The Min Kao
Electrical Engineering & Computer Science Building

MAY 14, 2007

OF ENGINEERING EDUCATION AND RESEARCH
About the College of Engineering

In 1834, Joseph Estabrook, a man of strong scientific interest and background, became the president of what was then East Tennessee College. Estabrook hired a group of distinguished professors to provide instruction in chemistry, geology, mineralogy, trigonometry and civil engineering. In 1877, the university was organized into three colleges: Agriculture and the Organic Arts; Mechanic Arts, Mining and Engineering; and Languages and Fine Arts. The state of Tennessee legislature officially named the institution The University of Tennessee in 1879 and authorized the granting of advanced degrees in both civil and mining engineering.

The Cooperative Engineering Program, which offers students an opportunity to combine both academic study and professional work experience, was established in the College of Engineering in 1926.

UT alumnus and football hero Dr. Nathan Dougherty became dean of The University of Tennessee College of Engineering in 1940. Dougherty initiated an exciting new era at the college. In 1951, the college began a doctoral program that offered a specialization in chemical engineering and metallurgy was added in 1957 to support the growing involvement with the university in cooperative projects with the Oak Ridge National Laboratory (ORNL) and the U.S. Air Force's Arnold Engineering Development Center in Tullahoma, Tenn.

The college established the Minority Engineering Scholarship Program (MESP) in 1973 in order to increase the number of African-American students enrolled in engineering studies. This highly successful program was re-named the Diversity Engineering Scholarship Program (DESP) in 2000 and continues to provide financial and scholastic support to hundreds of minority students each year.

Dr. Way Kuo, former associate vice chancellor and executive associate dean of engineering at Texas A & M University, was named COE dean in July 2003.

Acknowledgements

We would like to thank the following organizations, departments and individuals who assisted with this event:

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Ms. Susan Ballentine, Office of Advancement Services
Mr. Brian Browning and Mr. Mike Sherrill, Facilities Services
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Companies and Organizations
Mr. Jon Cassat, Garmin Ltd.

The Min Kao Groundbreaking Ceremony events were supervised by
The College of Engineering Communications Office
Kim Cowart, Manager
Craig Cook, Communications Specialist
Amanda Womac, Graduate Assistant

Agenda

Groundbreaking Ceremonies
The Min H. Kao Electrical Engineering and Computer Science Building

May 14, 2007

Welcome and Introductions
Dr. Loren Crabtree
Chancellor, The University of Tennessee, Knoxville

Remarks
Dr. John Petersen
President, The University of Tennessee System

Remarks
Ms. Kim McMillan
Senior Advisor, Governor’s Office, The State of Tennessee

Introduction of Dr. Min Kao
Dr. Way Kuo
Dean of Engineering and University Distinguished Professor

Proclamation Presentation
Mr. Bill Haslam
Mayor, City of Knoxville

Proclamation Presentation
Mr. John Werner
Senior Director of Finance, Knox County

Remarks
Dr. Min H. Kao
Chairman and CEO, Garmin Ltd.

Special Presentation
Dr. Loren Crabtree

Introduction of Groundbreaking Team
Dr. Loren Crabtree

Groundbreaking Ceremony

Closing Remarks
Dr. Loren Crabtree

Reception
All guests are invited to attend
The Min H. Kao Electrical Engineering and Computer Science Building

UT alumnus Dr. Min H. Kao, Chairman and CEO of Garmin Ltd., a world leader in global positioning systems (GPS) technology, committed in June 2005 to a transformational gift of $17.5 million to the COE—the largest single private donation in UT history to that date. A total of $12.5 million from the donation is designated for the construction of the new Min Kao Electrical Engineering and Computer Science Building (EECS). The Tennessee State Legislature’s approval of Governor Phil Bredesen’s proposed $25 million in state funding enhanced the building initiative to a total of $37.5 million for the 150,000 square foot building.

Dr. Kao also pledged $5 million to match other private donations up to that same amount, with the goal of generating a $10 million endowment for the department. This unique public-private partnership allows the newly named Min Kao Department of Electrical Engineering and Computer Science to offer world-class educational and research opportunities and provides significant assistance to the COE toward its goal to become ranked among the top engineering schools in the United States.

