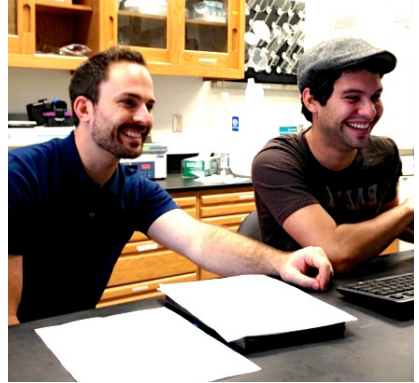


Electrical and Computer Engineering Graduate Handbook (M.E.E.) 2014-2015



RICE



RICE
ece
redefining limits

This handbook provides general guidelines for ECE M.E.E. students. All degree plans and graduate student matters must conform to the Rice University General Announcements and be approved by the ECE Professional Master's Committee. In addition, it is the student's responsibility to become familiar with the contents of this handbook and to comply with all regulations, policies, procedures and deadlines, including the university honor code.

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I. ABOUT THE M.E.E. IN ELECTRICAL AND COMPUTER ENGINEERING

Welcome to the Rice University Department of Electrical and Computer Engineering! Your admission to Rice is the latest milestone in an exemplary academic career. At Rice, researchers and faculty members at the forefront of their fields will guide you. You will be taught to think creatively, be a part of a network of knowledge, and redefine your own limits.

The M.E.E. at Rice University is a course-based program; no thesis is required. It is intended to enhance the education of those who have a B.A. or a B.S. in an engineering or science discipline. The Rice M.E.E. program will prepare you to succeed and advance rapidly in today's competitive technical marketplace, and can be completed on a full-or-part time basis.

Honor Code

All incoming Rice students agree to abide by the Rice University honor system. The honor system, one of the oldest and proudest traditions at Rice, is administered by the Honor Council, whose student members are elected each year by the student body. Adopted by a student vote in 1916, the honor system has remained essentially the same since that time but for changes in the procedures and membership of the Honor Council.

Students take all written examinations and complete any specifically designated assignments under the honor system. By committing themselves to the honor system, all students accept responsibility for assuring the integrity of the examinations and assignments conducted under it. More information can be found at ga.rice.edu.

II. ADMINISTRATION

Your Department Partners

ECE graduate students are welcome to ask for assistance when it is needed. Administrative staff, Engineering Professional Masters Program (EPMP) staff and the Professional Masters Program Committee (PMPC) are all available to answer questions. A directory can be found in Section VII.

Mail

ECE graduate student mailboxes can be found in Abercrombie Room A239. FedEx and UPS Packages are received in Abercrombie A204.

ESTHER

ESTHER is the web application for students, faculty and staff. Students will use this application to register for classes and retrieve certain data such as grades and account information. Using ESTHER, students can: update contact information; register, add and drop courses; access final grades; view holds on accounts, etc. Visit registrar.rice.edu/students/esther_FAQs/ for information about how to use ESTHER.

Student Health Services

Student Health Insurance: Rice University requires all degree-seeking students to have health insurance. Students electing to enroll in the Rice Student Health Plan may opt to be billed annually or semi-annually. Contact the Cashier's Office for payment options (713-348-4946). You must complete an insurance waiver form to waive the Rice Insurance Health Plan.

Health Data Form (HDF): All new graduate students are required to submit a properly completed HDF to Student Health. All students under the age of 22 years, regardless of classification, must provide documentation of vaccination against meningococcal disease. See health.rice.edu for more information.

International Student Health Information: All Rice-sponsored F-1 and J-1 international students must enroll in either 1) Aetna (Rice's Student Health Insurance Plan) or 2) SAS (Rice's Approved Alternate Health Insurance Plan for Internationals). Visit oiss.rice.edu/studenthealth/ for more information.

International Student Information

International Student Newsletters can be found at <http://oiss.rice.edu/news/> and more information is in Section VI of this handbook.

Graduate Studies Form Library

Graduate Studies keeps a very useful library of commonly needed forms for everything from leaves of absence to candidacy petition to thesis submission. Visit graduate.rice.edu/forms for more information.

