Southeastern Association of Electrical and Computer Engineering Department Heads (SECEDHA)
Final Agenda

Annual Meeting
Hilton University of Florida Conference Center
Gainesville, Florida

REGISTRATION

Thursday	2:00-6:00pm	Registration	Hilton lobby
Friday	7:00-2:30pm	Registration	Century Ballroom B/C

Thursday, October 25

OPTIONAL PRE-MEETING TOUR

Time	Activity	Location/Lead
2:00-2:30 PM	Meet and Greet	Hilton lobby
2:30-4:30 PM	UF Bus Tour led by UF ECE students including: General campus overview, Engineering, Ben Hill Griffin Stadium, Century Tower, with walking tours of Florida Institute for CyberSecurity (FICS) and the HWCOE Flipped Classroom.	Hilton Lobby

Note: Bus leaves at 2:30 PM and returns at 4:30 PM

MAIN MEETING STARTS

Time	**Activity**	**Location/Lead**
5:30- 6:00 PM	Reception	No Name Lounge
6:00- 6:40 PM	Dinner	Dining Pavilion
6:40- 7:30 PM	Featured speaker: Dr. Mark Law **Can an Honors Program Help Electrical Engineering Students? If so, How?** Director of UF Honors Program, and former ECE Chair at University of Florida	Dining Pavilion
7:30-8:00 PM	SCEEE Annual Meeting	Dining Pavilion
8:00-8:45 PM	SCEEE Board of Directors meeting	Dining Pavilion

Southeastern Association of Electrical and Computer Engineering Department Heads (SECEDHA)
Final Agenda

Friday, October 26

Meeting Location: Century Ballroom B/C

Time	Activity	Location/Lead
7:30-8:00 AM	Continental Breakfast	Century Ballroom B/C
8:00-9:15 AM	Session I: **ECE Graduate Student Recruiting** *Grad enrollments are declining and causing problems in ECE depts. How can we better recruit both foreign and domestic grad students?* Panel Discussion led by Luke Lester, Virgina Tech Mike Nazareth, Florida Mark Nelms, Auburn Dan Stancil, NC State Ahmed Eltom, UTC	Luke Lester
9:15-10:00 AM	Session II: **E vs. C** *Electrical engineering vs. Computer Engineering* *Computer Engineering enrollments are growing while EE enrollments are dropping. Is this OK? Do the jobs support this change? Should we do something different in the curriculum?* *In marketing? In Admissions?* Group discussion led by John Harris, UF	John Harris
10:00-10:15 AM	Break	Century Ballroom B/C
10:15-11:15 AM	Session III: **Robotics in the ECE Curriculum** *Should we use robotics more in the ECE curriculum? What kind of requirements? What kinds of courses?* Panel led by Hulya Kirkici, Univ of South Alabama: Nurgun Erdol, FAU Nick Younan, Mississippi State Zhihua Qu, UCF	Hulya Kirkici
11:15-12:00 PM	**Roundtable topics**	
12:00-12:45 PM	Lunch	Dogwood
12:45-1:15 PM	**ABET Feedback from visited programs**	
1:15-2:30 PM	**SECEDHA Business Meeting/Survey**	
2:30 PM	Adjourn	

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Final Agenda

Thursday night dinner talk: Dr. Mark Law

Title: "Can an Honors Program Help Electrical Engineering Students? If so, How?"

Abstract:
Honors Education and Engineering Education have frequently been in tension. Many Honors Deans and Directors view Honors education as a classic liberal arts education, which doesn't fit the view of Engineering Deans and Chairs. However, I think both have an overly narrow view. Honors and Engineering can provide more than an uneasy co-existance. Electrical Engineers, in particular, work on a wide range of interdisciplinary projects in the workforce. Honors education can provide benefits across the curriculum in producing engineers that are better with soft skills, understand societal and ethical concerns, and have greater technical depth. Partnering with Honors might effectively bring more and better students to your majors. Why wouldn't we want ECE to be the destination for the top engineering students at our institution?

Bio:
Mark Law is the Director of the University of Florida Honors Program. Previously, he has been Associate Dean for Academic Affairs in the College of Engineering (2009-14) and chair of Electrical and Computer Engineering (2003-09). He received his B.S. from Iowa State University in 1981, his M.S. from Stanford University in 1982, and the Ph.D. degree from Stanford University in 1988. Dr. Law was named an IEEE Fellow in 1998 for his contributions to integrated circuit process modeling and simulation and has won several international awards. His current research interests are in semiconductor and superconductor devices and technology. His teaching has been interdisciplinary and in Honors. He is team-teaching "Engineering the Renaissance" with medievalists. He has taught Hamilton, The Martian, and Crystal Fire in UF's uncommon reads courses. He and his wife are associate producers of a hit off-broadway play.

SECEDHA Conference
10/26/2018
Sign In

NAME	UNIVERSITY	SIGNATURE
Abdel-Mottaleb, Mohamed	University of Miami	
Andrian, Jean	Florida Int'l Univ.	
Barsanti, Robert	The Citadel	
Bernhard, Phil	Florida Tech	
Beyette, Fred	University of Georgia	
Dougal, Roger	Univ. South Carolina	
Eltom, Ahmed	Univ. of Tennessee	
Eroglu, Abdullah	N.Carolina A&T State	
Ferekides, Chris	Univ. South Florida	
Gonzalez, Oscar	Old Dominion Univ.	
Gorur, Ravi	University of Alabama	
Harris, John	University of Florida	
Haskew, Tim	University of Alabama	
Huang, Liling	George Mason Univ.	
Hayes, Monson	George Mason Univ.	
Johnson, Michael	University of Kentucky	
Khabou, Mohamed	Univ.of West Florida	
Kirkici, Hulya	Univ. of S. Alabama	
Lester, Luke	Virginia Tech	
Lin, Zongli	Univ. of Virginia	
McKenzie, ~~Fred~~ Rick	Old Dominion Univ.	
Nasipuri, Asis	Univ. of North Carolina	
Nelms, Mark	Auburn University	
Noneaker, Daniel	Clemson University	
Pamidi, Sastry	FAMU/FSU	
Peterson, Greg	Univ. of Tennessee	

