be further developed, so that also affiliation and web-addresses of members will be automatically shown. Locations where several members of ATR are located will appear with a list of all members (instead of individual member names as at present). A prerequisite of the correct representation of all members on the map, however, is a regular update of the database on which all information is based on. Thus, it is important that ATR members update any changes of affiliation, academic title or other items. Forms for funding applications can now be filled out online and requested letters of recommendation from supervisors can be attached electronically, which should help to speed up the evaluation process for grant applications.

Certainly, there will probably still be some errors on the Homepage. If you have additional ideas what should be implemented, please send your suggestions to Philipp Hochreuther (philipp.hochreuther@geographie.uni-erlangen.de)



New design of the ATR Homepage (<http://tree-ring.org/>)

**ATR Member Meeting 2011 at TRACE
Orléans**

By Ireneusz Malik

The ATR President, Achim Bräuning welcomed the present ATR members.

1. Report of the activities in 2010/2011

ATR has only been established 10 years ago. The main goals were: a) to provide a platform for dendrochronology in science and education, b) to support and promote young scientists and working groups in tree-ring sciences, c) to distribute relevant information about meetings, trainings, positions, etc. to the community, d) to create an organisation with permanent structure, becoming a partner for funding agencies.

Main fields of activity in the last year

- a) The new webpage, cf. text above and right.
- b) Also in the past year ATR supported the participation of young researchers in conferences and workshops.
- c) ATR members were very active during the WorldDendro conference in Rovaniemi, Finland, providing the opportunity to present successfully the activities of ATR.

Members' benefits from their ATR membership

- a) The possibility to get involved at the annual Membership Meeting.
- b) Annual TRACE (*Tree Rings in Archaeology, Climatology and Ecology*) Meetings with 100-120 participants (among them many young scientists) at reduced costs.
- c) Free hardcopy of TRACE volume.
- d) Special offer for subscribing to Dendrochronologia.
- e) Reduced conference fee for TRACE.
- f) ATR Newsletter.
- g) Opportunities for funding.

ATR Board Members

President:	Achim Bräuning
Vice President:	Holger Gärtner
Secretary:	Irek Malik
Treasurer:	Ingo Heinrich
Board members:	Pascale Weber Ute Sass-Klaassen
Honorary President:	Fritz Schweingruber

The scientific Advisory Board includes 10 Experts.

The newsletter contains basic information about dendro events, reports, discussions and innovation about topics that are relevant to the society and innovations. An important part of the newsletter is the started series „Tree ring labs in Europe“; Achim Bräuning encourages members to propose descriptions of laboratories for the newsletter.

The new ATR homepage has been prepared recently. The homepage includes:

- a) Google Map showing the extent of members over the globe,
- b) Papers published in the TRACE volumes will be available for download on the ATR webpage two years after publication in the TRACE volume,
- c) Downloadable ATR-Newsletters,
- d) Online registration for ATR/Funding,
- e) Multiple search parameters (reduced for non-members),
- f) Possibility to collect information from the Xylem Database, Bibliography of Canadian Tree-Ring Research, the International Tree-Ring Data Bank, the ITRDB Dendrochronology Bibliographic Database, Database of European Chronologies.
- g) DendroWiki is under preparation and will be available next year.

2. Financial report and number of ATR members (presented by Holger Gärtner)

At the end of April 2011 ATR included 234 members from 41 countries.

Current balance (€): 8779.64
(09/05/2011)

Income and Expenses for the period 2010/2011:

Income:

Fees 2010/2011	3255.44 €
Others	440.00 €
Total	3695.44 €

Expenses:

Admin (account)	1818.86 €
Awards	500.00 €
Funding	1050.00 €
Total	3368.86 €

3. ATR awards (cf. page 2 of this Newsletter)

4. Organisation of TRACE 2012

The next TRACE meeting will be organized in Potsdam by Wolfgang Beck, Karl-Uwe Heussner and Gerd Helle. Proposed date is 3-5 or 10-12 of May. Potsdam is well located, the conference centre is placed five minutes from the railway station. A conference trip is planned to sites where dendrochronological studies are carried out. During the Conference, a new ATR Board will be elected. Achim Bräuning encouraged members to send their proposals for election for future ATR Board Members.

Achim Bräuning asked the participants of the meeting whether they have any remarks – nobody wanted to take the floor. He gave thanks to the participants, TRACE organizers, and closed the meeting.

