Erik Jonsson School of Engineering & Computer Science

Advances in technology are causing some of the most dramatic changes in the history of civilization. With a mandate from the State of Texas, Texas Instruments and industry, the Erik Jonsson School of Engineering & Computer Science is emerging as a national leader in the technological revolution.

The achievements of the Erik Jonsson School in its short 29-year history include:

- SAT scores of freshmen that are the highest of any public university in Texas.
- The school is the third most highly ranked public engineering school in Texas, according to *US News & World Report*.
- The school is the fifth highest producer of women graduates in Computer Science in the U.S. and the sixth highest producer of women graduates in Electrical Engineering, according to the American Society for Engineering Education (ASEE).
- The school is among the top five producers of computer science graduates in the U.S. and among the top ten producers of Electrical Engineering graduates, according to ASEE.
- The school is home to some of the world's top faculty in several fields.
- The school established the nation's first accredited telecommunications engineering program.

With 900 high tech companies nearby, the Jonsson School's location means that students and industry benefit from cutting edge research and development, top-notch internships and cooperative education programs, and highly qualified employees. These are just a few benefits of a strong alliance between industry and academe.

At The University of Texas at Dallas, the strong tie that binds the University to corporations was present even at UT Dallas's inception. Some 46 years ago, the founders of Texas Instruments (TI) offered their private research and development institution to the State of Texas to become part of The University of Texas System. Sixteen years later, the Texas Higher Education Coordinating Board authorized UT Dallas's Erik Jonsson School of Engineering & Computer Science to prepare students to tackle the rapidly changing world of technology and communications.

A strategic collaboration between UT Dallas, Texas Instruments, and the State of Texas is helping to ensure that the Erik Jonsson School will be recognized as one of the nation's elite engineering schools. This $300 million investment features construction of a 200,000 sq. ft. research building, the addition of 40 faculty members, recruitment of 400 full-time graduate research students, and the formation of new degree programs. Focusing strong interest in the investment, TI built a $3 billion semiconductor chip manufacturing facility near the University if the State of Texas allocated $50 million for research at UT Dallas. The investment includes a commitment from UT Dallas to raise $100 million from public and private sources.

UT Dallas and the Jonsson School have maintained close ties with TI, but as enrollment and programs
have grown, so have strong relationships with other corporations such as Alcatel, Nortel, Ericsson, Nokia, Verizon, Lucent, Zyvex, Raytheon, EDS, SBC Communications, Tri-Quint Semiconductor, Cisco Systems, Lockheed Martin, Intervoice, and many others. Industry leaders have joined with UT Dallas and the Jonsson School to conduct research, share resources, enhance educational opportunities, and develop new technologies.

The Jonsson School is organized into six departments: Bioengineering, Computer Science, Electrical Engineering, Materials Science and Engineering, Mechanical Engineering, and Systems Engineering.

The Computer Science Department was created in 1975 and became a part of the Jonsson School in 1986. Today UT Dallas boasts one of the largest computer science departments in the country, with a talented student body numbering more than 1,500, taught by an internationally recognized group of 46 tenured/tenure-track faculty and 13 experienced senior lecturers. The UT Dallas Department of Computer Science is committed to excellence in three areas: providing the highest quality instruction to undergraduate and graduate students; conducting leading edge research in computer science and engineering; and providing leadership and services to professional communities. The graduate curriculum focuses on preparing students to perform fundamental and development research. Courses and research are offered in a variety of sub-fields of computer science.

The Electrical Engineering Department was founded in 1988 and graduated its first MS student in 1989. It has grown to become the third largest Electrical Engineering program in the state, graduating 364 students in academic year 2011-2012, and out-producing such well-known schools as the University of Colorado, Iowa State, Michigan State, and the University of Oklahoma. UT Dallas' Electrical Engineering Program provides high quality education and internationally competitive research to the Dallas-Fort Worth Metroplex and Texas, focusing its efforts on areas of greatest need to North Texas industry. The department features 49 tenured/tenure-track faculty members supported by 8 senior lecturers. The program specializes in the following areas: Communications and Signal Processing, Digital Systems, Microelectronic Circuits and Systems, Optical and Photonic Devices, Materials and Systems, and Solid-State Devices and Circuits.

The Department of Materials Science and Engineering, created in 2006 and authorized to offer PhD and Master's degrees, already has fifteen tenure-system faculty members and world-class experimental facilities.

The rapidly growing Department of Mechanical Engineering, organized in 2008, offers Bachelor's and Master's degrees, and jointly with The University of Texas at Arlington, the PhD degree.