Dr. Kao received a B.S. degree in electrical engineering in 1971 from National Taiwan University, and M.S. and Ph.D. degrees in electrical engineering from UT in 1975 and 1977, respectively. Dr. Kao’s initial contact regarding the gift proposal was made in March of 2004 through Dr. James Hung, his former UT advisor in the ECE department.

Estabrook Hall

Originally completed in 1898, Estabrook Hall has been on the university’s list of renovation projects for a number of years. In June of 2005, the legislature approved $16.6 million for reconstruction of the building. A second proposal to rebuild Estabrook on a site adjacent to the existing Estabrook and behind the Pasqua Nuclear Engineering Building has been initially approved by the UT administration, contingent upon identification of additional public and private funding of approximately $4-$7 million, for a total building cost of approximately $23 million.

Current plans are for the new 90,000 square foot facility to house both the Civil and Environmental Engineering (CEE) and Nuclear Engineering (NE) Departments. The design is proceeding for the initial CEE part of the building, with options for the additional space needed by NE when funds have been solidified. The approach would allow for the current Estabrook building to remain occupied until completion of the new Estabrook. It is anticipated that the Estabrook design will be completed by late 2008, followed by the groundbreaking in the summer of 2008.

The Joint Institute for Advanced Materials (JIAM)

In July of 2005, $20 million in federal funding was secured through the efforts of former Senator Bill Frist and Senator Lamar Alexander for JIAM, a joint UT-ORNL National Laboratory (ORNL) for construction of another capital facility to facilitate research in advanced materials. The infusion of over $90 million (and additional expected resources) in new funding is an unprecedented event in the history of the college, and one that offers infinite possibilities for the future.

Building Our Future Statement from Dean Kuo

“We are profoundly grateful to Dr. Kao for his wonderful generosity as well as to Governor Bredesen and the state legislature for serving as key partners for these projects. Senators Frist and Alexander are also to be commended for their backing of this visionary investment in the field of materials and transportation research through JIAM. We also greatly appreciate the leadership and ongoing support of these initiatives by UT Knoxville Chancellor Loren Crabtree and UT President John Petersen. The commitments made by Dr. Kao, private donors and our federal and state governments, which total almost $100 million, will have a far-reaching impact on generations of engineering students for many years to come,” said COE Dean Way Kuo.

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Dr. Min Kao, Chairman & CEO, Garmin International, Inc.

Dr. Min Kao co-founded Garmin Corporation with Gary Burrell in October 1989 to integrate Global Positioning System (GPS) technology into navigation devices for multiple markets. Today Dr. Kao directs the day-to-day operations of Garmin International, Inc. and is credited with the breakthrough design and engineering of the GPS software technology that formed the foundation of the original Garmin product line.

Prior to founding Garmin, Dr. Kao served as a systems analyst at Teledyne Systems for inertial, radio navigation and fire control systems. While at Magnavox Advanced Products, he designed the Kalman filter algorithms for Phase II GPS user equipment. He later served as engineering group leader with King Radio Corporation and Allied Signal, where he led the development of the first GPS navigator to be certified by the FAA. Dr. Kao has a B.S. in electrical engineering from National Taiwan University. His career began at the University of Tennessee, where he earned his M.S. and Ph.D. degrees in electrical engineering and was involved in research for NASA and the U.S. Army.

Mrs. Fan Kao - Philanthropist

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Ms. Kim McMillan - Senior Advisor, Office of the Governor

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Ms. McMillan was first elected to the Tennessee House of Representatives in 1994 and was re-elected five times. In 2006, she completed her twelfth year in the legislature. Ms. McMillan has served on the Finance, Ways & Means Committee, the Budget Subcommittee, the Judiciary Committee, the Government Operations Committee, the Calendar and Rules Committee and was Chairperson of the House Ethics Committee and House Rules Committee. In 2002, and again in 2004, she was elected by her colleagues to the position of House Majority Leader, becoming the first female in Tennessee history to serve in that position. As Majority Leader, she was also responsible for sheparding the Governor's entire legislative agenda through the General Assembly, including the annual budget that currently exceeds $25 billion dollars.

In 2006, Ms. McMillan made the difficult decision not to run for re-election to the 67th District Representative seat she occupied for 12 years. In January of 2007, however, the Governor asked her to join him as part of his cabinet during his second term. Ms. McMillan returned to state government in her new position as Senior Advisor to the Governor on January 22, 2007.

