Physics 185–Spring 2001–Physics Beyond Physics
MWF 11-12, Kn 2-115—J. M. Cornwall, instructor

Physics is essential to many other sciences and technologies which you might choose for a career. We will discuss several challenging examples with applications in remote sensing and imaging, and biological sciences. We will learn about tomography, interferometry, fluctuations, nuclear spins, topology, and polymers, especially DNA.

- **Synthetic Aperture Radar**: Makes high-resolution images from satellites or aircraft, even through clouds and at night, including interferometric images and 3-D images.

- **Polymers and DNA**: How polymers twist and fold; the physics of wriggling, stretching, twisting, and Brownian motion. DNA and topology.

- **Magnetic Resonance Imaging**: Makes high-resolution 3-D images of the inside of the body, using only magnetic fields and nuclear spin.

Can be taken as Senior Elective or as 199, if you have already taken Physics 185.