INTRODUCTION to COMPLEX SYSTEMS

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MWF 11:50-1:05PM, DSY215, PHYS215

WHY complex systems research is important in understanding the structure, function and dynamics of complex natural and social phenomena. HOW the fundamental methods of complex system research works.

Selected topics:

- Cooperation and competition between molecules, animal species and human groups
- Why are weather, eruption of earthquakes, epileptic seizures, stock markets are unpredictable? Do we have methods to control them?
- Collective behavior of people: (group formation, segregation, emergence of diversity, propagation of opinions): how to use computer simulations?
- Do we live in a small world? Are our friends also friends to each other? (Analysis of social networks)
- How fairness and cooperation evolves?