1132-35-76 **Jonathan Bell*** (jbell@umbc.edu). *Inverse Problems for Neuronal Cable Models on Graphs.*

For a parabolic equation defined on a tree graph domain, a dynamic Neumann-to-Dirichlet map associated with the boundary vertices can be used to recover the topology of the graph, length of the edges, and unknown coefficients and source terms in the equation. The motivation for this investigation is that the parabolic equation comes from a (linear) neuronal cable equation defined on the dendritic tree of a neuron, and the inverse problem concerns parameter identification of k unknown distributed conductance parameters. The talk is based on joint work with Sergei Avdonin
(University of Alaska, Fairbanks, AK) (Received July 12, 2017)