Ms. McMillan is married to Larry McMillan, a native Clarksvillian, who is the Chancellor for the Chancery Court in the 19th Judicial District. They have two children: Katie, 15, and Ryan, 14.
Mr. John Werner, Senior Director of Finance, Knox County

Mr. Werner is responsible for the oversight of Knox County government's finances, including daily operations, central accounting, payroll, cash and risk management, procurement, five-year capital plan and the annual budget. He was recruited by Knox County Mayor Mike Ragsdale at the beginning of Mr. Ragsdale's first elected term in 2002.

Prior to joining the Knox County government, Mr. Werner was partner and managing director of Holrob Equity Fund, chief of staff and business unit manager for Clayton Homes, Inc. and Vanderbilt Mortgage and Finance, Inc. He has also worked for Tennessee Insurance Service.

Mr. Werner received a M.S. in business administration, majoring in finance, from the University of Tennessee and has completed a program on negotiation at the Harvard Law School. He is also a 2005 graduate of Leadership Knoxville.

Dr. John Petersen - President, University of Tennessee System

Dr. John Petersen was named President of the University of Tennessee System in 2004. The UT System includes campuses at Knoxville, Chattanooga and Martin; the UT Space Institute in Tullahoma and the UT Center for Health Sciences in Memphis; the UT Institute for Public Service and the statewide UT Institute of Agriculture.

As UT president, Dr. Petersen has implemented a university-wide strategic plan; led the UT system to record levels of research awards and private giving; and enhanced initiatives to improve UT’s partnership with Oak Ridge National Laboratory (ORNL).

Prior to coming to UT, Dr. Petersen was chancellor, provost for university affairs and a professor of chemistry at the University of Connecticut. He was dean of the College of Science at Wayne State University, and was associate dean for research, College of Sciences at Clemson University.

Dr. Petersen is chairman of the UT-Battelle Board of Governors; an ex-officio member of the University of Tennessee Board of Trustees; a member of the Executive Committee for the Council for Chemical Research Board of Directors; and a member of the Committee on Executive Compensation for the American Chemical Society.

Dr. Petersen received a Ph.D. in inorganic chemistry from the University of California, Santa Barbara and a B.S. degree in chemistry from California State University, Los Angeles.

Mr. Jim Porter - Vice President of Engineering and Operations, DuPont Corporation/Chair, The University of Tennessee College of Engineering Board of Advisors

Mr. Porter joined DuPont in 1966 as a chemical engineer in the engineering service division (ESD) field program at the Engineering Test Center in Newark, Del.

After assignments at DuPont locations across the country, Mr. Porter was appointed director of operations in 1995. He also assumed the position of vice chairman of the DuPont Corporate Operations Network. He was named vice president of Engineering November 1, 1996, and assumed his present position as vice president of Engineering and Operations in January 1999.

Mr. Porter has served as chair for the Construction Industry Institute and Delaware's United Negro College Fund. He is a member of the Board of Directors for AIChE, PIATECH and the Fieldbus Foundation; participates on various industry advisory boards including AIChE’s Center for Chemical Process Safety; and is a member of the National Academy of Construction. He was also recently appointed to the Board of Governors for the Argonne National Laboratory. Mr. Porter currently serves as chair of the University of Tennessee's College of Engineering Board of Advisors.

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Dr. Way Kuo, College of Engineering Dean and University Distinguished Professor

Dr. Kuo is Dean of Engineering and a University Distinguished Professor at the University of Tennessee, Knoxville.

He received his Ph.D. degree in engineering from Kansas State University and a B.S. degree in nuclear engineering from National Tsing-Hua University in Taiwan.

Previously, Dr. Kuo was the Royce E. Wiesenbaker Chair of Engineering in Innovation and the Executive Associate Dean of Engineering at Texas A&M University. Dr. Kuo was appointed as a National Research Council senior research associate and named as a senior Fulbright scholar. He has also worked for Bell Laboratories.