Specific forms include:

Enrollment

Leave of Absence

Short Term Medical and Parental Leave

Withdrawal

Degree Conferral

Registrar's Application for Degree

Petition for a Non-Thesis Master's

Graduation Checklists

Commencement

Employment

Students working for more than 20 hours per week are not normally eligible for full-time status, and special permission is needed. See the ECE Graduate Program Administrator for details. International students must obtain the appropriate work authorization from OISS before starting to work. If you work even one day before or after your authorization, you must leave the U.S. or face deportation. See oiss.rice.edu/studentwork/ for additional information.

GSA Information

Graduate Student Association (GSA) - GSA is comprised of degree-seeking graduate students at Rice University. The GSA mission is to enrich the graduate student experience and to represent, support, and promote graduate student interests and values. Visit gsa.rice.edu to learn more.

III. GENERAL ANNOUNCEMENTS

Rice University publishes its "General Announcements" each year. These are the official rules of the university and include the honor code that every student agrees to abide by, as well as forms and research information. They can be found at ga.rice.edu. Two sections of this are of particular importance to graduate students in ECE. The first is the section titled "Graduate Degree Programs." This outlines the basic rules and expectations for all graduate students at Rice University. The second is the department-specific information. This information covers the degree requirements for the M.E.E. and more information is found in Section V of this handbook. The section from 2013-2014 is reproduced on page 7. Check ga.rice.edu for updates for 2014-2015.

Graduate Degree Programs

The ECE department offers two graduate degree programs. The master of electrical engineering (MEE) degree is a course-based program designed to increase a student's mastery of advanced subjects; no thesis is required. The MEE prepares a student to succeed and advance rapidly in today's competitive technical marketplace. A joint MBA/MEE degree is offered in conjunction with the Jesse H. Jones Graduate School of Management. The doctor of philosophy (PhD) program prepares students for a research career in academia or industry. The PhD program consists of formal courses and original research conducted under the guidance of a faculty advisor, leading to a dissertation. Students in the PhD program complete a master of science (MS) degree as part of their program; the ECE department does not admit students for a terminal MS degree.

Information on admission to graduate programs is available from the ECE Graduate Committee and on the ECE website . Students must achieve at least a B (3.0) average in the courses counted toward a graduate degree. In addition, no course in which the student earned a grade lower than a C may count toward a graduate degree.

Degree Requirements for MEE in Electrical Engineering

Students are admitted to the MEE program in both fall and spring semesters. MEE students must prepare a degree plan and have it approved by their ECE faculty advisor. The plan must include at least 30 semester hours of courses, all at the 300 level and above. The program should include a major area of specialization (18 semester hours), a minor area (six semester hours), plus free electives. At least seven of the major and minor area courses must be at the 400 level and above, and at least four must be at the 500 level or above. ELEC 590 or ELEC 599 may not count as major area courses; no more than three semester hours can be transfer credit from another university, and at most one 1-hour seminar course may be included in the plan. A MEE degree planning form and current requirements may be found on the ECE website.

IV. M.E.E. TIMELINE

Semester 1

Your first semester at Rice will begin with Orientation Week (or O-Week) where you will learn about Rice and the Department of Electrical and Computer Engineering. The major events of this week

will include presentations by many of the faculty you will become familiar with. You will meet your advisor, discuss your career objectives and select your courses for your first semester. In consultation with your advisor, you will determine a degree plan and timeline for completion. This must be submitted to the Professional Master's Program Administrator by the end of the second week of classes in the first semester. Course plans may be revised, reapproved and resubmitted at any time over the course of the M.E.E. program. See Section V for more information.

Semesters 2 and 3

In the final semester of M.E.E. studies, a "Petition for Certification of Non-Thesis Master's Degree" form is completed, approved by the Department Chair and M.E.E. Administrator, who will submit it to the Office of Graduate and Postdoctoral Studies (GPS) along with the student's current transcript. Visit graduate.rice.edu/forms for the petition. The M.E.E. Degree must be completed within 5 years. (See Section III of this handbook.)

V. ACADEMICS

Master of Electrical Engineering (M.E.E.) Program Information

The Master of Electrical Engineering is a terminal, non-thesis degree intended primarily for students who wish to strengthen their academic background through a year of additional coursework. The M.E.E. program is a bridge to industry, designed to provide advanced learning and training in the applied aspects of ECE technology beyond the typical undergraduate electrical and computer engineering degree program.

