



THE LABORATORY OF TREE-RING RESEARCH

presents a talk by

Chris Roos

(Southern Methodist University)

Quantitative reflectance of modern wildfire charcoals: Implications for the origin of sedimentary charcoal assemblages and inference of past wildfire regime shifts

Wednesday, April 2, 2014 - 12:00pm to 1:00pm

Room: Bannister 110

To what degree are crown fires part of the meta-fire regime of Southwestern ponderosa pine forests over millennial timescales? Fire-scar records and calibrated fire-climate reconstructions suggest the role of crown fires may have been limited over the last 1500 years but high energy alluvial fan records may indicate elevated crown fire activity during severe droughts, peaking during the Mid-Holocene Altithermal and, perhaps, during the Medieval Climate Period. Using a microscopy technique from coal petrology, Andrew Scott and colleagues have demonstrated that the quantitative reflectance of polished charcoal blocks in oil immersion is predictably related to the temperature of charcoal formation in experimental settings. We describe reflectance measurements made on modern wildfire charcoals from surface and crown fire contexts to ascertain whether or not the experimental predictions can parse charcoal assemblages formed under different fire severity types.