NAME	UNIVERSITY	SIGNATURE
Preza, Chrysanthe	University of Memphis	
Qu, Zhihua	Univ. of Central Florida	
Rashid, Muhammad	Florida Polytechnic	
Stancil, Dan	North Carolina State	
Topsakal, Erdem	VCU	
Trahan, Jerry	Louisiana State	
Wilson, Timothy	Embry-Riddle	
Younan, Nicolas	Mississippi State	
Zein-Sabatto, Saleh	Tennessee State	
Zhuang, Hanqi	Florida Atlantic	
~~Redacted~~	~~Redacted~~	
Nazareth, Mike	University of Florida	
Nishida, Toshi	University of Alaska	

SECEDHA 2018 Fall Meeting Minutes
October 26, 2018
Hilton University of Florida Conference Center Gainesville, Florida

1. Meeting is opened by President John Harris at 8:00 am and continued with the introduction of the members.

2. Session I: ECE Graduate Student Recruiting is Chaired by Luke Lester (Virginia Tech). The session is presented as a panel discussion. Panel members Mike Nazareth (Florida), Mark Nelms (Auburn), Dan Stancil (NC State), and Ahmed Eltom (UTC) address "Grad enrollments are declining and causing problems in ECE depts. How can we better recruit both foreign and domestic grad students?" and related issues website.

3. Session II: Electrical engineering vs. Computer Engineering is presented by John Harris (Univ. of Florida). Some of the topics discussed are: Computer Engineering enrollments are growing while EE enrollments are dropping. Do the jobs support this change? – there are more jobs in software and computer science. Should we do something different in the curriculum or in marketing or in Admissions? Presentation slides are / will be posted to the SECEDHA website. It seems most ECE departments have only one programming required course. UF is planning to add another required programming course in their program.

4. Session III: Robotics in the ECE Curriculum Should we use robotics more in the ECE. Panel session is led by Hulya Kirkici (Univ. of South Alabama), with panel members Hanqi Zhuang (FAU), Nick Younan (Mississippi State), Zhihua Qu (UCF), Tim Wilson (Embry riddle Aeronautics U.). Panel discussed robotics programs/courses at their respective institutions and shared videos of the project that their students participate. Slides and videos are / will be posted to the SECEDHA website. Key outcomes are:
    - Most ECE departments have some form of robotics project and/or course at freshman level.
    - Most ECE departments have at least one robotics course at graduate level
    - Most ECE departments have research program in robotics.
    - Most ECE departments seem to be neural about offering "robotics" track or major in their departments.
    - Most ECE departments seem to be participating in high-school robotics projects (i.e. FIRST Robotics).

5. Roundtable Topics (Q: Questions, A: Answers, C: Comments, D: Discussion):
    Q: What happened to "Branding Posters" that was presented at the last ECEDHA meeting.
    A: Link is on the ECEDHA website but hard to find. This is the link to find the site: http://www.ecedha.org/membership/ecedha-branding-initiative
    C. Members wanted to see more ABET related session at the ECEDHA at the 2019 meeting. Commented that there were a lot more "commercial" presentations and not much time for other matters.
    A: Zhihua Qu (UCF) a Board member on ECEDHA Board will bring this to the Board.
    C: One member also commented that the fee to attend the ABET workshop at the ECEDHA meeting was too high.

Q: What are the membership benefits?
C: Another member commented that the ECEDHA membership fees were too high and was not justifiable for benefits. The comment was "*We are not getting the value for the fees we pay.*"
A: Previous fee structure was not enough to support the projects.
Q: What fraction of departments are members?
A: About 80%, as of last year's membership.
C: John Harris announced that the SECEDHA has a new/revised website. The link to the website is: http://secedha.org/
Q How many fully online EE or CpE programs there are.
A: Among the members at the meeting, there are no one offering fully online EE or CpE programs. A few of them offer blended programs.
D: Discussion on variety of online program options discussed.
D: Undergraduate recruiting. What are the best practices?
A: State sponsors – Industry certificate program for high school students (UK)
A: U. Ala. Has full time recruiter – about 40 of them. They provide instate tuition incentives to those out of state students if they bring their out of state friends with them to attend UA.

6. ABET Feedback from visited programs:
    - GMU – Specific wording on performance indicators (PIs) – how the instrument used to evaluate PIs
    - USF Had a consultant's visit to prepare for next year's SOs of (1-7) versus the (a-k) data they have. Consultant did not have all the answers they had yet (capstone project, standards, Risk which must be included and need to be assessed).
    - UWF – some issues with SOs / supporting documentation
    - UF – de-aggregation of the data between EE and CpEs, standards, safety (specifically with soldering stations and dress code in these labs – pants and closed-toe shoes needed). But it is all good. Took care of the issues during the visit.
    - Comment from USC – new wording is not good; changing the wording on design project may be an issue.

7. SECEDHA Business Meeting
    - Election of the Secretary. Nomination is closed with one candidate by Zhihua Qu (UCF) by a motion and seconded by Luke Lester. Daniel Noneakar (Clemson Univ.) is elected as the 2019 SECEDHA Secretary unanimously.
    - Venu experience – survey will be sent out.
    - Next meeting will be hosted by Luke Laster Virginia Tech, Blacksburg.
    - Next meeting dates – not to interface with football schedule; 3rd or 4th week of October is good.
8. Survey – new questions are added to the survey. Survey is/will be posted on SECEDHA website.

