Office of Energy Efficiency and Renewable Energy

Graduate Automotive Technology Education (GATE)

Background

Developing critical automotive technologies requires multidisciplinary expertise. The development of fuel cells, for instance, requires knowledge of mechanical, electrical, and chemical engineering. Most universities, however, are not structured so that students can draw equally, cooperatively, and simultaneously from several academic disciplines. The U.S. Department of Energy's (DOE's) Graduate Automotive Technology Education (GATE) program addresses that problem by establishing centers of automotive research at selected universities in five critical technology areas: fuel cells, hybrid drivetrains and control systems, lightweight materials, direct-injection engines, and advanced energy storage. Through GATE, nine universities will develop graduate-level curricula with accompanying research programs.

Accomplishments

- Nine universities were selected through a competitive proposal process to establish GATE centers.
- Each university has established an industry advisory board that will help the GATE center respond to critical research needs and become self-supporting. Because industry is the ultimate beneficiary of the program, it is essential that it plays a role in the development of the centers. Industry will make a variety of contributions to GATE by providing internships for students, research topics for students, shared research facilities or equipment, guest lecturers, research contracts, jobs for graduating students, and direct funding.

Benefits

- GATE will help educate and train a continual supply of talented scientists and engineers experienced in critical automotive technologies who can keep the U.S. auto industry competitive into the next century.

GATEWAY TO THE FUTURE

GATE

GRADUATE AUTOMOTIVE TECHNOLOGY EDUCATION

Future Activities

- Beginning in academic year 1999-2000, DOE will offer a limited number of fellowships at each university. Participating students will receive an MS or PhD with a focus or certificate in one of the five critical technology areas.
- Increase industry participation in GATE centers, both on advisory boards and directly in student activities.
- Establish stronger links with national laboratories. Such relationships could result in talented engineers accepting positions in national laboratories. The national laboratories might also be used to test or validate research results.

Partners in Success

Michigan Tech
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OFFICE OF TRANSPORTATION TECHNOLOGIES

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