Electrical Engineering Department has a new beginning with a new dean

Dr. Kai-Fong Lee

Ole Miss' Department of Electrical Engineering is poised to make “a new beginning” under the direction of Dr. Kai-Fong Lee, the new dean of the School of Engineering.

Lee envisions the school's being among the best in the South, and his mission is to continuously strive to improve the quality of teaching, research, and service.

To bring that vision to reality, the University and Lee have launched the $25 million Campaign for Engineering to provide the resources to implement an action plan of goals and strategies for the School of Engineering.

Searches also are under way for a new electrical engineering chair and two other faculty members.

Lee assumed the dean's post last spring when Allie Smith returned to teaching after 21 years of service as dean. Lee's transition has gone well, primarily because of his extensive experience in academic administration as the founding head of the Department of Electronic Engineering at City University of Hong Kong, chairman of electrical engineering at The University of Toledo (Ohio), and chairman and LaPierre Professor of the Department of Electrical Engineering at The University of Missouri-Columbia.

He also is recognized nationally and internationally in his field of study—antenna theory and design—and has published more than 140 journal articles, 120 conference papers, and several books.

The mission of the School of Engineering, under the new dean's leadership, is to:
• Provide students with a broad-based education that prepares them for the engineering profession, for advanced studies, and for careers in research.
• Develop in students leadership skills, global perspective, and commitment to lifelong learning.
• Provide practicing professionals with continuing education opportunities.

The school capitalizes on the engineering science tradition and the liberal arts environment of The University of Mississippi to give graduates the ability to adapt to the rapid changes in engineering and the diverse, interdisciplinary background and capacity for innovation that sets them apart from graduates of larger engineering schools.

Lee also holds an appointment as a professor of electrical engineering, and the department faculty hopes he can have "some fun" in classroom teaching and research, as he has time.

Lee and his wife, Alice, are beginning to get settled in a new home. Their three children received engineering educations from MIT. Walter, the eldest, remains there pursuing a Ph.D. in computer science. Steven is an engineering manager in the Boston-based company Speechworks. Amy, the youngest, is a medical student at Harvard.

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Notes from the chair

You haven’t heard from UMEE Newsletter in a long time, and it’s because we have been busy!

Over the past two years, the department and the Center for Wireless Communications have become more closely affiliated, and now the center’s faculty hold joint appointments as faculty in the Electrical Engineering Department.

With this merger and renovation of the engineering science building as a research facility, we have the expertise and facilities to address both hardware and systems in the RF/wireless area. This change has helped us increase our research funding to more than $2 million last year with major funding for the Radar Power Technology Program, coupled with excellent faculty productivity that has brought continued recognition to our program.

Our faculty members continue to receive awards and recognition for their work. Of particular note, Dr. Allen Glisson was selected as editor of the IEEE Transactions on Antennas and Propagation, and Dr. Atef Z. Elsherbeni was selected as editor of the Applied Computational Electromagnetics Society (ACES) Journal. Also, Professor John N. Daigle is editor in chief of IEEE Communications Surveys and Tutorials, a senior technical editor of IEEE Network, and editor of the Journal of Operations Research; he completed two terms as associate editor of IEEE/ACM Transactions on Networking. Dr. Ahmed A. Kishk is editor of the IEEE Antennas and Propagation Magazine.

Opportunities abound from the new dean and the recent retirements of Drs. Darko Kajfez and Donald Hanson to the resignation of a telecommunications faculty member. Search committees are seeking applicants for a new department chair and for faculty in electrical engineering and telecommunications.

Undergraduate and graduate programs are strong with potential to grow even more. Undergraduate enrollment is more than 100 students. Graduate enrollment is at an all-time high of 41.

The department is reviewing the undergraduate program related to a new set of accreditation criteria and soon will begin a graduate program review.

Out of this examination, the faculty has created three new emphases for our strong Bachelor of Science in Electrical Engineering degree:

—Computer Engineering
—Telecommunications
—RF and Wireless

Early replies from prospective students have shown significant interest in these emphases because of the high demand for electrical engineers in these areas.

In addition, we have acquired additional research and education equipment, such as the eight 1.3 GHz computers and a printer for an EE undergraduate computer laboratory that is really first-class. The potential for growth and enhancement of our electrical engineering programs is outstanding, and we look forward to great things at UMEE.

Still much is to be done, but with our outstanding faculty, renewed support from the University, and our $25 million Campaign for Engineering, we plan to enhance our electrical engineering program for the education of outstanding graduates, continued contribution to society’s knowledge through research, and service to our University, state, and nation.