9. Meeting Adjourned at 2:05 pm.

See other meeting minutes at: http://secedha.org/meetings/

Mike Nazareth, My Background

- Recruiting and Admissions in Higher Education (26 years)
  - University of Florida (5th season, 2014 to present)
  - University of Michigan (16 years from 1998 - 2014)
  - College of Southern Idaho (4 years from 1994 to 1998)
- Currently (University of Florida)
  - Inaugural Director for Graduate Recruiting, Herbert Wertheim College of Engineering
  - Founder and Director of SURF, Summer Undergraduate Research at Florida
  - Founder and Manager of ENGINE, Engineering National Graduate Institutional Name Exchange
- Formerly (University of Michigan)
  - Inaugural Director for Graduate Recruiting, College of Engineering

ENGINE Engineering National Graduate Institutional Name Exchange

MANAGED BY HERBERT WERTHEIM COLLEGE OF ENGINEERING, UNIVERSITY OF FLORIDA

- https://engine.eng.ufl.edu/
- Invited 200 Colleges/Schools of Engineering
- Invitation to Exchange Lists of Jr/Sr Undergraduates
- 15 Defined Fields of Info (name, institution, undergrad major, GPA, expected grad major/degree, grad date/month, gender, ethnicity, citizenship, email, cell)
- Students “opt in” via FERPA
- National Consortium Sharing Database
- ENGINE Member Institution Participation Agreement (signatory)
- Optional Masters student data collection

ENGINE Engineering National Graduate Institutional Name Exchange

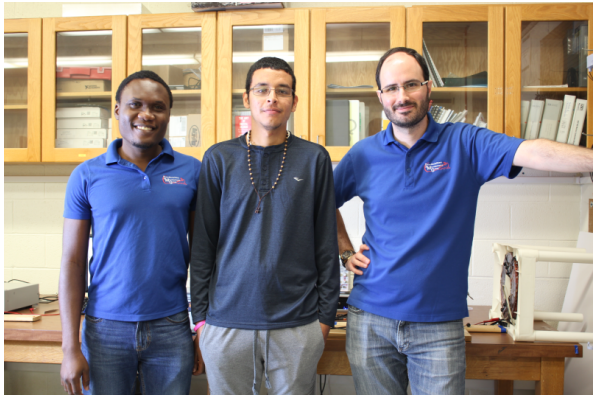
MANAGED BY HERBERT WERTHEIM COLLEGE OF ENGINEERING, UNIVERSITY OF FLORIDA

- 2018 Student Profile
  - 82 Institutions
  - 15,599 Engineering Students
  - 1,214 Masters; 6,448 Graduating Seniors; 7,523 Juniors & Beyond
  - 12,565 Domestic Students; U.S. Citizens, Permanent Residents (82%)
  - 4,964 Female Students (32%); 3,986 Domestic (26%)
  - 2,211 Underrepresented Minority Students (14%)
  - 499 LGBTQ/Transgender (3%)

- Undergraduate GPA Count
  - 4,891 with GPA 3.75 to 4.00 (34%)
  - 3,641 with GPA 3.50 to 3.74 (25%)
  - 2,918 with GPA 3.25 to 3.49 (20%)
  - 2,316 with GPA 3.00 to 3.24 (16%)
  - 548 with GPA < 3.00 (4%)

Identifying Prospects

- Compile and Maintain One College-wide prospective graduate student recruiting database
- ENGINE, Engineering National Graduate Institutional Name Exchange (ENGINE)
- GRE Search
- GEM, McNair, NNE, TBP National Lists
- UF Prospect Self Inquiry
- National Conferences/Campus Visits
- UF Undergraduates; Department/Faculty Requests



Campus Visit Programs

- Junior Preview
  - Prospective Ph.D. Students
  - 1.5 to 2 Years Before Bachelors Degree
  - Align with Ph.D. Admission/Selection
- SURF, Summer Undergraduate Research at Florida
  - Last summer prior to Bachelors Degree
  - Early fall offers
  - Coordinate with Junior Preview
- Spring Visit
  - Admitted Students of Admitted with Funding Offer
  - Collaboration with College and Departments

Student Surveys & Meetings

- Ph.D. Enrollment Surveys
- April 15, National Ph.D. Enrollment Deadline
- Surveys to all Admits (enrolling not enrolling)
  - Main reason(s) for enrolling
  - Who we beat
  - Why you did not enroll
  - Where did you enroll
  - Where did we rank
- Annual Graduate Recruiting Meeting in May
  -Admin, Chairs, Graduate Coordinator, Graduate Staff, Interested Faculty

Graduate Recruiting

Mark Nelms

Auburn University

AUBURN
UNIVERSITY
SAMUEL GINN
COLLEGE OF ENGINEERING

Domestic Students

- AU
  - Honors banquet
  - IEEE student branch meeting
  - Undergraduate researchers
  - Accelerated BS/MS (in development)
  - GRAs/GTAs and fellowships

- Non AU
  - Shared lists
  - College recruiting weekend
  - College recruiting activities
  - Faculty visits to other universities
  - GRAs/GTAs and fellowships

International Students

- Building relationships
  - Faculty visits to universities
  - Visiting scholars
  - AU Graduate School recruiting
  - GRAs/GTAs
  - Fellowships

