



**Wallace Bunn Endowed Chair of the
Department of Electrical and Computer Engineering**

The University of Alabama at Birmingham (UAB) invites applications and nominations for the position of Wallace Bunn Endowed Chair of the Department of Electrical and Computer Engineering (ECE). This major opportunity requires a proven research leader in electrical and computer engineering with ability to transform the ECE Department from a department primarily focused on teaching at the undergraduate and graduate level to one that is engaged in both teaching and research. Under the leadership and direction of the new Chair, the ECE Department's research programs will be expanded and enhanced with the addition of several new faculty positions, and the development and implementation of a plan to build research efforts within the ECE Department while maintaining and improving the existing teaching program. New research efforts within ECE most likely will include collaborative undertakings with other departments within the School of Engineering, and with other schools throughout the university, particularly Medicine, Arts and Sciences (especially the Department of Computer and Information Sciences), and Business. The successful candidate will have demonstrated ability to organize and lead interdisciplinary and multidisciplinary research teams in an academic, non-profit, or industrial environment and compete for funding at the highest levels. Candidates must have teaching experience and a record of scholarship sufficient to justify appointment to a tenured position at the full professor level. An earned Ph.D. in electrical engineering, computer engineering, computer science, or a related area is required.

The Location – Birmingham, Alabama

Birmingham, located at the southern most edge of the Appalachian Mountains, is the largest city in Alabama. The metropolitan area is home to 1.2 million people and is a significant commercial center in the Southeast. The city's business base has evolved from manufacturing to a service economy with strong professional, business, legal, and medical sectors. Six Fortune 1000 companies are located in the region and the area's income growth rate is highly ranked.

Birmingham is also a leading regional cultural center and its many attractions include the Alabama Symphony, Alabama Ballet, and the Birmingham Museum of Art. Birmingham's pivotal role in the civil rights movement is chronicled in the Birmingham Civil Rights Institute that promotes civil and human rights education worldwide.

A notable attraction to the area is the quality of life in the Birmingham metropolitan area. The housing market and cost of living are among the most affordable in the Southeast. Attractive housing choices exist in the city's historic neighborhoods as well as in the surrounding hilly and scenic communities. Both public and private secondary schools in the area are recognized as among the nation's best.

The University of Alabama at Birmingham

UAB is a research-intensive university with annual funded grant research expenditures that exceed \$430 million. Collaboration based on inter-disciplinary, inter-school, and entrepreneurial problem solving are hallmarks of UAB's culture. The culture of collaboration has played an important role in the University's growth and remarkable ascent as a research institution. Research is often conducted through the University-Wide Interdisciplinary Research Centers that provide unique infrastructure to facilitate and support research; the School of Engineering participates in research organized through many of these centers, including the BioMatrix Engineering and Regenerative Medicine Center, the Center for Biophysical Science and Engineering, and the Center for Computational and Structural Dynamics.

The University and its health system have an annual operating budget of approximately \$2 billion. UAB includes the College of Arts and Sciences, nine schools, the Graduate School, and the Division of General Studies that cover a broad range of social sciences, humanities, engineering, business, life and physical sciences, nursing, health professions, dentistry, optometry and medicine. UAB's medical, nursing, and other health-oriented schools are national leaders. The University and its health system occupy over 85 city blocks and the campus is a unique blend of a "walkable" urban setting containing expansive green areas.

There are 2,249 faculty and 16,874 students enrolled at the University. The student body includes 10,646 undergraduates of whom 28% are people of color and 58% are female. The Princeton Review ranked UAB third in the nation on race and class integration.

The School of Engineering

The School has five departments (Biomedical Engineering; Civil, Construction and Environmental Engineering; Electrical and Computer Engineering; Materials Science and Engineering; and Mechanical Engineering). All departments offer undergraduate and graduate degrees. All of the undergraduate programs are accredited by the Accreditation Board for Engineering and Technology (ABET). The School has 65 full time faculty members and approximately 1100 undergraduate and graduate students. The School emphasizes interdisciplinary research efforts in high performance computing, modeling and simulation, tissue engineering, biomedical imaging, composite materials, and construction engineering. The School's annual research expenditures are approximately \$10 million.

