Introduction of Faculty

- Kwang Lee, Chairman
- Charles Baylis
- Liang Dong
- Steve Eisenbarth
- Mack Grady
- Ian Gravagne
- Jonathan Hu
- Randall Jean
- Scott Koziol
- Yang Li
- Bob Marks
- John Miller
- Keith Schubert
- Brian Thomas
- Mike Thompson

Loss of Faculty

Dr. Russ Duren:
Associate Professor
Left for position with Raytheon in California

Dr. Ben Song:
Assistant Professor
Left for position at Argon National Laboratory in Illinois

Scott Koziol: Assistant Professor of Electrical & Computer Engineering

- PhD, Georgia Tech, 2013
- MSME, Georgia Tech, 2011
- MSEE, Iowa State University, 2000
- BSEE, Cedarville University, 1998

- Embedded system design, robotics, and signal processing; reconfigurable analog circuits for robotic guidance, navigation, and control; integrating analog computation into robotics.
Keith Schubert: Associate Professor of Electrical & Computer Engineering

- PhD, University of California, Santa Barbara, 2003
- MSME, University of California, Los Angeles, 1992
- BSGE, University of Redlands, 1991

- Professor of Computer Science & Engineering, California State University, San Bernardino, CA, 2002 – 2013
- Scientific computing, magnetic resonance imaging, proton computed tomography; cellular automata for astrobiology; bioinformatics; robotics, vision, space and parallel processing.

Overview of the Department

- Administrative Organization
  - Assistant Chair – Brian Thomas
  - Scheduling Coordinator – John Miller
  - Systems Coordinator – Randall Jean
  - Graduate Program Director – Mike Thompson
  - Office Manager – Linda Kerr

Overview of the Department

- Faculty Search Committee – Marks, Jean, Schubert
- Graduate Program Committee – Thompson, Marks, Grady, Gravagne, Long, Hu, Li
- Undergraduate Curriculum Committee – Thomas, Thompson, Jean, Koziol, Miller
  - Students at Fall and Spring Premieres
  - STEM Programs for Local Elementary and High Schools

Overview of the Department

- Faculty Search
  - One new position for Ph.D. program
  - Two replacement positions: for Drs. Duren and Eisenbarth
Overview of the Department

Undergraduate Program
- Recruiting:
  - Fall and Spring Premiere,
  - Academic Excellence,
  - STEM activities for local schools,
  - Pre-Engineering Major,
- Retention:
  - Freshmen Engineering EGR 1301-1302: B or better, course over hall

K-12 Outreach

Waco Tribune Herald highlights a solar electricity presentation

Prof. Thomas and our graduate student, Josh Daniliuc, at Rapoport Academy.

Best Robotics

- Robotics competition designed to bring interest to middle and high school students in possible engineering careers
- Served as a judge (Jonathan Hu) in 2011
- Served as faculty liaison (John Miller and Jonathan Hu) in 2012
- Regional competition held at Ferrell center in 2012

4-H Robotics - Spring 2013
- ~50 Elementary, MS, and HS students
- “Local” area up to 4 hour drive
- Hosted at Cashion (BRIC not finished)
- 20+ Baylor student volunteers
- Organizers:
  - John Miller
  - Jonathan Hu
Innovate – Summer 2013

- 1 week camp for HS juniors
- 3 sessions (weeks)
- Projects:
  - Bluetooth RC car
  - Solar panel
  - Rockets
- Faculty
  - John Miller – ECE
  - Ben Kelley – ME

Report on BS-ECE Program
ABET Accreditation Cycle

2012
- July 1: Submission of self-study report
- Sept 30-Oct 2: ABET team campus visit
- October 2: Exit interview
- Seven-day response
- Draft report
- Due process (30 day) review
- Due process response

2013
- August 5: ABET EAC final action
  - Accredited to September 30, 2019

Report on BS-ECE Program
ABET Accreditation Cycle

Accreditation “Shortcomings” Terminology

<table>
<thead>
<tr>
<th>Deficiency</th>
<th>Not in compliance (SC)</th>
</tr>
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<tbody>
<tr>
<td>Weakness</td>
<td>Lacks strength of compliance</td>
</tr>
<tr>
<td>Concern</td>
<td>Criterion satisfied, but must address in the next self study</td>
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</tbody>
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Initial Report on BS-ECE Program
ABET Accreditation Cycle