Charles E. Smith  
Chair

Award-winning "Young Scientist" brings electromagnetic personality to department faculty

Dr. Alexander B. Yakovlev from Ukraine is the newest addition to the electrical engineering faculty.

His father was a mathematician, and, as a youngster, Yakovlev was encouraged to pursue mathematics. In high school, his interest in radio physics led him to pursue electrical engineering.

In 1992, he received the Candidate of Science degree (Ph.D. equivalent) in physics and mathematics from the Institute of Radiophysics and Electronics, National Academy of Sciences, Ukraine. During the next two years, he gained teaching experience as an assistant professor with the Department of Radiophysics at Dniepropetrovsk State University, Ukraine.

Then he began his successful quest for his Ph.D. in electrical engineering from the Department of Electrical Engineering and Computer Science at the University of Wisconsin. After graduation in 1997, he was an R&D engineer at Ansoft Corp.'s Compact Software Division in Paterson, New Jersey, and in Pittsburgh, Pennsylvania.

In 1998, he was a postdoctoral research associate with the Electrical and Computer Engineering Department at North Carolina State University in Raleigh. He accepted the assistant professor position in the Ole Miss Department of Electrical Engineering in the summer of 2000.

Continued on Page 7
Web-based lab receives award
Ole Miss’ PsychExperiments, a Web-based cognitive psychology laboratory, is the winner of the Community Psychology Net’s Web Psych Excellence Award and top award winner in the University of Minnesota’s 2000 Learning Software Design Competition.

George W. Hanson of The University of Wisconsin.

The book was published by Springer-Verlag, New York, New York.

Yakovlev said that while many excellent books are available on electromagnetics, operator concepts relating to electromagnetics often are introduced in an ad hoc manner, and few books discuss operator concepts within the framework of operator theory.

Hanson noted that abstracting a problem to an operator level provides useful insights into physical characteristics and mathematical properties of solutions. Operator theory provides a mathematical framework that governs important criteria for problem solution that is intrinsically connected to existence, uniqueness, and solvability conditions for a class of electromagnetic boundary value problems.

Compaq donates licenses for Visual Fortran
Computer software, primarily for teaching, is coming to the Ole Miss School of Engineering through the Compaq Visual Fortran Educational Software Donation Program.

Compaq has granted The University of Mississippi a limited right for 80 licenses for Compaq Visual Fortran 6.5, Standard Edition. The software is for teaching Fortran in CSCI 251-Programming for Engineering and Sciences, and EL E 367-CAD in EE I.

Handbook has 2 chapters by faculty member
Dr. Atef Z. Elsherbeni, professor of electrical engineering, has co-authored two book chapters in the recently published book Handbook of Antennas in Wireless Communications from CRC Press.

The chapters, “The Finite Difference Time Domain (FDTD) Technique for Microstrip Antenna Applications” and “Handheld Antennas,” are based on Elsherbeni’s research in the use of the FDTD technique for the analysis, simulation, and design of state-of-the-art antennas and other practical electromagnetic applications that have led to his national and international recognition.

Dr. Charles E. Smith, professor and chair of electrical engineering, and Dr. Paul Huang, a former graduate student now with Anadigics, Inc., also are co-authors of the Handheld Antennas chapter.

Lab gets new computers
New computers for the Ole Miss Electrical Engineering Undergraduate Computer Lab have been purchased with Technological Excellence Initiative gifts from the members of the Woods Order of The University of Mississippi Engineering Alumni Association.

This lab, located in Anderson Hall Room 301, has eight networked 1.3 GHz Dell personal computers with 19-inch monitors, along with an HP 4100N LaserJet printer. The equipment is for use by electrical engineering undergraduate students.


The EE students are making good use of their access to such high-per-
What’s Happening with Students

May graduate honored by Who’s Who
Chalmers Bryant Glisson, a May BSEE graduate and son of Allen W. and Elise P. Glisson of Oxford, Mississippi, was selected one of the country’s most outstanding campus leaders by Who’s Who Among Students in American Universities and Colleges.

This honor is awarded to students who display outstanding achievements, not only in scholarly endeavors but also as leaders in extracurricular activities.

EE student selected for Hall of Fame
Markeeva Morgan, a 2001 bachelor of science in electrical engineering graduate from Coldwater, Mississippi, was recognized with a plaque for his selection to The University of Mississippi Hall of Fame, an honor bestowed on a small fraction of the student body each year.

Morgan was honored for his participation in many campus activities, including the University Judicial Council, Ole Miss Ambassadors, and Student Recruiters. He also was an E.G. Hefley Outstanding Freshman Male Student; a member of the McDonnell-Barksdale Honors College; a member of Alpha Lambda Delta, Phi Eta Sigma, and Lambda Sigma freshman honor societies; and a member of Phi Kappa Phi, Tau Beta Phi, Eta Kappa Nu, and Golden Key honor societies.

