



# THE LABORATORY OF TREE-RING RESEARCH

presents a talk by

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*How dendroseismology can help overcome effects of  
authoritarian periods on historical earthquake records:  
the case of Italy and Turkey (1900–1945)*

Wednesday, April 8, 2026 - 12:00pm to 1:00pm

Room: Bannister 110

Periods of authoritarianism can significantly influence historical records about earthquakes and other natural disasters, especially by means of propaganda, censorship, and regime-associated turmoil. Resulting distortions in catalog data endanger the reliability of seismic hazard models and risk policy, especially when degrees of bias and incompleteness are not well understood. However, the need for time depth makes the careful use of historical baselines critical nonetheless. This is particularly the case for the largest and most severe earthquakes, which occur over long return intervals and are therefore poorly represented within the brief instrumental period of modern times. Ultimately the use of multiple lines of evidence is key to overcoming gaps and skew introduced by human processes. Dendroseismology provides one relatively independent way to contribute to the reliability, completeness, and interpretive power of historical earthquake catalogs.

This study shows that dendroseismology is viable in both Turkey and Italy, discussing how the method's strengths and weaknesses interface with those of the region's historical seismology. To do so, I examine the effects of highly authoritarian periods on earthquake records and catalogs from 1900–1945 in each country. By exploring the nature of these distortions I pinpoint priority areas that tree-ring studies can target for maximum benefit. Because dendroseismology may contribute rare and special value in those times and locations insufficiently covered by modern instrumental records, it offers a natural partnership with historical seismology.