Dr. Kuo is an elected member of the U.S. National Academy of Engineering, Academia Sinica (National Academy of Sciences), Taiwan and the International Academy for Quality. He is a Fellow of IEEE, IIE, ASQ and INFORMS. He is an Honorary Professor of the National Jiao Tung University in Taiwan.
Mr. Bill Haslam - Mayor, City of Knoxville
Bill Haslam began his first term as Knoxville mayor December 20, 2003, following a successful career in business and history of community service.
Mayor Haslam previously served as president and director of Pilot Corp., a Knoxville-based company operating convenience stores and travel centers nationwide. He is also the former chief executive officer of SAKS Direct, the e-commerce and catalogue division of Saks Fifth Avenue.
He is an owner of the Tennessee Smokies East Tennessee AA Baseball Team and serves on the board of directors for Harold’s Department Stores.
He has served in leadership roles in numerous charities and non-profit organizations in the Knoxville area, including chairman of the board and general chairman of the United Way of Greater Knoxville; chairman of the board and president, Project GRAD; executive committee chairman, Young Life of Knoxville; chairman of the board and executive committee, Salvation Army; chairman of the board, East Tennessee Center for Non-Profit Management; campaign chairman, Foothills Land Conservancy; and vice chair, Knoxville Museum of Art.
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Dr. Kao received a B.S. degree in electrical engineering in 1971 from National Taiwan University, and M.S. and Ph.D. degrees in electrical engineering from UT in 1975 and 1977, respectively. Dr. Kao’s initial contact regarding the gift proposal was made in March of 2004 through Dr. James Hung, his former UT advisor in the CEE department.

### Estabrook Hall

Originally completed in 1898, Estabrook Hall has been on the university’s list of renovation projects for a number of years. In June of 2005, the legislature approved $16.6 million for reconstruction of the building. A second proposal to rebuild Estabrook on a site adjacent to the existing Estabrook and behind the Pasqua Nuclear Engineering Building has been initially approved by the UT administration, contingent upon identification of additional public and private funding of approximately $4-$7 million, for a total building cost of approximately $23 million.

Current plans are for the new 90,000 square foot facility to house both the Civil and Environmental Engineering (CEE) and Nuclear Engineering (NE) Departments. The design is proceeding for the initial CEE part of the building, with options for the additional space needed by NE when funds have been solidified. The approach would allow for the current Estabrook building to remain occupied until completion of the new Estabrook. It is anticipated that the Estabrook design will be completed by late spring 2008, followed by the groundbreaking in the summer of 2008.

### The Joint Institute for Advanced Materials (JIAM)

In July of 2005, $20 million in federal funding was secured through the efforts of former Senator Bill Frist and Senator Lamar Alexander for JIAM, a joint UT-ORNL Min Kao Electrical Engineering and Computer Science Initiative. The funding was used to support advanced materials multidisciplinary research in the transportation field. Governor Bredesen has also proposed additional funding from the state for the building, construction and equipment. As a national leader in the field of materials research, the COE will be one of the key beneficiaries of this initiative.

### Building Our Future Statement from Dean Kuo

“We are profoundly grateful to Dr. Kao for his wonderful generosity as well as to Governor Bredesen and the state legislature for serving as key partners for these projects. Senators Frist and Alexander are also to be commended for their backing of this visionary investment in the field of materials and transportation research through JIAM. We also greatly appreciate the leadership and ongoing support of these initiatives by UT Knoxville Chancellor Loren Crabtree and UT President John Petersen. The commitments made by Dr. Kao, private donors and our federal and state governments, which total almost $100 million, will have a far-reaching impact on generations of engineering students for many years to come,” said COE Dean Way Kuo.

### The Min Kao Building

The 150,000 square-foot Min Kao Electrical Engineering and Computer Science Building will be located beside Dougherty Hall, on the corner of Estabrook Drive and Cumberland Avenue, directly across from the 11th Street Parking Garage.

In addition to housing classrooms, laboratories, a state-of-the-art clean room and a 2,500 square foot auditorium, the facility will also be constructed to function as an environmentally-friendly structure. Architects have designed the building for LEED certification, which requires using environmentally sound materials, siting the building to make the best use of natural lighting and using indoor lighting that is both cost and energy efficient. The COE’s new building is one of the first facilities on campus to be constructed as a green building.

The two architectural firms working on the project, Bullock Smith and Partners and Lindsay and Maples Architects, have worked closely with both the Department of Electrical and Computer Engineering (ECE) and the Department of Computer Science (CS) to create a plan for the six-floor building that includes a soaring atrium, a classroom annex and a spacious deck with a magnificent view of downtown Knoxville. The architects also consulted with Dr. Min Kao prior to finalizing the program requirements and the plan.

The building will overlook a City of Knoxville-owned greenway, which is currently receiving an extensive landscaping upgrade and will be a gateway to both the campus and downtown.