He was a leader in the National Society of Black Engineers and the Mississippi Alliance for Minority Participation. Upon graduation, he was commissioned into the U.S. Navy and is stationed in the Washington, D.C., area.

Tsai Scholarship recognizes outstanding student
Maxwell U. Woolsey of Oxford, Mississippi, is the 2001 recipient of the Leonard Tsai Scholarship of $1,000 per year.

A graduate of Oxford High School, Woolsey comes by his interest in science naturally.

His father is Dr. J. Robert Woolsey, Jr., director of the Mississippi Mineral Research Institute and research professor of geology. His mother, Maxine Woolsey, secretary for the Geological Engineering Department, helped him pursue science fair projects from an early age, where he won many awards.

Woolsey comes to Ole Miss with a perfect 4.0 GPA and is just the type student that the late Dr. Tsai would have selected to recognize as an outstanding and deserving electrical engineering student.

Grants and Contracts

Space Technology Studies, National Aeronautics and Space Administration, $54,758, A.Z. Elsherbeni and C.E. Smith.


The Study of Hard and Soft Surfaces Using Exact and Asymptotic Boundary Conditions and Their Applications, National Science Foundation, $161,000, A.A. Kishk.

Design of Multistage Packet Switches, IBM-Zurich Research Laboratory, $42,724, J.N. Daigle.

Hyper-Spectral Remote Sensing Technology Application, National Aeronautics and Space Administration, $150,000, A.Z. Elsherbeni and C.E. Smith.

Radar Power Technology Program, U.S. Army Space and Missile Defense Command, $2,000,000, C.E. Smith.

Electronic Publication Pilot Project, ACES, $13,295, Dr. A.Z. Elsherbeni.
Edward K. N. Yung (BSEE ‘73, MSEE ‘74, Ph.D. ’77) is chair professor of electronic engineering at City University of Hong Kong. He served as head of the Department of Electronic Engineering from July 1995 to September 2001.

Michael Long (BSEE ‘72, M.S. ‘73) is an engineer with BellSouth in Memphis, Tennessee.

Cedrick G. Davis (BSEE ‘74) is energy manager for NASA Marshall Space Flight Center in Huntsville, Alabama, where by 2005 he is seeking to reduce energy consumption by 30 percent of the 1985 baseline. Before joining NASA, he was an engineer with TVA in the nuclear power area for 15 years. He and his wife have one daughter, Tamarah, who is pursuing a degree in medicine.

Keith McClanahan (BSEE ‘79, MS ‘84) was promoted to assistant director, Arkansas State Technical Institute, the technology branch of Arkansas State University-Beebe.

Laura Anderson Owen (BSEE ‘83) is enjoying life as a full-time mom after working with BellSouth for 12 years. She and her family have moved to a new home in Birmingham, Alabama.

Godfrey J.S. Tan (B.S. ’84) is a technical consultant with the Network Planning and Design Group with Lucent Technologies in Singapore.

William D. (Bill) Dykeman (BSEE ’85) is test engineering manager for Raytheon Systems Company of Forest, Mississippi.

Tom Salyachvin (M.S. ’86) is a senior database administrator principal consultant with Oracle Government in Bethesda, Maryland, in charge of installation, upgrade, tests, and maintenance of Oracle applications for the FAA.

Dr. Krishna Naishadham (Ph.D. ’87) is a professor of electrical engineering at Wright State University in Dayton, Ohio. Naishadham is EMC consultant at ITT Automotive Inc., a leading manufacturer of small DC motors for automotive industry. He is applying electromagnetic principles to design “quiet” motors and EMI Suppression networks for motor control as assemblies.

Christopher D. Pruett (BSEE ‘87) and his wife, Deana, were pleased to announce the arrival of Caleb Douglas Pruett on February 12, 1999. Chris works for BellSouth in Birmingham, Alabama.

Man-Chun Yu (M.S. ‘88) is an electrical engineer with the Li-Den Computer Co. in Taiwan, ROC, on information technology.

Dr. Wen-Liang Wu (M.S. ’89, Ph.D. ’95) is with Motorola Personal Communications working on cellular phone design as a result of Motorola’s purchase of the Lucent wireless hand set business. Wu has been elevated to senior member status in IEEE.

Garner Newton (BSEE ’90) completed a senior residence in orthopedics at Stanford University. He and his wife are the proud parents of a daughter, Brittany Lea, who was born on January 20, 1998.

