Faculty Research Interests

Ahmed Abu Hajar: Lecturer
Alkim Akyurtlu: Associate Professor & Doctoral Coordinator. Theoretical
and computational electromagnetics, Wave interactions with complex mater-
ials, Modeling of electromagnetic scattering and propagation.
Craig Armiento: Professor, Fiber Optic Communication systems; optical
network design, semiconductor device physics, and photonics device de-
sign.
Kavitha Chandra: Professor. Communications systems network
modeling, acoustics and signal processing
George Cheney: Professor, Associate Dept Chairperson. Analog elec-
tronics, automated testing & instrumentation, software engineering. Embed-
Jay Conant: Lecturer
Michael Geiger: Lecturer
Tingshu Hu: Associate Professor, Nonlinear systems theory, Magnetic
bearing systems, Biomedical systems, Optimization, and Robust control and
pole assignment.
Oliver Ibe: Associate Professor. Mobile and fixed wireless communica-
tions,
Omer Khan: Assistant Professor. Computer architecture, parallel process-
ing, and multi-core processors;
Xuejun Lu: Associate Professor. Guided wave optical interconnects,
polymer based photonic integrated circuits, novel photonic devices for opti-
cal networks, all optical network, organic and nano-optoelectronics.
Yan Luo: Associate Professor, Network processors, low power proces-
sors, Internet router and web server architecture, parallel and distributed
system, simulation and performance evaluation, embedded systems, com-
puter architecture.
Mufeed Mah’d: Associate Professor. Digital and statistical medical
image processing; Ultra Sound, Computerized Tomography (CT) scan, and
Magnetic Resonance Imaging (MRI.). Image Restoration: parametric and
nonparametric.
Martin Margala: Professor, Acting Chair. Digital and Mixed-Signal VLSI
Design and Testing, Low-Power Memories, Adaptable Circuits and Architec-
tures, Analog-to-Digital Converter Design
Dalila Megherbi: Associate Professor. Distributed Systems & Computing,
Computer Architecture, High Speed Networks, Parallel Computing,
Artificial Intelligence, Computer Vision.
Samson Mil’stein: Professor. High-speed transistors, optoelectronics,
processing of semiconductor materials.
Kanti Prasad: Professor, Transfer Coordinator. Physical electronics,
semiconductor materials & devices, VLSI fabrication & testing.
Tenneti Rao: Professor, Numerical electromagnetics, antennas, electro-
magnetic theory, scattering & diffraction.
Ziyad Salameh: Professor, Co-op co-ordinator, renewable energy &
power systems, power electronics, solid-state electrical drive systems,
electric vehicles technology, batteries.
Joel Therrien: Associate Professor. Nanoscale sensors, nanoelectro-
mechanical devices, chemical/biological sensors, optoelectronics.
Charles Thompson: Professor. Physical acoustics, com-putational
modeling, hydrodynamic stability.
Anh Tran: Professor, Graduate Coordinator. Logic design, switching
theory, computer arithmetics.
Xingwei Wang: Assistant Professor. Optical biosensing and biomedical
devices; nanoprobe design and fabrication; self-assembled nanostructures;
electromagnetic wave propagation;
Jay Weitzen: Associate Professor. Wireless communications, digital commu-
nication systems, navigation systems.

Highlights

UML’s Electrical and Computer Engineering Department is commi-
ted to a quality, hands-on student-friendly Education.

UMass Lowell Electrical & Computer Engineering has novel
programs for a public universities in: Assistive Technology,
Computer Engineering, Electrical Power and Energy Engineer-
ing, Electromagnetic Properties of Materials, Micro- and Opto-
electronic Materials, Telecommunications and Information Tech-
ology.

UMass Lowell Electrical & Computer Engineering classes are
taught by full time faculty.

UMass Lowell is value; for 2011-2012, tuition, fees, room &
board for in-state full-time undergrad students is only
$20,817 for 2 semesters, one of the lowest cost Engineering
programs in New England (tuition & fees - $11,297 in state,
$23,736 out-of-state).

Several need and merit-based Scholarships are available, in-
cluding the College of Engineering’s innovative Scholar Intern
Program, where qualified incoming undergrads receive a renew-
able entrance scholarship plus winter and summer internships from area companies.

