Millennial-length tree-ring records: A basis for climate reconstruction an assessment of climate extremes and trends at local to global scales

Wednesday, February 20, 2019 - 12:00pm to 1:00pm
Room: Bannister 110

(Multi-) proxy temperature reconstructions over the Common Era are crucial not only to place current temperature trends in a long-term context, but also to assess the full range of natural and anthropogenic climate forcings. However, estimates of the first millennium remain poorly constrained due to a paucity of millennial long tree-ring records causing a spatial under-representation of some regions in larger scale climate reconstructions and increasing uncertainty in the interpretation of climatic trends and extremes. During my PhD I have addressed this topic by (i) developing a new millennium-length August-September temperature reconstruction based on MXD measurements from Pinus heldreichii trees, growing at the tree line of Mt. Smolikas in the Pindos Mountains in northern Greece and by (ii) assessing millennium-length temperature trends in tree-ring records in a global proxy database compiled by the PAGES 2k consortium, to identify potential drivers that limit long-term temperature trends in tree-ring based temperature reconstructions. In this talk, I would like to give a brief introduction in both topics as well as showing the link to my current research here in Tucson using tree-ring the Pinus heldreichii MXD measurements to reconstruct North Atlantic Jet-stream variability.