



# THE LABORATORY OF TREE-RING RESEARCH

presents a talk by

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## *Reconstruction of Ob River, Russia, discharge from ring widths of floodplain trees*

Wednesday, September 14, 2016 - 12:00pm to 1:00pm

Room: Bannister 110

The Ob River is the third largest Eurasian river supplying heat and freshwater to the Arctic Ocean. These inputs influence water salinity, ice coverage, ocean temperatures, ocean circulation, and ultimately the global climate system. Variability of discharge of the Ob River on long time scales is poorly understood because gaged flow records are short. Eleven tree-ring width chronologies of *Pinus sibirica* and *Larix sibirica* are developed from the floodplain of the Lower Ob River, analyzed for hydroclimatic signal and applied as predictors in a regression model to reconstruct 300 years of discharge of the Ob River at Salekhard. The tree-ring signal for river discharge comes from modulation of river basin air temperatures by flooding, which occurs annually with ice-break but varies in extent from year to year. Only about 1/3 of the variance of annual Ob River discharge, 1937-2009, can be explained by reconstruction using this particular model. Greater accuracy is likely if regional tree-ring networks can be incorporated into the reconstruction model to adjust for air-temperature variations not directly associated with the flooding.