Alumni Endorsement

“I have U/Lowell/Lowell Tech/UMass Lowell alums working
for me...they are outstanding troops. I would hire more.”
Dr. R. V. McGahan

“...in my opinion, the education an EE student receives at
UMASS Lowell prepares them for a much better, more
rounded professional career. Thumbs up Lowell!”
Patricia Miller Semeter

To obtain more information about the ECE Dept, visit our
website at:

http://electrical.eng.uml.edu

Request or download our
Department Fact Book!

10/14/11
Electrical & Computer Engineering

The Electrical and Computer Engineering Department provides a thorough grounding in electrical and computer science and engineering, together with intensive training in engineering applications of mathematics. The techniques of experimental science are emphasized through investigative laboratory work and classroom demonstration.

Integrated throughout the Undergraduate program curriculum to give students meaningful design experience and modeling techniques are:

**Design in**
- Hardware
- Software
- Application Trade-offs

**Technique in**
- Analysis and Specification
- Evaluation and testing
- Hardware-software Integration
- Computer-aided design tools
- Documentation

The Electrical and Computer Engineering Department provides the educational grounding and hands-on programs through capstone projects to prepare students for career in:

- Assistive Technology
- Electric Vehicle Technology
- Space and Atmospheric Research
- Network Analysis and Design

"Always try the hardest thing first: you can drop back a level if you need to. With an Engineering degree you can go anywhere."  Marc Todd, '95

**Programs of Study**

**Bachelor of Science in Engineering:**
- Electrical Engineering
- Computer Engineering
- Electrical Engineering, Minor in Computer Science or Sound Recording Technology
- Dual Major Electrical Engineering with Computer Science or Physics

**Masters of Science in Engineering:**
- Electrical or Computer
- Most graduate courses available during late afternoon or evening hours
- Either 24 credits of coursework plus a 6 credit thesis, or 33 credits of coursework which may include a 3 credit project
- Specialization exists in each of the main areas of Electrical Engineering
- Open to individuals with degrees from other Engineering disciplines and the Sciences

**BS/MS in Engineering:**
- Electrical or Computer
- Academically qualified undergraduates (cum GPA > 3.0) may enroll in a special 5 year program which allows for up to 6 credits of graduate level course work to be used for both undergraduate and graduate degrees
- Extra graduate courses taken as an undergraduate (which are not otherwise needed for graduation) may be transferred towards the graduate degree

**PhD & Doctor of Engineering:**
- Computer Engineering
- Electrical Power and Energy Engineering
- Electromagnetic and Electromagnetic Properties of Materials
- Micro- and Optoelectronic Materials, Circuits and Systems
- Telecommunications and Information Engineering

**Student Activities**

**Co-op Program**
Flexible program allows course credit for relevant engineering experience

**Clubs and Honor Societies**
- Institute of Electrical and Electronic Engineers (IEEE)
- Rehabilitation Engineering and Assistive Technology Society (RESNA)
- Eta Kappa Nu
- Tau Beta Pi

**Research Opportunities**

Hands-on experiences are essential for students of engineering. Our classrooms, labs, and research centers are full opportunities for undergraduates to learn by doing. You will have opportunities to work closely with professors and graduate students pursuing interesting research in Micro and Optoelectronic Materials, Assistive Technology, Digital Technology and Computer Engineering, Electromagnetics and Electro-magnetic Properties of Materials, Telecommunications and Information Engineering, Network Analysis and Design, Embedded Systems, and Electrical Power and Energy Engineering.

Our department also maintains interdisciplinary research centers and teaching labs, including:

- Center for Advanced Electronic Technology
- Center for Advanced Computation and Telecommunications
- Center for Computer Man/Machine Intelligence, Networking and Distributed Systems
- Center for Electric Cars and Energy Conversion
- Center for Electromagnetics and Energy Conversion
- Anechoic Chamber Facility
- Assistive Technology Program
- Renewable Energy Laboratory
- Battery Evaluation Laboratory
- Analog Devices Advanced Electronics Laboratory
- Real Time Digital Signal Processing Laboratory
- Microprocessor Laboratory
- Networking, Artificial Intelligence, and Computer Vision Laboratory
- Advanced Digital Systems Design Laboratory
- Electromagnetics and Complex Media Research Laboratory
- Information Security Laboratory
- VLSI Fabrication Lab

[Image of CMINDS Laboratory]

[Image of Analog Devices Advanced Electronics Lab]