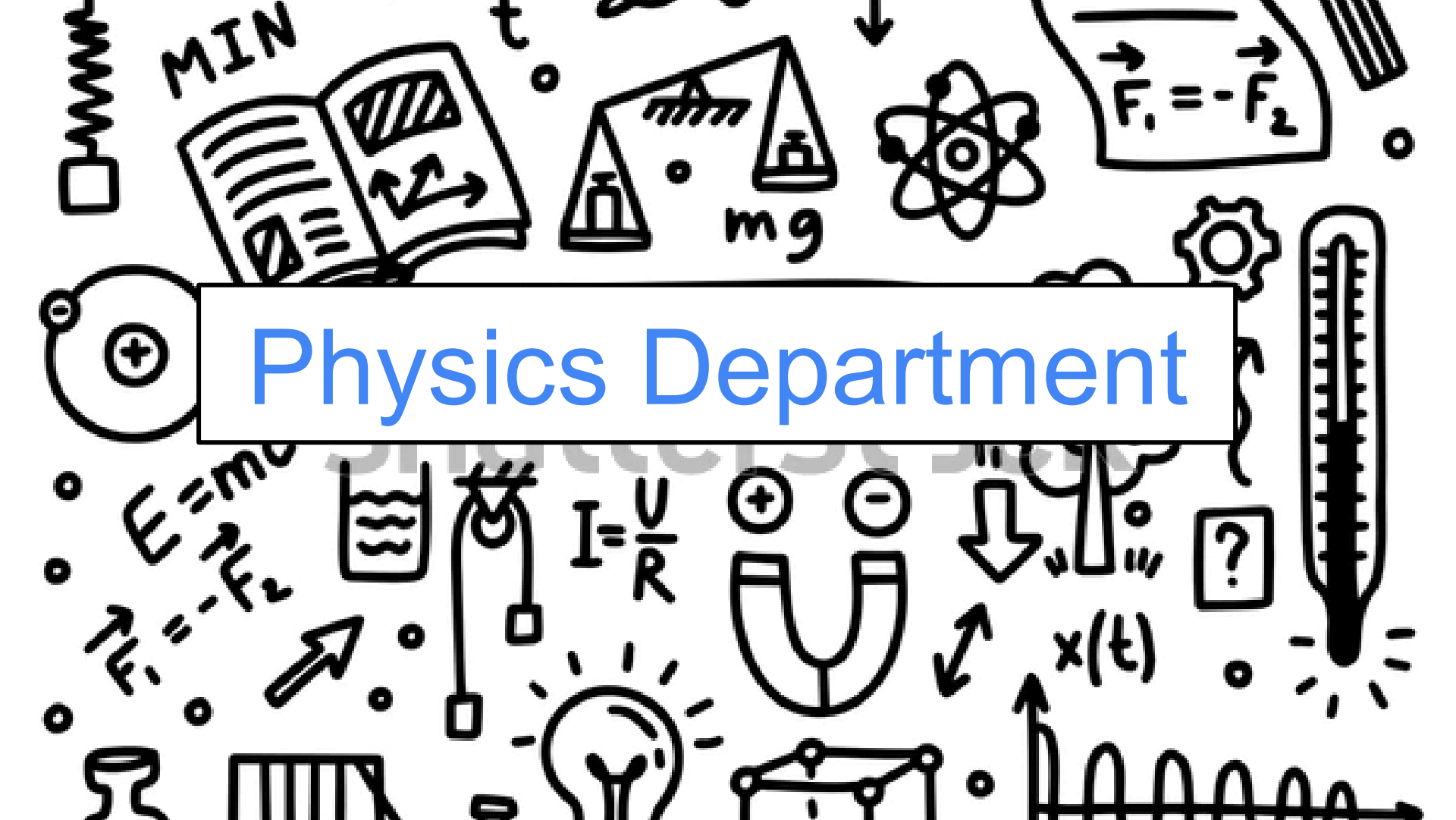




Physics Department

What is Physics?