The 2nd International Asian Dendrochronological Conference in Xi'an, China

By Achim Bräuning

During August 20-23, the 2nd Asian tree-ring conference of the Asian Dendrochronological Association (ADA) was held in Xi'an, China. More than 150 dendrochronologists from China, India, Thailand, Korea, Nepal, Japan, Pakistan, Iran, Mongolia, and countries outside of Asia participated in this very interesting conference. Sessions were dedicated to dendroclimatology, dendroecology, dendroarchaeology, dendrohydrology, wood anatomy, and stable isotope applications. The conference program impressively demonstrated the vivid development of tree-ring science in Asia, especially in mountain areas like the Tibetan plateau and the Himalayas, but also in tropical regions of monsoon Asia. A lot of young researchers attended the meeting and witnessed the dynamics of the discipline in various Asian countries.

During the conference, ADA held elections for a new executive board. Former ADA President Dr. Nathsuda Pumnujumnong (Thailand) passed the Presidency to Prof. Dr. Liu Yu (China), who was hosting the Xi'an conference. The forthcoming 3rd Asian tree-ring conference is going to be held in Iran in May 2013.



**The dendro lab at Jagiellonian University
in Krakow (Poland)**

By Dominika Wrońska-Wałach

At the Jagiellonian University there is no separate unit that deals with dendrogeomorphological research, however this kind of study is performed in the Department of Geomorphology at the Institute of Geography and Spatial Management. Since 2010 Institute offers course of Dendrochronology running by dr Zdzisław Bednarz from University of Agriculture in Krakow.



Equipment

The laboratory is equipped with basic tools for fieldwork, several binocular stereoscopes, biological microscope with Motic Camera, Microtom "GSL 1" and software for wood anatomy analysis: WinCELL Regular and Pro. Laboratory is also equipped with Biotronic and WinDENDRO Density with capability of measuring tree ring width. Additionally next year laboratory will be improved by purchasing LINTAB and TSAPWin for dendrochronological analysis.

Research team

- Kazimierz Krzemień – Professor
- Elżbieta Gorczyca – PhD
- Wrońska-Wałach Dominika – PhD
- Płaczkowska Eliza – PhD student
- Mateusz Sobucki – PhD student
- Bernatek Anita – PhD student
- Karcz Tymoteusz – student
- Mateusz Szczęch – student

Field of research

- Dendrogeomorphological analysis of extreme geomorphic events and continues denudation in the mountain areas
- Analysis of wood anatomy changes caused by the exposition and recovering of tree roots caused by geomorphological processes (field experiments)
- Tree-ring wood anatomy based analysis of regulated and unregulated mountain river channels
- Dendrochronological analysis of landslides



Collecting cores of Norway Spruce for dendrogeomorphological analysis of debris flows

Ongoing tree-ring research activities

- "Role of extreme rainfall events in the transformation of small mountain catchments (Gorce Mts., Polish flysch Carpathians)" – Project KBN N N306 264637
- "Analysis of piping and erosional processes in small catchments" by using dendrogeomorphological methods (Bieszczady Mts., Polish flysch Carpathians) – PhD project of Bernatek Anita
- Role of plants in the transformation of braided river channels (Polish flysch Carpathians) – PhD project of Mateusz Sobucki and work of PhD Elżbieta Gorczyca
- Tree-ring based evaluation of the activity of landslides in the Beskid Niski Mts. – MSc. work of Tymoteusz Karcz
- Dendrogeomorphological analysis of headwater areas in the mountain systems – post dock

project of Wrońska-Wałach Dominika and PhD work of Eliza Płaczowska



Collecting roots for dendrogeomorphological analysis

Selected publications

Wrońska-Wałach D. 2009, Dendrogeomorphological analysis of a headwater area in the Gorce Mountains. *Studia Geomorphologica Carphato-Balcanica*, 63, 97-114.

Wrońska-Wałach D., 2010, Reconstruction of extreme geomorphic events in basin headwaters using dendrogeomorphological analysis, *Earth Surface Processes and Landforms* (in press)

Buchwał A., Gorczyca E., Kościelniak J., Wałdykowski P, Wrońska-Wałach D., Experimental exposure and recovery of Spruce roots, *WorldDendro 2010, The 8th International Conference on Dendrochronology* (conference abstract).

Contact information

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Mini-Editorial

Already looking forward to our next Newsletter. Contributions are very welcome, such as:

- Meeting reports (e.g. Eurodendro 2011)
- About Dendrochronologia going ISI
- Report on your dendro lab etc etc

Please send to my email: pascale.weber@wsl.ch

Many thanks! Pascale