Welcome to instats

The Session Will Begin Shortly

(At the top of the hour, Eastern USA time)

1

START

Nonlinear Time Series Analysis, Part II: Modeling and Phenomenology

Barney Ricca

Lyda Hill Institute for Human Resilience University of Colorado Colorado Springs

3

Seminar Outline

- Day 1
 - Session 1 Overview of Phenomenology
 - Session 2 Dynamical Systems Analysis
- Day 2
 - Session 3 Sparse Identification of Nonlinear Dynamics
 - Session 4 Dynamic Mode Decomposition
- Day 3
 - Session 5 Hidden Markov Models
 - Session 6 Machine Learning Approaches
- Day 4
 - Session 7 Putting it All Together: Lorenz
 - · Session 8 Putting it All Together: Infectious Diseases

Putting it all together

- Infectious diseases
 - Real-world data
- Embedding and recurrences
- Tests
- Singular Spectrum Analysis
- Tests (again!)
- Convergent cross mapping
- SINDy
- DMD (and Havoc)
- Extreme value statistics

5

Questions

$\vdash \cap$	rı i	m
ıU	ı u	m

Available permanently, checked closely for 30 days

7

