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Interdisciplinary collaborations, a systems level approach, plus close ties with industry, all working together to yield groundbreaking and timely research is the formula for success for the ECE Department at Carnegie Mellon.

Ranked among the best electrical and computer engineering departments in the country, our research programs have always been at the forefront of the ideas and the technologies that have changed the world we live in. Interaction with industry through individual faculty sponsors and entrepreneurship, focused research center programs coupled with a creative and innovative approach to research have proved invaluable in helping us anticipate the future of technology and the needs of society.

One of Carnegie Mellon's major strengths is our interdisciplinary and integrated approach to research and education. Faculty and students from across multiple disciplines work together seamlessly to solve today's multifaceted engineering problems and bring new ideas and technologies to the world. This interdisciplinary approach to research and education facilitates wide-reaching collaboration and the formation of focused centers ensures the impact of our research efforts.

Included among our strong collaborations are close ties between the ECE Department and the School of Computer Science in both education and research. The two organizations have many jointly appointed faculty and courtesy appointments; faculty members in the Computer Science Department have courtesy appointments in ECE and visa versa allowing for the supervision of each other's graduate students and also to serve on Ph.D. thesis committees in the two departments. Similar relationships also exist with departments such as Engineering and Public Policy, Biomedical Engineering, Materials Science and Engineering, Mechanical Engineering, Robotics and Physics.

Out of this fertile multidisciplinary environment the department has created strengths in the following areas:

- Computer Systems
- Computer Security
- Computer Architecture
- Communications, Wireless and Broadband Telecommunication
- Embedded Systems
- Signal, Image and Video Processing
- Energy Systems
- Information Storage Systems
- Integrated Circuit Design, Manufacturing & Testing
- Microelectromechanical Systems
- Nano-enabled Technologies

Carnegie Mellon has entered the global educational and research arena with campuses in California and Qatar, and programs in Australia, China, Greece, India, Japan, Korea, Portugal, and Taiwan. To ensure that our students will be leaders in a global economy, the ECE Department has added several ECE focused research and education partnerships with Taiwanese government-sponsored universities and research institutes, with the Agency for Science, Technology and Research of Singapore (A*STAR), and the Information Communications Technology Institute of Portugal among others. As part of CyLab's new Mobility Research Center, which has programs both on the Carnegie Mellon Pittsburgh campus and at the Silicon Valley campus, ECE is offering full or part-time Ph.D. students the opportunity to do all or part of their studies at the Silicon Valley campus. Initial focus will be on mobility, networking and security.

In short ECE is a dynamic global leader producing research and students who are impacting society and technology around the world.