

## ABOUT THE LABORATORY

Established in 1937, the University of Arizona Laboratory of Tree-Ring Research is the world's premier and largest center devoted to *dendrochronology* – the study of environments and cultures using tree-rings. The field of dendrochronology was created by UA Professor Andrew E. Douglass, who used tree-rings to date exactly when the ancient peoples of the Southwest built their cliff dwellings.

Today, the laboratory contributes many powerful insights into the long-term dynamics and history of global temperature fluctuations and river flows. Our research findings are frequently in the news—including coverage by major public and scientific media.

## SUPPORT THE LABORATORY OF TREE-RING RESEARCH

In 2012 we expect completion of the new 16,000 square foot Bryant Bannister Tree-Ring Archive Building. This state-of-the-art facility will house our offices, laboratories, and collections, as well as incorporating interpretive exhibits for the public and an extraordinary 10-foot diameter giant sequoia cross-section.

This is an exciting time to support the Laboratory of Tree-Ring Research and to be a part of bringing this premier center into its new, state-of-the-art home.

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*On the cover: Beam from Broken Flute Cave, Arizona, with pith date of 521 CE (common era) and cutting date of 623 CE*

THE UNIVERSITY OF ARIZONA®

## LABORATORY OF TREE-RING RESEARCH

UASCIENCE

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# Laboratory of Tree-Ring Research



Advancing the science  
of dendrochronology



UASCIENCE

# A multidisciplinary education



*Left: Ancient bristlecone pine tree in the White Mountains of California, with "star tracks" circling the North Star. Time-lapse photo by Robert Kawika Sheer. Right: Tree-ring dating at Colorado's Cliff Palace dwellings indicates continuous construction from c. AD 1190 through c. 1260.*

Our undergraduate and graduate students experience a multidisciplinary education at the Laboratory of Tree-Ring Research. Students obtain their degrees through different departments, and faculty hold joint appointments in units spanning the breadth of the sciences across the campus:

- Anthropology
- Atmospheric Sciences
- Ecology and Evolutionary Biology
- Geosciences
- School of Geography and Development
- School of Natural Resources and the Environment

# Fundamental and timely research

## WHY STUDY TREE RINGS?

Our research provides fundamental knowledge and timely applications that are important to Arizona and the world:

- Climate history from tree-rings provides critical perspectives about recent and future hydro-climate variability and change.
- Forest fire history from tree-rings is an important tool for park and wilderness managers in management and restoration of natural ecosystems.
- Tree-ring chronologies of ancient volcanic eruptions and earthquakes yield information about geological change.
- The timing and magnitude of environmental pollution recorded within tree-rings aids in discovery of possible causes of human illness.
- Cultural history from tree-rings helps us to understand how ancient people and societies interacted with their environment.

*Left: A high school intern looks out over old-growth trees and Douglas-fir logs in White Canyon National Monument, Utah. Photo: Dan Griffin Right: Detail of a bristlecone pine.*



# Sharing the wonder of tree-rings



*Senior Research Specialist Rex Adams demonstrates the diameter of a giant sequoia tree with Tucson elementary school children using a radial tree-ring specimen that extends from tree center to bark and has more than 2,000 rings.*

People of all ages love trees and the stories that their rings tell. Sharing these wonders is both educational and fun. Our outreach efforts include:

- Public demonstrations and presentations
- Tree-ring teaching kits
- Display specimens and traveling exhibits
- Expert information and advice to local, state, tribal and federal agencies on cultural history, water supply and ecosystem management

## FOR MORE INFORMATION

To contact the Laboratory of Tree-Ring Research for more information on our outreach programs, including ways to become a volunteer, call 520-621-1608.