Jun (Kent) Yan (M.S. ’90) is chairman and CEO of eCilitate, Inc., in Palo Alto, California.

Dr. C-W Paul Huang (M.S. ’96, Ph.D. ’99) is an electronic design automation (EDA) engineer with Analogics in Warren, New Jersey, where he is working on RFIC design.
Recent Theses, Nonthesis Reports, and Dissertations


Bajacharya, R., “Computing Efficient Routes in Communications Networks Having Multiple-Constrained Link Costs.” M.S. Adviser: Dr. J.N. Daigle


Engala, K.R., “Analysis of Cylindrical Dielectric Resonator Cavity Loaded with Metal Strips and Coupled to a Rectangular Current Loop.” M.S. Adviser: Dr. A.A. Kishk


Jia, Ching, “A Base Band Digital Phase Lock Loop for Demodulating LDV Signals.” M.S. Adviser: Dr. P.M. Goggans

Khan, M.S., “The Smith Chart/Slotted Line Approach Using a Network Analyzer.” M.S. Advisers: Drs. C.E. Smith and D. Kajfez

Li, Dinghua, “Scale Model Experiment for Acoustic Parameter Estimation of Rooms.” M.S. Adviser: Dr. P.M. Goggans


Soothonmuang, Rachan, “Low Frequency Q-Factor Measurements.” M.S. Adviser: Dr. Darko Kajfez

Xu, Jin, “Finding the Cutoff Frequencies by Employing Numerical Methods.” M.S. Adviser: Dr. R.K. Gordon

Yin, Yan, “Parametric Study of Dielectric Resonator Antennas with Conical Shapes for Broadband Applications.” M.S. Advisers: Drs. A.A. Kishk and A.W. Glisson


In Memoriam

The department was saddened to learn that Dr. Korada Umashankar (Ph.D. ’83) died last year after having complications from heart surgery. Dr. Umashankar completed his degree in our program and taught here for more than a year before being employed at The University of Illinois at Chicago.
performance computing facilities, particularly in the CAD in EE courses.

**Sabbatical takes professor to Idaho**

Dr. Paul M. Goggans, on sabbatical leave this academic year, plans to teach and conduct research at Boise State University while he is on sabbatical this academic year. His interests are in the areas of electromagnetics and numerical methods applied to Bayesian inference.

His other leave goal is to work on a Bayesian methods textbook being written and co-authored with Dr. C. Ray Smith.

**Longtime faculty member retires, takes new job**

Dr. Donald Hanson, associate professor of electrical engineering, retired at the end of the summer to accept a position as senior RF engineer at HEI Inc. of Victoria, Minnesota.

Hanson will be remembered most for his work in helping the Department of Electrical Engineering develop its undergraduate courses in electronics and microprocessor engineering.

**Morgan Ramiah** (BSEE '96) is a lead engineer with Telecommunications Installations Corp. (TIC) in Richardson, Texas.

**Germaine McConnell** (BSEE '97) obtained a position in the Mississippi Teacher Corps in North Mississippi after graduation. He has taught mathematics, coached basketball, and pursued a master’s degree at Ole Miss. He has had a lot of fun while helping a new generation prepare for life after high school. He serves as program coordinator for the Teacher Corps on campus and is pursuing his Ph.D.

**Mohammed S. Z. Khan** (BSEE '97, M.S. '98) accepted a position as RF test engineer with Nokia Telecommunications in Plano, Texas, after graduation. His thesis experience with network analyzers has turned out to be very useful for him.

**Terrance L. Riley** (BSEE '97) accepted a position with Lockheed-Martin Corp. in Fort Worth, Texas.

**Rommel Stribling** (BSEE '97) works at the National Center for Physical Acoustics on the Ole Miss campus as an associate R&D engineer. Rommel married another Ole Miss graduate, Brenda Tierce (BRSN '89), on January 20, 2001, and they live at College Hill outside of Oxford.

**Roosevelt Williams II** (BSEE '97) is a components engineer with Lockheed Martin in Orlando, Florida.

**Chad M. Williams** (BSEE '98) is a project engineer with Military Technology, Inc., in University, Mississippi.

**Mohammed J.A. Khan** (BSEE '98) works at TestLogic in Connecticut as an electrical system and software engineer design of industrial automation systems and test cells for jet engines.

**Jay Williams** (BSEE '98) is an engineering analyst with Military Technology, Inc., in University, Mississippi.

**Evelyn Chan** (BSEE '01) is a research and development engineer with Motorola in Penang, Malaysia.

**Tracy L. Jeffries** (BSEE '01) works for Memphis Light, Gas & Water as a substation engineer.