Electrical Engineering
Graduate Program

Roger Lake
Graduate Student Advisor
Important Dates for International Students

• **SPEAK Test ($$)**
  – You cannot TA without passing this
  – Your TA income ($$$) depends on this
  – You cannot receive a Ph.D. in E.E. without passing this
  – SPEAK test - Wednesday, September 15
  – *Must sign up at the Learning Center*

• **International Services New Graduate Student Orientation**
  – Tuesday, September 14 at 8 a.m. at the Watkins House
Required for all Future Teaching Assistants (TAs)

- **New Teaching Assistant Orientation**
  - Monday, September 20, 8:30a.m. at Physics 2000

- **TADP Pre-Quarter Workshop I ($$$)**
  - Tuesday, September 21, sessions are scheduled between 8:00a.m. – 5:00p.m.

- **TADP Pre-Quarter Workshop II ($$$)**
  - Wednesday, September 22, sessions are scheduled between 8:00a.m. – 5:00p.m.

**NOTE:** To sign up go to www.graddiv.ucr.edu/TADP.html
Required for All New Graduate Students

• Electrical Engineering New Graduate Student Orientation
  – Here and now

• Graduate Division New Graduate Student Orientation
  Friday, September 17
  1:00-2:30 pm
  The Commons
Required for all Ph.D. Students With Financial Support Packages

• Report to your advisor (professor) listed on your award statement. ($$)
  – Your continued support is contingent upon satisfactory performance in your professor’s lab
Role of Graduate Advisor

ADVISING

• Course selection
  – First, discuss with your advisor (professor)
  – If still questions, discuss with me
  – I review and sign off on all course registration
  – Ensure a course selection so that you can pass the Preliminary exam. All Ph.D. students must pass this exam

• Finding a research advisor
  – Required for Ph.D.

• For M.S. students
  – M.S. Thesis or Exam options
Role of Graduate Advisor

My Initial Advice

• Go to my web page www.ee.ucr.edu/~rlake
  - Go to Graduate Advisor link

• Look first in the Graduate Student Manual

• Go to the EE web page: www.ee.ucr.edu
  - People
    • Faculty – check out their research when searching for an advisor
    • Staff
    • Students
  - Student information
    • Schedule of classes – what’s offered, when
    • Graduate Course Descriptions
Course Descriptions Fall 04

Descriptions on EE web page

- EE 201 Applied Quantum Mechanics (Solid State Devices)
- EE 208 Semi., Electron, Phonon & Opt.(Circuit & Devices)
- EE 210 Advanced Digital Signal Processing (Signal Proc.)
- EE 215 Stochastic Processes (Comm., Control, Sig. Proc.)
- EE 226 Wireless Communications (Communications)
- EE 237 Non-Linear System Theory (Controls)
- EE 240 Pattern Recognition (Intelligent Systems)
- EE 260 Seminar (Digital Data Compression – no prereqs)
- EE 259 Colloquium*

* Required of all first year students
Applied Quantum Mechanics

- Schroedinger equation, operator formalism, harmonic oscillator, quantum wells, spin, bosons and fermions, solids, perturbation theory, WKB approximation, tunneling, tight-binding model, quantum measurements, quantum cryptography, and quantum computing.

Advanced Digital Signal Processing

Stochastic Processes

- Random variables and stochastic processes; spectral analysis; Wiener optimum filter, matched filter, and Karhunen-Loeve expansion; mean square estimation theory including smoothing, filtering, and linear prediction; Levinson’s algorithm, Lattice filters, and Kalman filters; and the Markov process.

Linear System Theory

- Linear systems; the solution of state-space equations; controllability and observability, canonical and minimal realization, and state feedback, pole placement, observer design, and compensator design.
Circuits and Devices

Nanoelectronics, Molecular electronics, BIOMEMS

Alexander Balandin
Nanoelectronics
Nanophotonics

Alexander Korotkov
Quantum Computing

Mihri Ozkan
BioMEMS, MolElectronics

Roger Lake
Graduate Adviser
Nanoelectronics
MolElectronics

Jianlin Liu
Nanoelectronics
Optoelectronics

Sheldon Tan
CAD
Computer Engineering

Ilya Lyubomirsky
Photonics
Intelligent Systems

Matthew Barth
Ce-CERT
(Center for Environmental Research and Technology)

Bir Bhanu
Director of C.R.I.S.
(Center for Research in Intelligent Systems)

Ping Liang

Amit Roy Chowdury
Cooperating Faculty (Other Depts.)

- Can be your research advisor
- **Chemistry:** Ludwig Bartels
- **Mechanical Engineering:** Qing Jiang, Cengiz Ozkan (MEMS)
- **Computer Science and Engineering:**
  - Laxminarayan Bhuyan, Harry Hsieh, Dimitrios Gunopulos, Tao Jian
- **Physics:** Harry Tom
EE Office Staff

EE Dept. Manager
Bill Bingham

Graduate Administrative Assistant
Vanda Yamaguchi
Dan Giles
Lab Manager

System Administrators

David Williams

Steven Haughton