The Department of Electrical and Computer Engineering

Electrical and Computer Engineering (ECE) is comprised of nine faculty and approximately 200 undergraduate and graduate students. The Department's major emphasis has been to educate engineers for professional positions through the Master's level; the Department also offers a Ph.D. in Computer Engineering and a Ph.D. in Interdisciplinary Engineering. Active research areas in the Department include computer and software engineering, control systems, sensor networks, power systems, telecommunications, and signal and image processing.

Under leadership and direction of the new Chair, the ECE department's research programs will be expanded and enhanced. Funds will be made available to the new Chair to add several new faculty positions.

ECE is strategically positioned to be an active partner with other departments and schools in areas such as biomedical imaging, neuroscience, and bioinformatics. Some potential areas for growth include:

- Computing – The Mechanical Engineering Department operates two major computing centers: The Computational Simulation Laboratory, which develops and applies high performance computing tools in the fields of computational fluid dynamics and structural mechanics, and the Enabling Technology Laboratory, which explores new technologies related to numerical geometry, mesh generation, scientific visualization, virtual environment simulation, and other high performance computing problems. Current computing capacity within this laboratory exceeds 6.5 teraflops.

- Biomedical Imaging – Intense demand exists within the medical school for support from and collaboration with the ECE Department to pursue advanced biomedical imaging research. The University houses major research facilities and expertise in biomedical imaging and image processing, and is home to several magnetic resonance imaging research instruments including a 9.4 Tesla small animal scanner, a 4.7 Tesla vertical bore primate scanner, and several 3 Tesla human scanners, one of which is devoted to neuroimaging research. There are also MEG and SPECT imaging facilities, and multiple confocal and two photon microscopic imaging facilities. Facilities under construction include the \$15 Million Advanced Imaging Center with cyclotron and PET imaging capabilities. Ongoing and new activities in this center will provide additional opportunities for ECE to collaborate with Neurology, the Comprehensive Cancer Center as well as other departments in the School of Medicine.
- Medical Center Programs -- Current collaborations exist between the School of Engineering and the School of Medicine in biomedical imaging, biomaterials, injury biomechanics, and computational biology. Additionally, UAB is expanding its expertise in the informatics area. ECE has a major opportunity to enhance and expand these collaborations in all of these areas.
- Information Engineering – The ECE Department has a longstanding tradition of connection to the region’s Information Technology Community. ECE currently offers a Master’s Degree in Information Engineering Management to support the educational goals of the growing IT community in Birmingham.

Qualifications

The new ECE Chair must be committed to improving the Department’s undergraduate and graduate programs and to building a strong research enterprise. The ideal candidate will have an earned doctorate in electrical engineering, computer engineering, computer science, or a related field, and will possess a strong research reputation and proven ability to lead. Excellent communication and interpersonal skills are essential.

The successful candidate will have many of the following experiences, capabilities, and attributes:

- Demonstrated leadership building research programs within a university department or research institute, or other non-academic research organization, such as a non-profit or industrial research operation;
- Prior success competing for extramural research and development funds, producing excellent scholarship, and educating students;
- Experience building academic and research partnerships with faculty and senior administrators through influence and persuasion;

- Ability to build partnerships with industry;
- Ability to lead using approaches and processes that emphasize inclusion, transparency, and respect;
- Ability to create an environment in which faculty are motivated to contribute to the research and teaching objectives of the Department;
- Strong commitment to diversity;
- High energy level; and
- A collegial and engaging personality.

Please send nominations and applications to:

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The University of Alabama at Birmingham is an affirmative action/equal opportunity employer and is responsive to the needs of dual career couples. Women, minorities, individuals with disabilities, and veterans are encouraged to apply.