Upon matriculation, the M.E.E. student selects a faculty advisor in his/her primary area of interest (See "ECE Areas of Study" in this section). The advisor will counsel the student in developing a degree plan:

Degree Plan

Coursework is based on the student's degree plan. The M.E.E. degree plan must include:

- At least 30 credit hours comprised of 10 courses of at least 3 hours each: Major area (18 hours); Minor Area (6 hours); Free Electives (6 hours)

- At least 4 of the technical (major or minor) courses must be 500 level or higher
- At least 7 of the technical (major or minor) courses must be 400 level or higher
- Of the 10 required courses, at least 5 courses/15 hours must be 500 level or higher
- All courses must be 300 level or higher
- No ELEC 590 or ELEC 599 may count for major area or minor area
- ELEC 698 for each semester in residence (please see ga.rice.edu for information on the residency requirement)
- Minimum residency is one fall or spring semester of full-time graduate study, with the exceptions of professional masters programs in the schools of engineering and natural sciences, as well as the Master's of Liberal Studies

Free electives may be fulfilled through research (ELEC 590 or 599), other ECE electives, or through courses available through affiliated departments in areas such as Communication Training or Engineering Leadership Management, including:

- ENGI 610 (3) Management for Science and Engineering
- ENGI 510 (3) Technical and Managerial Communications
- ENGI 529 (3) Ethics and Engineering Leadership
- ENGI 505 (3) Engineering Project Development and Management
- ENGI 528 (3) Engineering Economics
- NSCI 511 (3) Science Policy and Ethics

Students may be eligible to transfer up to three hours of course credit from another university. Rice undergraduates entering the M.E.E. program may transfer course credit not applied to their undergraduate degrees, with the approval of the ECE Graduate Committee and Office of the Registrar. See the ECE M.E.E. Administrator for details.

The M.E.E. may be pursued on a part-time or full-time basis during the fall and spring semesters. A 3.0 GPA must be maintained in major and minor coursework. Only courses in which a grade of C or above is achieved will be counted towards the M.E.E. degree. Students whose GPA falls below a 2.33 will be placed on academic probation by the university. Students whose GPA falls below a 3.0 will be placed on academic probation by the ECE Department. Students must maintain continuous program enrollment and involvement unless granted an official leave of absence. For more information see General

Announcements: ga.rice.edu.

Joint M.B.A. and M.E.E. (Master of Business Administration and Master of Electrical and Computer Engineering)

Students wishing to pursue this joint degree should apply through the Jones School of Business: business.rice.edu.

ELEC 698 Seminar

The ELEC 698 Seminar Course is intended to foster development of breadth among all graduates at all phases of study in ECE. The requirement is registered attendance at 3 ECE sponsored or co-sponsored seminars per semester. All M.E.E. students are required to take and earn an "S" (Satisfactory) in ELEC 698 as a part of his/her degree requirements for each semester in residence. Details of seminars are emailed to all department personnel on a regular-basis and are posted on the ECE website at ece.rice.edu. Some seminars hosted by the Engineering Professional Master's Program (EPMP) can count for 2 of the 3 requirements. Please check with the M.E.E. Administrator for a list of approved courses. Departmental attendance sheets will be provided at all seminars for the first 10 minutes. It is your responsibility to sign-in at the beginning of the seminar. If for some reason there is no sign-in sheet available, students will be responsible for emailing the M.E.E. Administrator within 24 hours of attendance in order to receive credit.

Academic Advisors

Each incoming M.E.E. student is assigned an academic advisor, usually a member of the Professional Master's Committee, to help with course selection and other initial academic concerns. Final course selection does not need to be completed until after the start of classes.

Changing Departments

Rice recognizes interests may change after a student enters a graduate program. If a student feels his/her interests and talents could be better served in a different department, a change can be accommodated. In order to transfer from the M.E.E. program to another program at Rice University, the following conditions must first be met:

1. You must have been a student in the M.E.E. program for a minimum of six months to petition for transfer.
2. You must have met with your M.E.E. advisor and have a M.E.E. Degree

Plan on file with the ECE M.E.E. Administrator.