The Department of Bioengineering was organized in 2010 and is authorized to offer Bachelor's, Master's and PhD degrees in Biomedical Engineering.

The newest department in the School, Systems Engineering, offers the degree of Master of Science in Systems Engineering and Management jointly with the Naveen Jindal School of Management.

Degrees Offered

- **Master of Science in Biomedical Engineering** (33 semester credit hours minimum)
- **Master of Science in Computer Engineering** (33 semester credit hours minimum)
• **Master of Science in Computer Science** (33 semester credit hours minimum)
• **Master of Science in Electrical Engineering** (33 semester credit hours minimum)
• **Master of Science in Materials Science and Engineering** (33 semester credit hours minimum)
• **Master of Science in Mechanical Engineering** (33 semester credit hours minimum)
• **Master of Science in Software Engineering** (33 semester credit hours minimum)
• **Master of Science in Systems Engineering and Management** (33 semester credit hours minimum)
• **Master of Science in Telecommunications Engineering** (33 semester credit hours minimum)
• **Doctor of Philosophy in Biomedical Engineering** (75 semester credit hours beyond the baccalaureate degree)
• **Doctor of Philosophy in Computer Engineering** (75 semester credit hours beyond the baccalaureate degree)
• **Doctor of Philosophy in Computer Science** (75 semester credit hours beyond the baccalaureate degree)
• **Doctor of Philosophy in Electrical Engineering** (75 semester credit hours beyond the baccalaureate degree)
• **Doctor of Philosophy in Materials Science and Engineering** (75 semester credit hours beyond the baccalaureate degree)
• **Doctor of Philosophy in Mechanical Engineering** (78 semester credit hours beyond the baccalaureate degree)
• **Doctor of Philosophy in Software Engineering** (75 semester credit hours beyond the baccalaureate degree)
• **Doctor of Philosophy in Telecommunications Engineering** (75 semester credit hours beyond the baccalaureate degree)

Certificates Offered

• **Certificate in Cybersecurity Systems** (12 semester credit hours)
• **Certificate in Information Assurance** (15 semester credit hours)
• **Certificate in Systems Engineering** (12 semester credit hours)
• **Certificate in Systems Management** (12 semester credit hours)

Faculty

**Professors:** Naofal Al-Dhahir, Orlando Auciello, Poras T. Balsara, Farokh B. Bastani, Dinesh Bhatia, Andrew J. Blanchard, Yves J. Chabal, R. Chandrasekaran, Kyeongjae (KJ) Cho, Stuart Cogan, Ann (Catrina) Coleman, James J. Coleman, Ovidiu Daescu, David E. Daniel, Yvo G. Desmedt, Ding-Zhu Du,

**Associate Professors:** Sergey Bereg, Gerald O. Burnham, Yun Chiu, Lawrence Chung, Jorge A. Cobb, Lev D. Gelb, Xiaohu Guo, Kevin Hamlen, Rashaunda Henderson, Wenchuang (Walter) Hu, Rooshbeh Jafari, Murat Kantarcioğlu, Hoi Lee, Stefano Leonardi, Yaoyu Li, Yang Liu, Dongsheng (Brian) Ma, Andrian Marcus, Neeraj Mittal, Yu-Chung (Vincent) Ng, Issa M. S. Panahi, Siavash Pourkamali, Shalini Prasad, Dong Qian, Manuel Quevedo-Lopez, Mario Romero-Ortega, Kamil Sarac, Haim Schweitzer, Mihaela C. Stefan, Amy V. Walker, Yonas Tadesse, Walter E. Voit, Jun Wang, Hyuntae Yoo, Chadwin D. Young, Lingming Zhang


**Visiting Assistant Professor:** Turaj Ashuri

**Research Professors:** Ranavir Bose, Walter Duncan, Andrew Marshall, Hisashi (Sam) Shichijo

**Research Assistant Professors:** Hynek Boril, Abhijeet Sangwan


**Professors Emeritus:** Louis R. Hunt, William J. Pervin, Don Shaw, Klaus Truemper

**UT Dallas Affiliated Faculty:** Kenneth J. Balkus Jr., Farokh B. Bastani, Ray H. Baughman, Alain Bensoussan, Andrew J. Blanchard, Yves J. Chabal, Julia Chan, Kyeongjai (KJ) Cho, Wonjae Choi, Ann (Catrina) Coleman, James J. Coleman, Babak Fahimi, John P. Ferraris, Bruce E. Gnade, Matthew J. Goeckner, Robert D. Gregg, Fatemeh Hassanipour, Wenchuang (Walter) Hu, Michael P. Kilgard,


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