NC STATE UNIVERSITY

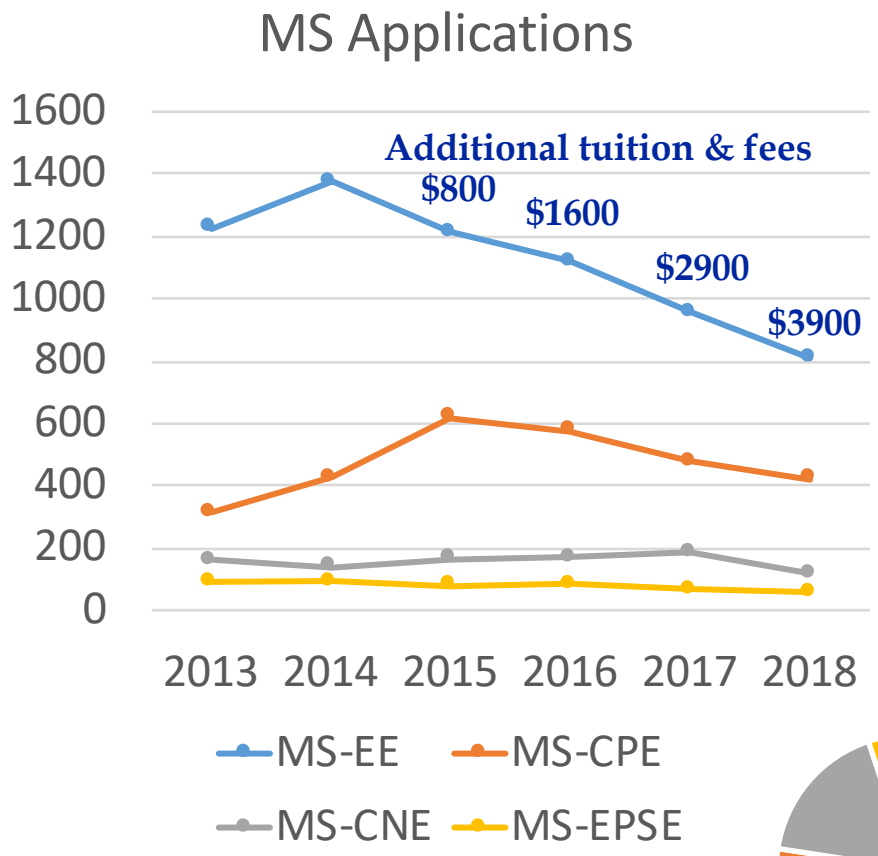
Graduate Recruiting at NC State

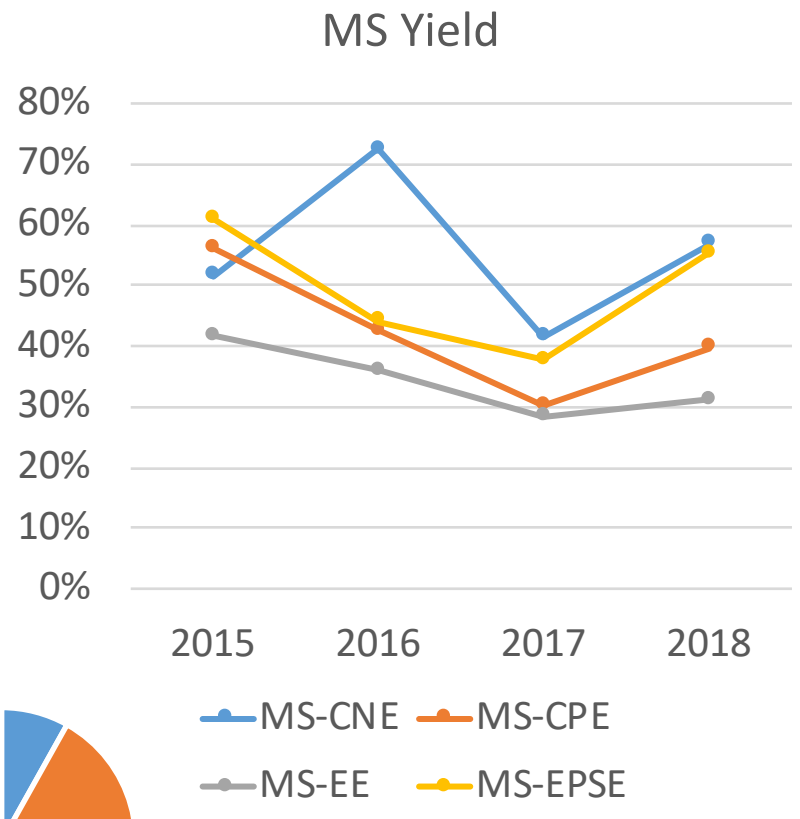
Paul Franzon & Dan Stancil

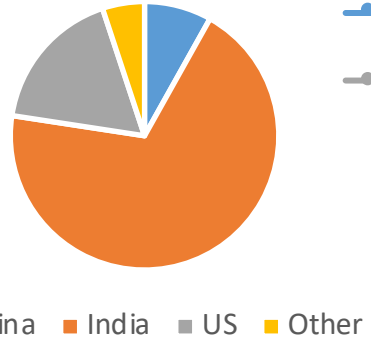
Department of Electrical and Computer Engineering
NC State University