3. You must demonstrate acceptance by another department by providing a copy of the offer letter.

Once you have met the conditions above, the process for requesting a transfer is as follows:

1. Complete the Transfer Request form.
2. Meet with your M.E.E. advisor to discuss the degree plan and your reasons for requesting a transfer. Your advisor must sign the transfer request form.
3. Provide a copy of the following to the ECE M.E.E. Administrator:
 - a. The signed Transfer Request form;
 - b. A copy of your M.E.E. Degree Plan; and
 - c. Letter of acceptance from the new department.

Your request will be submitted to the ECE Professional Master's Committee for consideration.

ECE Areas of Study

The ECE Department has four interdisciplinary areas of study that the M.E.E. student can choose from:

Computer Engineering:

The Computer Engineering group at Rice University has a long track record of innovative research in physical modeling and characterization, VLSI signal processing, computer architecture, computer-aided design, and storage and network systems. Spanning the spectrum of computing from low-power personal devices to large-scale parallel information systems, networked computing solves a myriad of technology challenges. Future computing technologies, including the on-chip integration of systems and networks, will move us beyond current methods in silicon.

Neuroengineering:

Neuroengineering is the analysis and control of the nervous system in order to enhance and restore neuronal function. At Rice, we develop technologies to understand, repair, replace, enhance, or treat the diseases of the nervous system. We also design, construct and study devices that interface with living neural tissue.

In addition to the ongoing neuroengineering research efforts in individual laboratories across campus, the university has established the Rice Center for Neuroengineering (RCNE). The center's goal is to integrate state-of-the-art research and technologies developed by individual research teams into broader research efforts to interrogate and understand neural systems. The mission of the RCNE is to apply engineering principals to neuroscience in a way that advances both the science and technology related to neural systems. RCNE is uniquely positioned as a leader in neuroengineering thanks to the broad, interdisciplinary research performed in conjunction with the world's largest medical center (Texas Medical Center), steps away from the Rice University campus. Current neuroengineering research in ECE includes: Nanotechnology for measuring and manipulating neural cells and circuits; Optogenetic and photonic neural interface technology; Computational microscopy and functional neural imaging; Neural recordings in behaving animals; Cutting-edge tools and algorithms for systems neurobiology; Information theory and signal processing methods for neuroengineering; Closed-loop neuromodulation and real-time deep brain stimulation; Theoretical and computational neuroscience.

Photonics and Nanoengineering:

The focus of this program is the improved understanding of electronic, photonic, and plasmonic materials, optical physics, the interaction of light and matter, along with the application of that knowledge to develop innovative devices and technologies. The specific areas of interest cover a broad range: Nanophotonics and plasmonics, optical nanosensor and nano-actuator development, studies of new materials, in particular nanomaterials and magnetically active materials; imaging and image processing, including multispectral imaging and terahertz imaging; ultrafast spectroscopy and dynamics; laser applications in remote and point sensing, especially for trace gas detection; nanometer-scale characterization of surfaces, molecules, and devices; organic semiconductor devices; single-molecule transistors; techniques for optical communications; and optical interactions with random, nanoengineered, and periodic media; and applications of Nanoshells in biomedicine.

Systems: Communications, Control, Networks and Signal Processing:

The understanding of how to analyze and restructure signals is applied to a wide range of areas, including image and video analysis,

representation, and compression; wavelets and multi-scale methods; statistical signal processing, pattern recognition, and learning theory; distributed signal processing and sensor networks; communication systems; and computational neuroscience. Emergent applications include high-performance, scalable and widely deployed wireless Internet and expanding “broad-band” services for residences and public spaces.

ESTHER

Students must register for courses using ESTHER. ESTHER is the web application for students, faculty and staff. Students will use this application to register for classes and retrieve certain data such as grades and account information. For information about how to use ESTHER see Section II or: registrar.rice.edu/students/esther_FAQs/

Guidelines for Independent Study

ELEC 590 - Graduate Non-Thesis Research Projects is intended for M.E.E. students who wish to undertake specific theoretical or experimental research projects under the direction of a faculty member. The parameters of the research project and grade determination should be discussed with the faculty member prior to enrollment. A maximum of 3 credits of ELEC590 can be applied to the M.E.E. degree as a free elective course.

