Graduate Study in
AMO Physics

www.physics.utoledo.edu

**Degrees offered:** M. S., M. S. E., Ph. D. in physics; concentrations in materials science; joint M. S. program with Electrical Engineering and Computer Science; Ph. D. concentration in medical physics offered jointly with the Medical College of Ohio

**Faculty:** 25 in all (8, plus two emeriti, in AMO), with an additional hire planned for fall 2006

**Atomic, Molecular, and Optical Physics course offerings**
- Plasma physics, atomic physics, spectroscopy, optics (one semester each, offered occasionally)
- Accelerator physics (offered yearly)

**Research areas**
- Atomic and molecular transition probabilities and oscillator strengths (Cheng, Federman, Schectman)
- Excitation/ionization, charge transfer, secondary emission of electrons from surfaces, photodetachment (Kvale)
- Semi-empirical techniques for structure of highly excited molecules and atoms (Curtis)
- Theory of atomic structure and spectra, including high-performance computational techniques (Ellis)
- Quantum theories of two-atom, few-atom, and many-atom systems, including Bose-Einstein condensates (Gao)
- Plasma discharges, atomic structure, Rydberg states, radiative transitions, and photoionization (Theodosiou)
- Theory and design of optical integrated circuits, components, and devices (Bagley, Deck)

**On-campus research facilities**
- Heavy ion and negative ion accelerators, atomic collision center, vacuum ultraviolet spectrometer, etc.
- Two Beowulf computer clusters, routine access to Ohio Supercomputer Center, Internet 2

**Administrative**

**For admission:** Undergraduate GPA 2.7 or better. Provide official transcript and 3 letters of recommendation. GRE General and Physics sections encouraged. **Deadline:** Completed applications for fall should be at the Graduate School by 15 January in order to be considered in the first round. **International students:** TOEFL $\geq 213$, GRE General required.

**Assistantships:** Stipend is competitive. Tuition is waived.

**For more information and to apply:** www.physics.utoledo.edu

**Inquiries:** Prof. Nancy Morrison (graduate committee chair), ndm@astro.utoledo.edu

13 Dec. 2005