NC STATE UNIVERSITY

MS Applications

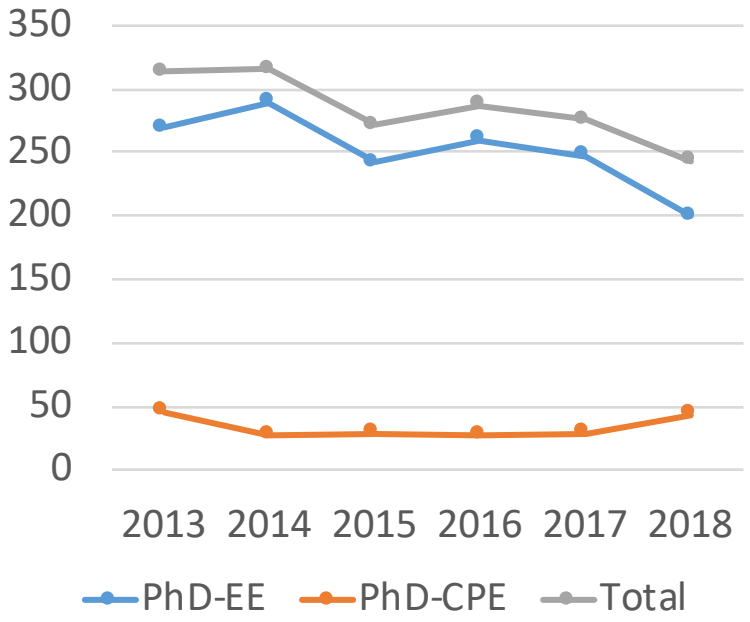


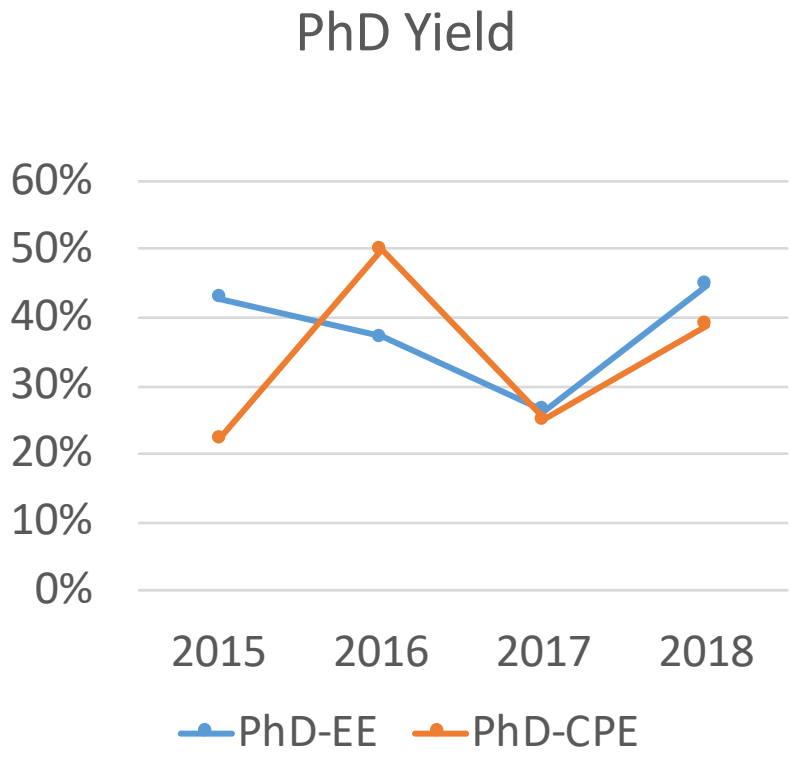


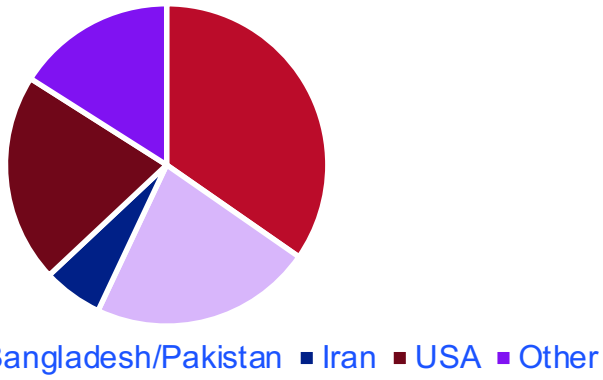


NC STATE UNIVERSITY

PhD Applications



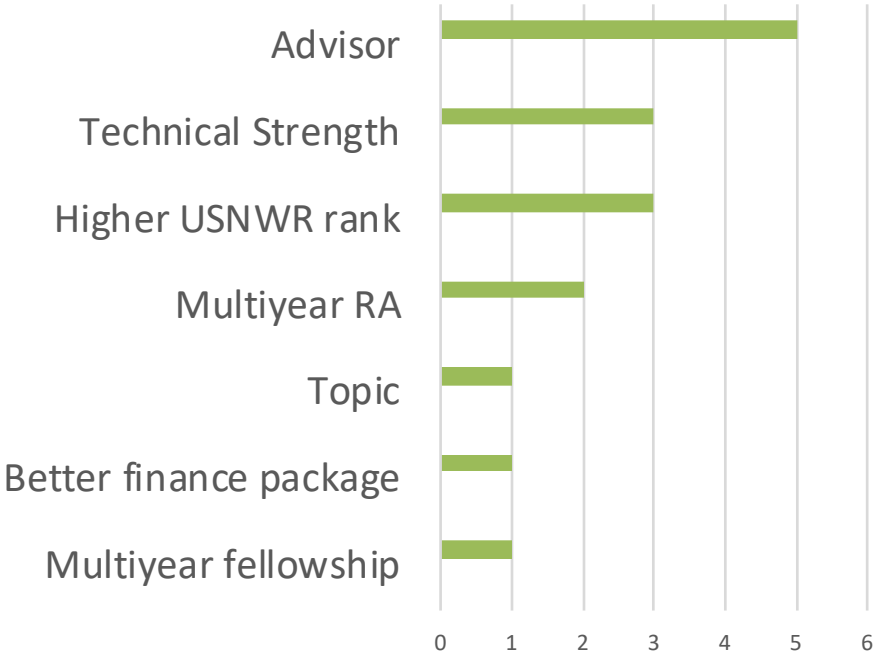




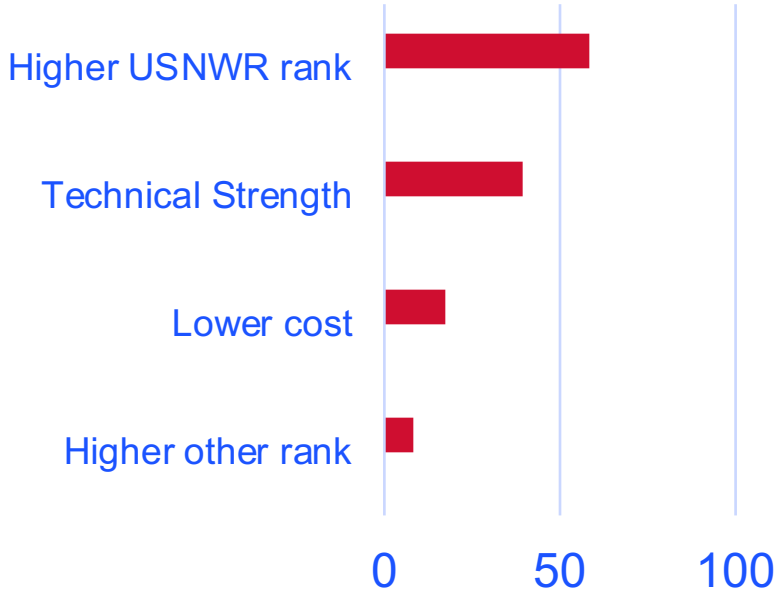
Discussion Questions

- ECE has seen a major decline in grad applications in the past year, do you have ideas for growing the applicant pool?
  - Reaching out to other countries & universities, e.g., trips to Turkey, Puerto Rico, etc.
  - Don't require GRE from Latin America and Sub-Saharan Africa
- Does your department have a graduate recruitment day/weekend? How successful is this event in your opinion?
  - Just started last year
  - Felt it was very successful
  - Overall yield went up; difficult to establish cause-and-effect
- Does your department have a virtual recruitment session?
  - No, but planning one
- Do you offer multi-year assistantships when accepting students? Do you have data that supports that these offers are an effective recruiting tool?
  - Strongest candidates get multi-year offers; remaining get "soft" multi-year offers
- How do you advertise your department's research to potential applicants?
  - Primarily via our web site
  - Advertised to GRE test takers in the US once, but according to self-reporting this led to no new applications