Grades and Academic Status

Grades—According to university guidelines, students must achieve at least a B- (2.67) grade point average (GPA) in courses counted toward the graduate degree. The ECE Department adds the requirement that only courses in which a grade of C or above was earned will count towards the graduate degree. To compute GPA, the credits attempted in semester hours for each course and the points for the grade earned (from A+ = 4.33 to F = 0.00) are multiplied, then the products (one for each course) are added together, and the sum is divided by the total credits attempted.

Pass/Fail—All students, except visiting post-baccalaureate students, may take course(s) Pass/Fail. For the M.E.E. degree, elective courses that do not count toward the student’s major or minor coursework may be taken Pass/Fail outside the ECE department. Students must file a course as Pass/Fail no later than the end of the 10th week of classes; however, they may later convert a Pass/Fail to a graded course by filing

the appropriate paperwork with the Office of the Registrar. Students should be aware that while a grade of “P” does not affect their GPA, a grade of “F” does.

Satisfactory/Unsatisfactory—In the ECE Department, the faculty assign a grade of “S” or “U”. ELEC 800, Research and Thesis, is such a course. Students should be aware that while a grade of S or U does not affect their Grade Point Average, no credit is awarded if a grade of U is received. Courses with a grade of S will count towards total credits earned.

Incompletes—Instructors report this designation to the Office of the Registrar when a student fails to complete a course because of verified illness or other circumstances beyond the student’s control that occur during the semester. For an incomplete received in the fall semester, students must complete the work by the end of the fourth week of the spring semester or an earlier date as defined by the instructor, and instructors must submit a revised grade by the end of the fifth week. For an incomplete received in the spring semester, students must complete the work before the start of the fall semester or an earlier date as defined by the instructor, and instructors must submit a revised grade by the end of the first week of the fall semester.

Audit—The grade designation of “AUD” is used for people auditing a course, and specifically when the auditing student has met the audit requirements of the course. A grade designation of “NC” is given to students who do not meet the audit requirements. Requests to audit a class or to change from audit to credit or vice versa must be done by the end of the second week of the semester.

VI. IMPORTANT LINKS AND DATES

Links

Academic Calendar:

registrar.rice.edu

Award Opportunities:

engineering.rice.edu/gradopps

Counseling Center:

rcc.rice.edu

Course Catalog:

courses.rice.edu

Forms: registrar.rice.edu/online_forms
graduate.rice.edu/forms
General Announcements:
ga.rice.edu
Good Practices in Graduate Education:
graduate.rice.edu/goodpractices
Graduate and Postdoctoral Studies (GPS) Office:
graduate.rice.edu
Guidelines for Dismissal/Petition:
bit.ly/RUdismiss
Honor System and Code of Student Conduct:
ga.rice.edu
International Student Information:
oiss.rice.edu
International Student Forms:
oiss.rice.edu/forms/
Recreation Center:
recreation.rice.edu
Registration:
graduate.rice.edu/registration
Research and Scholarly Activities:
ga.rice.edu/GR_students/
Wellness:
wellness.rice.edu

Dates

Refer to the Rice Registrar's Office at registrar.rice.edu for all academic calendar information.

Help Available

When you or a friend is in need of help, there are many resources available to you on the Rice campus:

Graduate Program Director & Administrator

Dr. Michael Orchard, Professional Master's Committee Chair, and Norma Santamaría, M.E.E. Administrator, are available to help students with academic and personal needs. Their contact information can be found in Section VII.

Student Health Services: health.rice.edu

The Rice Student Health Services provides preventive and outpatient

clinical care for the students of Rice University. Student Health is located on-campus and is dedicated to meeting the unique needs of undergraduate and graduate students.

Rice Wellness Center: wellbeing.rice.edu

The Student Wellbeing Office supports student development and success and is also a good first point of contact for students who want to talk to someone about solutions to their wellbeing concerns. The office can provide advice and practical support to help you resolve personal challenges, such as conflicts with friends, difficulty making decisions, struggling with your identity, and academic concerns or problems that are more serious in nature.

