

## **abstract**

WORKSHOP ON TOPOLOGY: IDENTIFYING ORDER IN COMPLEX SYSTEMS

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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With recent advances in computing power, numerical studies of nonlinear dynamical systems have become increasingly more popular. However, errors inherent to such studies may obscure the dynamics, or in the very least raise doubts about the existence of numerically observed structures. Furthermore, unstable behavior, an intrinsic element of complicated systems, may be difficult to track even with very careful numerical work. I will discuss topological techniques which allow for the rigorous detection of dynamical structures of various stability types. As illustration, I will show sample results for the Henon map, the Kot-Schaffer model from ecology, and time permitting, a coupled-patch population model.