Reasons for declining offer



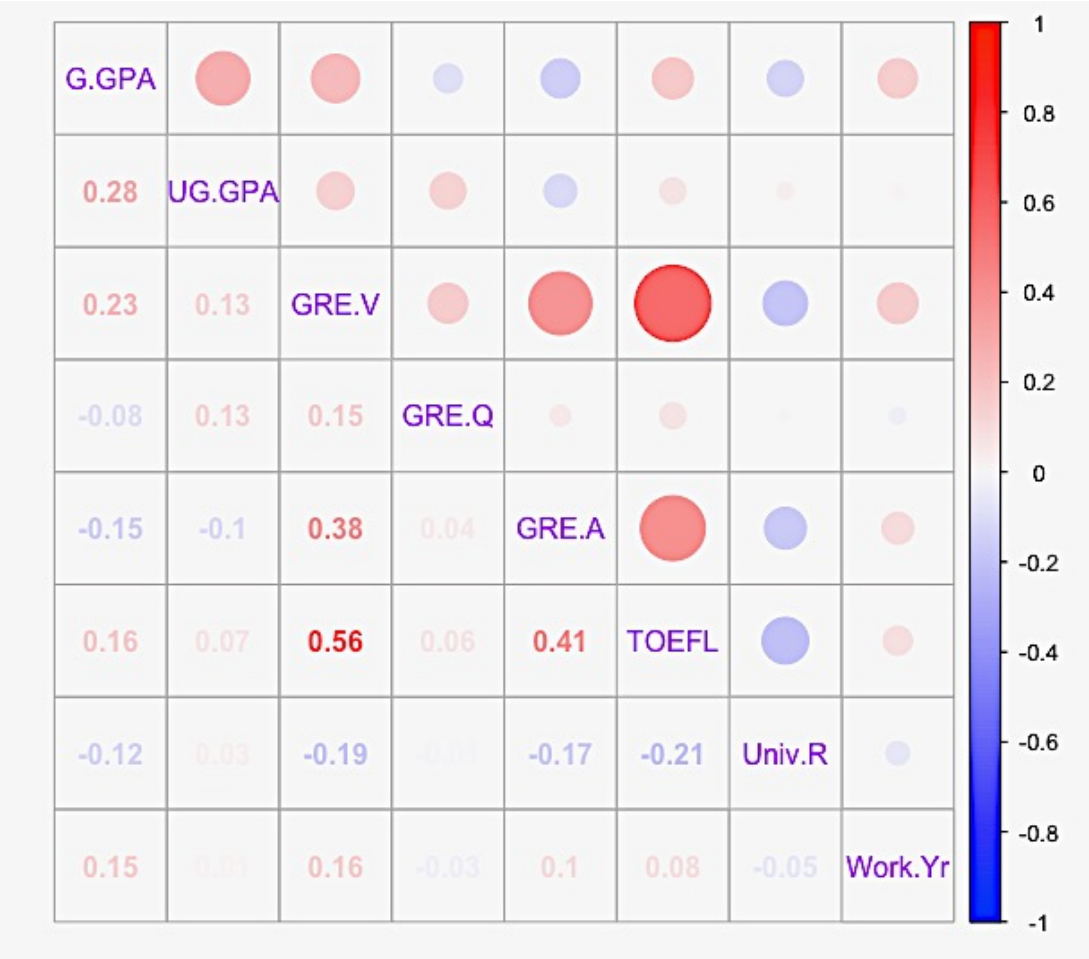
PhD Students



MS Students

Application→Outcome correlation

- So far only run small data set of 100 graduated MS students



SECEHA MEETING
Gainesville Florida

Ahmed Eltom

October 26, 2018

Graduate Students Recruiting

- Industry
  - IEEE Local Section
  - Technology Council
- Current Undergraduate Students
- International
  - Faculty Travel
    - Supported EE
    - Government/Employer
  - International Office

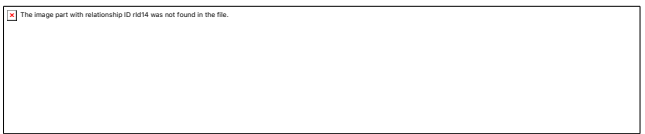
Graduate Students Recruiting

- Graduate School
  - Graduate School Fair
  - Graduate Celebration
  - Regional Fair
- Community Partnership
- Assistantship
  - Challenges Local Students(Economy-Students do not accept offer)
  - Assistantship not competitive

Graduate Student Recruiting

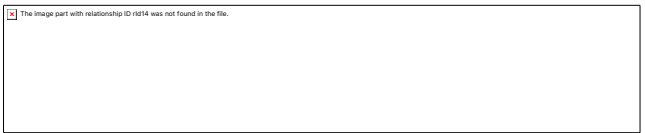
SECEDHA 2018

October 26, 2018



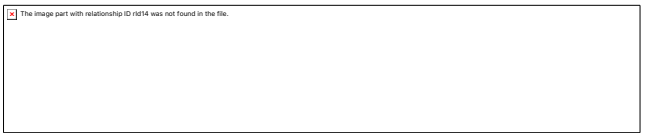
General Topic for Discussion

- ***Graduate applications/enrollments are declining and causing problems in ECE departments.*** *How can we better recruit both foreign and domestic grad students?*
- *Our Panelists:*
  - Mike Nazareth, UF
  - Mark Nelms, Auburn
  - Dan Stancil, NC State
  - Ahmed Eltom, UTC

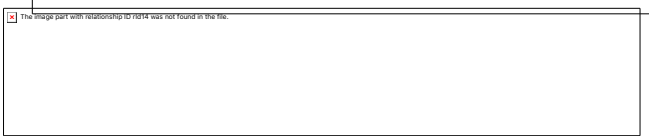


Some Possible Questions to Discuss

- Do you have ideas for growing the applicant pool?
- Does your department have a graduate recruitment day/weekend? How successful is this event in your opinion?
- Does your department have a virtual recruitment session?
- How do you advertise your department's research to potential applicants?
- Do you offer multi-year assistantships when accepting students? Do you have data that supports that these offers are an effective recruiting tool?
- What are some of the common reasons why students do or don't accept your offer?