Rice Counseling Center: wellbeing.rice.edu/rcc/

The Rice Counseling Center is designed to complement the university's academic mission by assisting students' personal and educational development through a variety of psychological and psychiatric services. The goal of these efforts is to help students develop effective problem-solving and decision-making capabilities in order to make satisfying life choices, and maximize their capacity for continued emotional growth.

Graduate and Postdoctoral Studies (GPS) office:

For questions concerning the graduate program as a whole, contact Sherry Vanderslice, Graduate Student Affairs Project Manager, at sdvl@rice.edu or 713-348-2154.

VII. DEPARTMENT DIRECTORY

STAFF DIRECTORY



Norma Santamaría
M.E.E. Administrator
Undergraduate Program Administrator
713-348-6722
nsantamaria@rice.edu

Abercrombie B203



Trey Menchaca
Staff Assistant
713-348-3568
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Abercrombie A204



Carrie Toffoletto
Department Administrator
Graduate Program Administrator
713-348-5081
ctoffo@rice.edu

Abercrombie A204

Additional information such as a full listing of all staff and their responsibilities can be found at ece.rice.edu/people/staff.aspx

FACULTY DIRECTORY



Behnaam Aazhang

J.S. Abercrombie Professor, Electrical and Computer Engineering

aaz@rice.edu

ece.rice.edu/aaz.aspx

Research Summary: Communication theory, information theory, and their applications to wireless communication with a focus on the interplay of communication systems and networks; including network coding, user cooperation, spectrum sharing, and opportunistic access. Signal processing, information processing, and their applications to neuroengineering with a focus on the real-time closed-loop stabilization of neuronal systems to mitigate disorders such as epilepsy, Parkinson, tremors, depression, and obesity.



Athansios C. Antoulas

Professor, Electrical and Computer Engineering

aca@rice.edu

ece.rice.edu/antoulas.aspx

ece.rice.edu/~aca

Research Summary: Large-scale dynamical systems, approximation, computation, linear algebra.



Aydin Babakhani

Assistant Professor, Electrical and Computer Engineering

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ece.rice.edu/~ab28

Research Summary: Analysis, design, and testing of integrated circuits and antennas, with applications in high-speed wireless communication, radar, medical imaging, and bio-sensing.



Richard G. Baraniuk

Victor E. Cameron Professor of Engineering

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cnx.org

Research Summary: Multiscale, computational signal and image processing; open access, collaborative scholarly publication.



Joseph R. Cavallaro

Professor, Electrical and Computer Engineering & Computer Science

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ece.rice.edu/cavallaro.aspx
cmc.rice.edu

Research Summary: VLSI signal processing, wireless communication systems architectures, VLSI systems design and prototyping.



John W. Clark, Jr.

Professor, Electrical and Computer Engineering & Bioengineering

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ece.rice.edu/clark.aspx
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Research Summary: Electrophysiology (neural, cardiac); mathematical modeling of biological systems; signal processing methods applied to biological systems; nonlinear system dynamics; electromagnetic field theory.



Gene Frantz

**Professor in the Practice, Electrical & Computer Engineering
(Signal Processing)**

genef@rice.edu
ece.rice.edu/genefrantz.aspx

Focus Summary: Entrepreneurship, entrepreneurship.



Naomi J. Halas

**Stanley C. Moore Professor, Electrical & Computer Engineering
Professor of Biomedical Engineering, Chemistry, Physics and Astronomy**

halas@rice.edu
ece.rice.edu/halas.aspx
halas.rice.edu

Research Summary: Nanoengineering, plasmonics, and nanophotonics.



Kevin Kelly

Associate Professor, Electrical and Computer Engineering

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ece.rice.edu/kelly.aspx
ece.rice.edu/~kkelly

Research Summary: Electronic materials, microscopy, nanotechnology, compressed sensing.



Caleb Kemere

Assistant Professor, Electrical and Computer Engineering

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nel.rice.edu
neuroengineering.rice.edu

Research Summary: Building interfaces with memory and cognitive processes; model-based signal processing; low-power embedded systems.