**WHAT
IS
PHYSICS?**

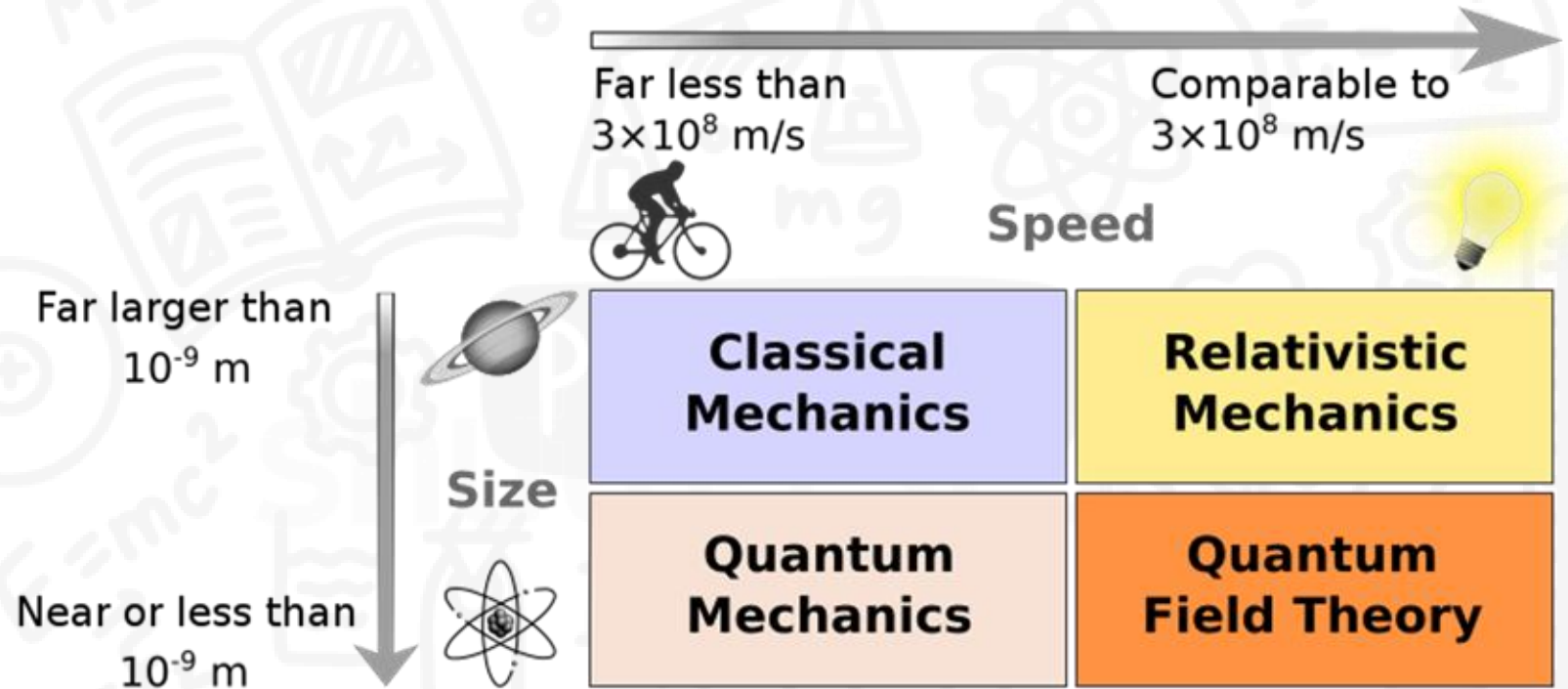
What is Physics?

Physics: The knowledge/description of how nature works across scales



The study of nature's organizing principles, from subnucleus and molecular events to collective behavior and cosmic scales

Physics, an Evolving Science....



➡ Yet, there is a third REVOLUTION: **The Theory of Chaos**

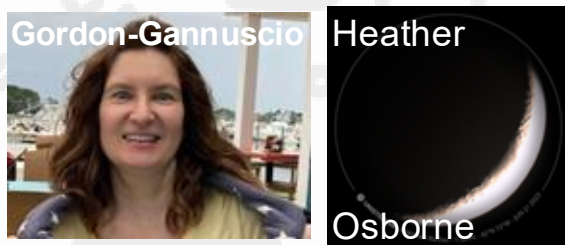
When the present determines the future, but the approximate present does not approximately determine the future

Introducing...

9 continuing faculty



2 Staff



3 Emeriti



- 51 Majors
 - 22 Seniors
 - 29 Juniors
- 15 Grad Students
- 3 Postdocs

+ Visiting Professor
Michael Davino



Research Opportunities

Research Across Scales: Length, Time and Complexity in Physical Systems

Scale	Research Team	Core Theme
Organism/Collective (cm to m); (msec to days)	Animal Behavior Lab McKenzie-Smith	Organismal motion, collective behavior, sensing
Continuum/Soft Matter (μm to m); (msec to hours)	Fluids and Soft Matter Lab Voth	Flow, soft materials, complex dynamics
Materials/Many-Body ($\text{\AA}$ to μm); (fsec to μsec)	Computational Materials Science Starr	Structure-property relations, simulations
Mesoscopic/Wave Complexity (μm to m); (fs to sec)	Wave Transport in Complex Systems Kottos	Metamaterials, Autonomous Intelligence, Imaging and Communications
Optical/Biological (nm to mm); (fs to s)	Bio-Photonics Blümel	Light-matter interactions in biological systems
Ultrafast/Electronic ($\text{\AA}$ to μm); (fsec to psec/nsec)	Ultrafast Spectroscopy Lab Sher	Fast microscopic dynamics
Molecular/Quantum ($\text{\AA}$ to nm); (fsec to μsec)	Molecular Collisions Lab Stewart	Molecular Interactions and scattering