Why Students with Funded Offers Go Elsewhere

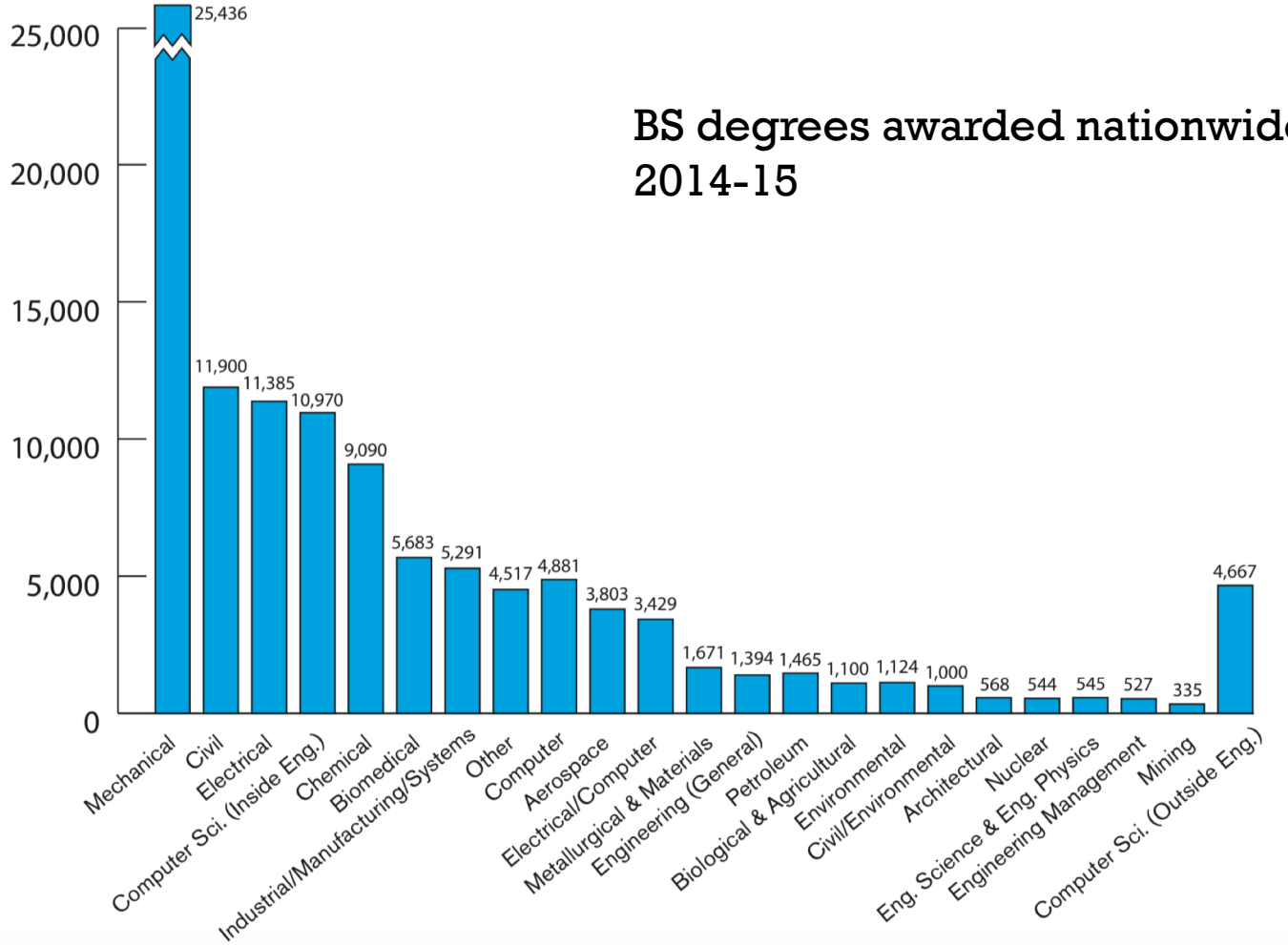


E vs. C

SECEDHA

John Harris

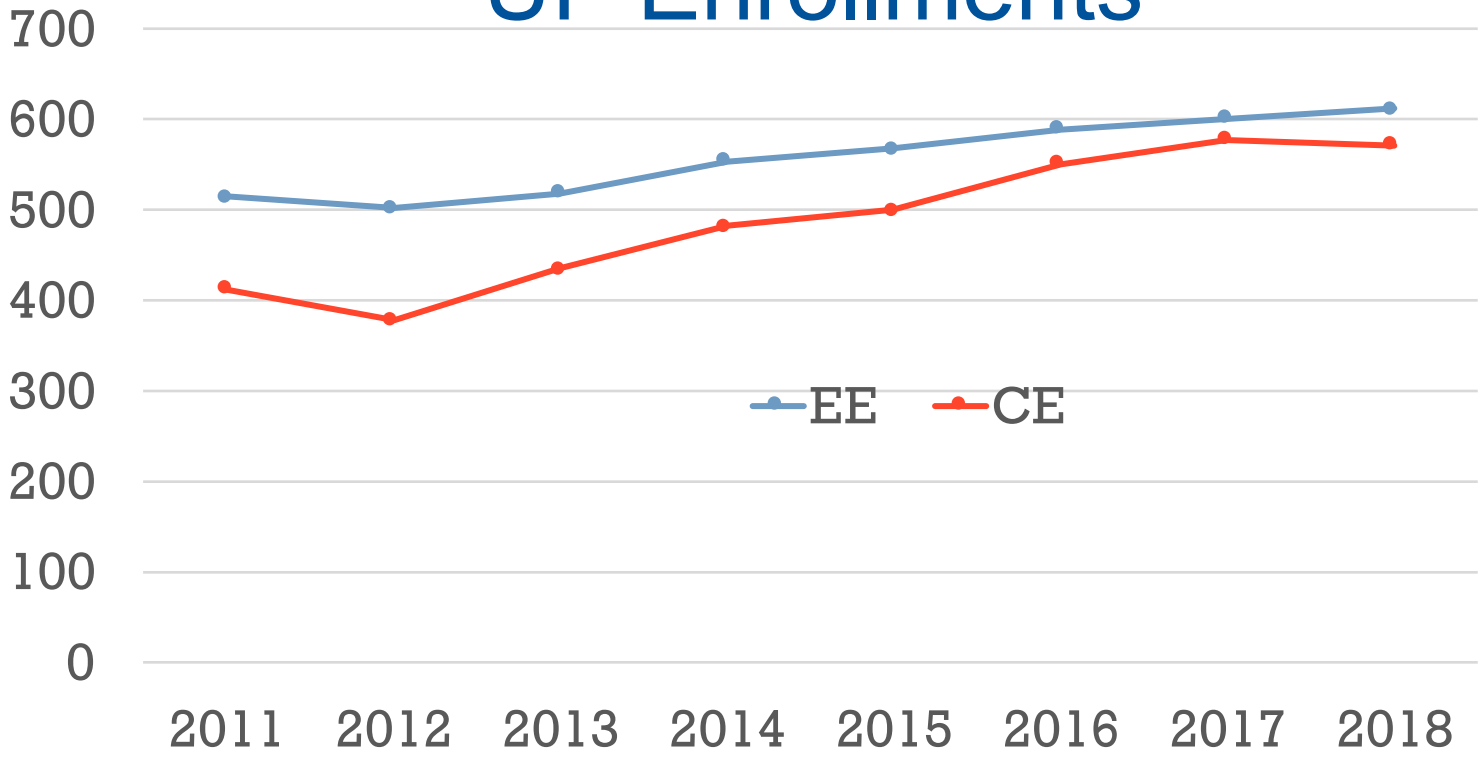
Bachelor's Degrees Awarded by Engineering Discipline: 106,658*