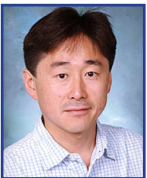
Edward W. Knightly

Chair, Electrical and Computer Engineering

Professor, Electrical and Computer Engineering & Computer Science

knightly@rice.edu
ece.rice.edu/knightly.aspx
networks.rice.edu

Research Summary: Wireless networks, urban-scale testbeds, clean-slate design, diverse spectrum access, multi-antenna systems, hardware platforms, high-performance protocol design, security, and performance evaluation.



Junichiro Kono

Professor, Electrical and Computer Engineering, Physics & Astronomy

kono@rice.edu
ece.rice.edu/kono.aspx
ece.rice.edu/~irlabs

Research Summary: Optical THz processes in semiconductor nanostructures and devices.



Farinaz Koushanfar

Associate Professor, Electrical and Computer Engineering

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ece.rice.edu/koushanfar.aspx

aceslab.org

Research Summary: Sensor networks, low power embedded systems, optimization and statistics.



Daniel Mittleman

Professor, Electrical and Computer Engineering & Bioengineering

Faculty Interim Director, Smalley Institute for Nanoscale & Technology

daniel@rice.edu

ece.rice.edu/mittleman.aspx

ece.rice.edu/~daniel

Research Summary: Far-infrared spectroscopy of materials using broadband sub-picosecond pulses of terahertz radiation.



Michael T. Orchard

Professor, Electrical & Computer Engineering

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ece.rice.edu/orchard.aspx

ece.rice.edu/ece/faculty/Orchard.html

Research Summary: Image and video modeling and compression.



Xaq Pitkow

Assistant Professor, Electrical and Computer Engineering

Assistant Professor, Computational Neuroscience, Baylor College of Medicine

xaq.pitkow@rice.edu

ece.rice.edu/pitkow.aspx

neuro.bcm.edu/pitkowlab

neuroengineering.rice.edu

Research Summary: Distributed neural representations, algorithms for statistical inference, models of the natural environment, and computation by nonlinear recurrent networks.



Jacob T. Robinson

Assistant Professor, Electrical and Computer Engineering & Bioengineering

jacob.t.robinson@rice.edu
ece.rice.edu/robinson.aspx
robinsonlab.com
neuroengineering.rice.edu

Research Summary: Nanotechnology to measure and manipulate neural activity.



Ashutosh Sabharwal

Professor, Electrical and Computer Engineering

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ece.rice.edu/sabharwal.aspx
cmc.rice.edu/warp

Research Summary: Wireless networks, information theory, multiple antenna systems, coding and computation.



Ray Simar

**Professor in the Practice, Electrical and Computer Engineering & Computer Science
(Digital Signal Processing Architecture)**

ray.simar@rice.edu
ece.rice.edu/simar.aspx

Research Summary: Digital signal processors, design methodology and programming tools.



Isabell Thomann

Assistant Professor, Electrical and Computer Engineering

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ece.rice.edu/thomann.aspx
thomanni.rice.edu

Research Summary: Energy, photocatalysis, ultrafast spectroscopy and nanophotonics.



Frank K. Tittel

**J.S. Abercrombie Professor, Electrical and Computer Engineering
Professor, Bioengineering**

fkt@rice.edu
ece.rice.edu/tittel.aspx
lasersci.rice.edu

Research Summary: Quantum electronic devices, laser spectroscopy, nonlinear optics, and laser-materials, interactions with applications in medicine and microelectronics.



Peter J. Varman

Professor, Electrical and Computer Engineering & Computer Science

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ece.rice.edu/varman.aspx
ece.rice.edu/~pjv

Research Summary: Storage and memory systems; virtualization and resource management; datacenter architecture; cloud computing.



Ashok Veeraraghavan

Assistant Professor, Electrical and Computer Engineering

vashok@rice.edu
ece.rice.edu/veeraraghavan.aspx
ece.rice.edu/~av21

Research Summary: Computational imaging, computer vision and robotics.

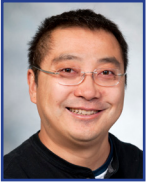


Gary Woods

**Professor in the Practice, Electrical and Computer Engineering & Computer Science
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Research Summary: Optical probing and debugging of advanced integrated circuits.



Lin Zhong

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Research Summary: Mobile & embedded system design, design automation of digital systems.

More information on all faculty members can be found at ece.rice.edu, including biographies and current research projects.

Connect:



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