1117-92-27 **Alan Veliz-Cuba***, 300 College Park, University of Dayton, Dayton, OH 45431. *On the perfect reconstruction of the topology of dynamic networks.*

The network inference problem consists in reconstructing the topology or wiring diagram of a dynamic network from time-series data. Even though this problem has been studied in the past, there is no algorithm that guarantees perfect reconstruction of the topology of a dynamic network. In this talk I will present a framework and algorithm to solve the network inference problem for discrete-time networks that, given enough data, is guaranteed to reconstruct the topology of a dynamic network perfectly. The framework uses tools from algebraic geometry. (Received December 16, 2015)