

The Center for Laser Applications (CLA) at The University of Tennessee Space Institute was established in 1984 as a state funded Center of Excellence to provide outstanding capabilities in research, education, and technology transfer in the increasingly important area of laser applications. CLA began as an active multidisciplined and collaborative research group at UTSI with expertise and significant industrial and university-based experience in phenomena related to the interactions of lasers with gases, liquids, and solids. The diverse background of the faculty and staff and the strong mission-related research programs of CLA provide a blend of applied and basic research that is unusual for universities.

The goal of CLA has been to establish a center for graduate education and research that is recognized for its excellence in laser applications. Accomplishment of this goal required selective additions to the UTSI/CLA faculty and staff, recruitment of quality graduate students, and major revisions to the curriculum in recognition of the educational and career opportunities associated with lasers. The associated objectives that were established for CLA research include significant additions to the capital equipment base, the creation of industrial alliances, interaction with other university centers in the state, technology transfer, diversification of the contract income base, and an increase in sponsored research.

In accomplishing its goal, CLA has established capabilities that are unusual for both the state and the nation. The strengths and interests at UTSI in the applications of lasers for diagnostics and materials processing represent an unusual university-based combination that is critical for many industrial, defense, and basic science application areas. Examples of the strengths and interests include combustion systems and jet engine/space propulsion systems development, laser materials processing, ground-based (simulated) aerospace testing, electro-optics, non-linear optics, quantum optics, molecular spectroscopy, and laser induced or assisted chemical reactions. All of these areas have obvious relevance to the future competitiveness of technological industries and institutions of the state, region, and nation.

A significant fraction of the research and development program of the Center is supported by state, regional, and national industries. CLA actively collaborates with the Center for Industrial Services to provide studies for Tennessee industries, and CLA has also formed long-term research partnerships with regional and national industries. Supplementing these activities are research programs sponsored by the traditional federal agencies, the National Science Foundation, and the nearby Arnold Engineering Development Center. These diverse research activities, an attractive student-to-faculty ratio, and outstanding facilities, combine to offer an unusual apprenticeship experience for diligent graduate students.

For further technical information regarding the Center, please contact:

Dr. James Simonton, CLA Director

(931) 393-7319