Deficiencies
- None

Weaknesses
1. Wording and Assessment of PEOs,
2. Assessment of Outcomes by major

Concerns
1. Faculty: Need for maintaining hiring plan
2. Space: Limited space: new space for growing activity?
3. Discrete Math Program Criterion
ABET Accreditation

Strength:
- Faculty provide a high level of attention to students and are very accessible
- Faculty members interact extensively with students to offer course assistance, academic and career advising, and mentoring.
- Living-learning community

Weaknesses:
- Resolved

Concerns:
- Criterion 6, Faculty: Sufficient faculty to accommodate adequate levels of student-faculty interaction, advising and counseling, service activities, professional development, and employers of students.
- Criterion 7, Facilities: Laboratory space for the senior design.

Students Tutor 5th Graders

Four students from Engineers with a Mission tutored 5th grade students in an after school program at Rapoport Academy Middle School

Twice weekly commitment throughout the spring semester builds relationships

Helped with math and science

Engineering Mission Work

New Country: Haiti
Bill Jordan and Brian Thomas joined folks from Mission Waco (local non-profit)
Design and install solar array to provide electricity for Mission Waco training center
Eight students
- 4 male, 4 female
Engineering Mission Work

Haiti: Profs. Thomas and Jordan (ME) took a team of eight students to Haiti to work with the Mission Waco to install solar panel in May 2013.

ECE Internship Program

Our Goal as We Grow

- Communicate the value of real-world experiences to our students.
- Do a better job of connecting our students with prospective employers.

Engineering Mission Work

- Needs
  - Frequent flier miles can be donated
    - KLM, British Airways, Continental
  - Scholarships to offset student travel costs
  - Connections with potential donors
Our Challenges

- An internal concern dealing with the high cost to students for internship course credit.
- Networking with employers to showcase the value of Baylor Engineers.

Graduate Program Overview

- Degree Programs
- Stipends and Tuition Remission
- Current Numbers
- New Developments

Degree Programs

- Ph.D. for ECE started Fall 2010
- Master of Science (2004)
  - Electrical and Computer Engineering
  - Biomedical Engineering
  - Mechanical Engineering
  - All require 30 hrs + thesis
- Master of Engineering
  - 33 hrs. + project

Joint Degree Programs

- Master of Science
  - Share 6 credit hrs. between undergrad technical electives and graduate program
- Master of Engineering/MBA
  - Share 15 hrs. of common credit
  - Complete in about 2 years + 1 semester
**Stipend and Tuition**
- Grad School Funding for 10 positions
- MS Stipend $1500/mo for 10 months.
- Ph.D. Stipend $1500-2250/mo for 10 months
- RA positions from Research, Start-up and Distinguished Professor Funds
- Received new funding for Ph.D. stipends (6 positions)
- All positions include tuition scholarships

**Current Numbers**
- 22 Total Graduate Students
- 14 PhD Electrical and Computer Engineering
- 8 MS Electrical and Computer Engineering

**The First ECE Ph.D.**
Dr. Winston Ewert
August 17, 2013

**New Developments**
- BRIC – New laboratory and graduate student office space at the BRIC
A New IEEE Conference

- Technically co-sponsored by IEEE Microwave Theory and Techniques Society (MTT-S)
- Papers available on IEEE Xplore
- 31 papers submitted; 25 accepted

Conference Highlights

- Included Events:
  - Peer reviewed paper presentations, archived on IEEE Xplore
  - Student poster session
  - Industry panel session
- Over 70 registered attendees in 2013!
- 10 universities represented

Texas Symposium History

- Grew out of annual Baylor Wireless and Microwave Circuits and Systems (WMCS) Program Advisory Board meeting.
- Spring 2009 -2012: Annual half-day WMCS Mini-Symposium following advisory board meeting
- Sought and gained IEEE MTT-S technical co-sponsorship in 2012.

Conference Future Plans

- The Spring 2014 conference is being planned – to be hosted by Baylor.
- Check the conference website for details: http://www.texassymposium.org
- We need steering committee members: now is a great time to get involved!
- An additional Spectrum Forum, with invited speakers, will be added this year to the symposium (result of NSF grant).
- Contact General Chair Charles Baylis: Charles_Baylis@baylor.edu
ECE Future Plans

- ECE Advisory Board: now is a great time to get involved!
- Faculty Search
- Recruiting Graduate Students
- Recruiting Undergraduate Students
- Increasing Retention Rate

Contact Department Chair:
Kwang_Y_Lee@baylor.edu