State of Rice’s ECE Department

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Department overview

- 30 tenure-track faculty (19 with primary appointments in ECE), 2 faculty fellows, 1 research professor
  - 8 IEEE Fellows
- Largest Rice department in total number of graduates
- One open faculty position
- Three major research centers
  - Center for Multimedia Communications (Behnaam Aazhang)
  - MURI Center for Nanoshell Design (Naomi Halas)
  - Networking Research Group (Knightly)
- Home of the Connexions project
Research Areas

- Signal, image and information processing
  - Baraniuk, Choi, Johnson, Nowak, Orchard
- Bioengineering
  - Clark, Johnson
- Communications and control
  - Aazhang, Antoulas, Sabharwal
- Network modeling and protocols
  - Baraniuk, Knightly, Nowak
- Connexions - Electronic publication for education
  - Baraniuk, Johnson, Wilson
- Distributed systems
  - Varman
- Computer architecture and hardware
  - Cavallaro, Pai, Massoud, Mohanram
- Photonics, laser science and applications
  - Halas, Kono, Mittelman, Tittel, Young
- Semiconductor and quantum devices
  - Kelly, Kono, Wilson
What’s happening….

- Departing faculty
  - Rob Nowak to University of Wisconsin
  - Rolf Riedi to Statistics (Rice)

- New faculty
  - Yehia Massoud (high-performance VLSI design)
  - Kartik Mohanram (VLSI test and hardware performance enhancement)

- Microfabrication facility construction starts in a week (finally!)

- Grants, grants, grants…
Research Overview

Research funding increasing more than any other engineering department (13% last year!)
Major research grants won this year

- Halas (BCRP, NSF-NIRT) $4.5M
- Knightly (2 NSF-ITR) $3.4M
- Kono (NSF-ITR) $1.1M
- Mittleman (AFOSR) $1.5M
- Pai (NSF-CAREER) $0.4M
- Kelly (MURI) $0.4M
- Cavallaro (NSF-MRI) $0.4M
Student population sizes “stable”

Research Graduate Students

B.S. Graduates
Department Strategy

✓ Enhance visibility and prominence
  • Hire first-rate faculty dedicated to teaching and research
  • Integrate research across groups inside and outside department
  • Improve graduate student recruiting
  • Foster undergraduate research
  • Improve undergraduate curriculum
  • Strengthen industrial connections through…
    ⊗ Research relationships
    ⊗ Student internships