Designer Ken Moffett and architects including John Endsley and Glen Lindsay faced a complex task of creating a contemporary building that still fits in with the traditional architecture on The Hill. The building will have a brick exterior but will also feature modern contemporary design elements.

In July of 2007, the ECE and CS will officially merge to become the Department of Electrical Engineering and Computer Science.

Actual construction of the Min Kao Building is projected to take about two and a half years, with completion planned for mid-to-late 2009.

### Planners for the Min Kao Building (1 to r):
- Mr. John Endsley, architect
- Mr. Ken Moffett, designer
- Bullock Smith & Partners
- Mr. Glen Lindsay, architect, Lindsay and Maples Architects.
About the College of Engineering

In 1834, Joseph Estabrook, a man of strong scientific interest and background, became the president of what was then East Tennessee College. Estabrook hired a group of distinguished professors to provide instruction in chemistry, geology, mineralogy, trigonometry and civil engineering. In 1877, the university was organized into three colleges: Agriculture and the Organic Arts; Mechanic Arts, Mining and Engineering; and Languages and Fine Arts. The state of Tennessee legislature officially named the institution The University of Tennessee in 1879 and authorized the granting of advanced degrees in both civil and mining engineering.

The Cooperative Engineering Program, which offers students an opportunity to combine both academic study and professional work experience, was established in the College of Engineering in 1926.

UT alumnus and football hero Dr. Nathan Dougherty became dean of The University of Tennessee College of Engineering in 1940. Dougherty initiated an exciting new era at the college. In 1951, the college began a doctoral program that offered a specialization in chemical engineering and metallurgy was added in 1957 to support the growing involvement with the university in cooperative projects with the Oak Ridge National Laboratory (ORNL) and the U.S. Air Force's Arnold Engineering Development Center in Tullahoma, Tenn.

The college established the Minority Engineering Scholarship Program (MESP) in 1973 in order to increase the number of African-American students enrolled in engineering studies. This highly successful program was re-named the Diversity Engineering Scholarship Program (DESP) in 2000 and continues to provide financial and scholastic support to hundreds of minority students each year.

Dr. Way Kuo, former associate vice chancellor and executive associate dean of engineering at Texas A & M University, was named COE dean in July 2003.

Acknowledgements

We would like to thank the following organizations, departments and individuals who assisted with this event:

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- Ms. Susan Ballentine, Office of Advancement Services
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- Ms. Jerri DAoust, Office of the Dean, College of Engineering
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- Mr. Jon Cassat, Garmin Ltd.

The Min Kao Groundbreaking Ceremony events were supervised by:
- The College of Engineering Communications Office
  - Kim Cowart, Manager
- Craig Cook, Communications Specialist
- Amanda Womac, Graduate Assistant

Agenda

Groundbreaking Ceremonies
The Min H. Kao Electrical Engineering and Computer Science Building

**May 14, 2007**

**Welcome and Introductions**
- Dr. Loren Crabtree
  Chancellor, The University of Tennessee, Knoxville

**Remarks**
- Dr. John Petersen
  President, The University of Tennessee System

**Remarks**
- Ms. Kim McMillan
  Senior Advisor, Governor's Office, The State of Tennessee

**Introduction of Dr. Min Kao**
- Dr. Way Kuo
  Dean of Engineering and University Distinguished Professor

**Proclamation Presentation**
- Mr. Bill Haslam
  Mayor, City of Knoxville

**Proclamation Presentation**
- Mr. John Werner
  Senior Director of Finance, Knox County

**Remarks**
- Dr. Min H. Kao
  Chairman and CEO, Garmin Ltd.

**Special Presentation**
- Dr. Loren Crabtree

**Introduction of Groundbreaking Team**
- Dr. Loren Crabtree

**Groundbreaking Ceremony**

**Closing Remarks**
- Dr. Loren Crabtree

**Reception**
All guests are invited to attend
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Inquiries and charges of violation concerning Title VI, Title IX, Section 504, ADA or the Age Discrimination in Employment Act (ADEA) or any of the other above referenced policies should be directed to the Office of Equity and Diversity (OED), 1840 Melrose Avenue, Knoxville, TN 37996-3560, telephone (865) 974-2498 (V/TTY available) or 974-2440. Requests for accommodation of a disability should be directed to the ADA Coordinator at the UTK Office of Human Resources, 600 Henley Street, Knoxville, TN 37996-4125.

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