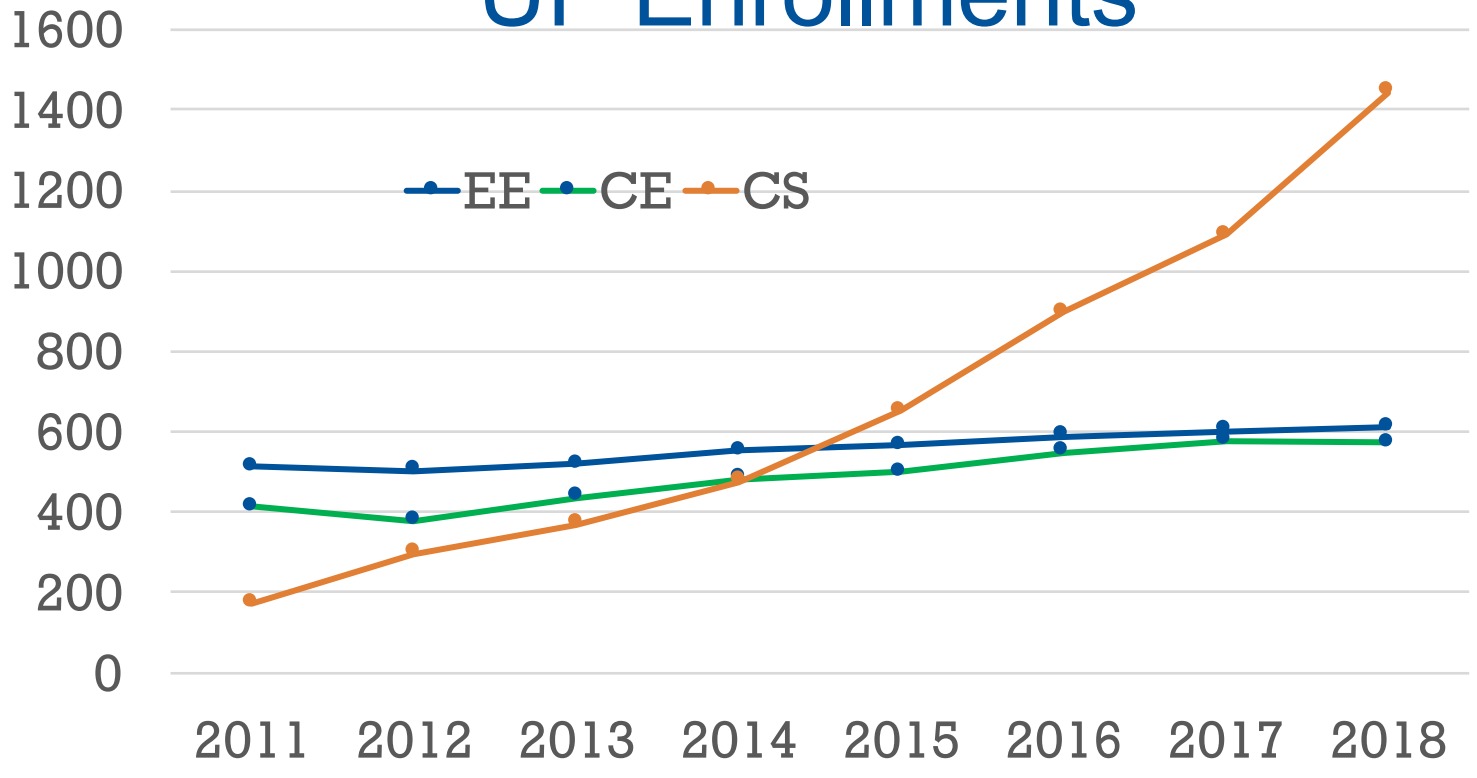
BS degrees awarded nationwide 2014-15

*Total does not include computer science (outside engineering).

UF Enrollments



UF Enrollments



2017-18 ASEE enrollments

GaTech
- EE 762
- CE 1270
- CS 1805

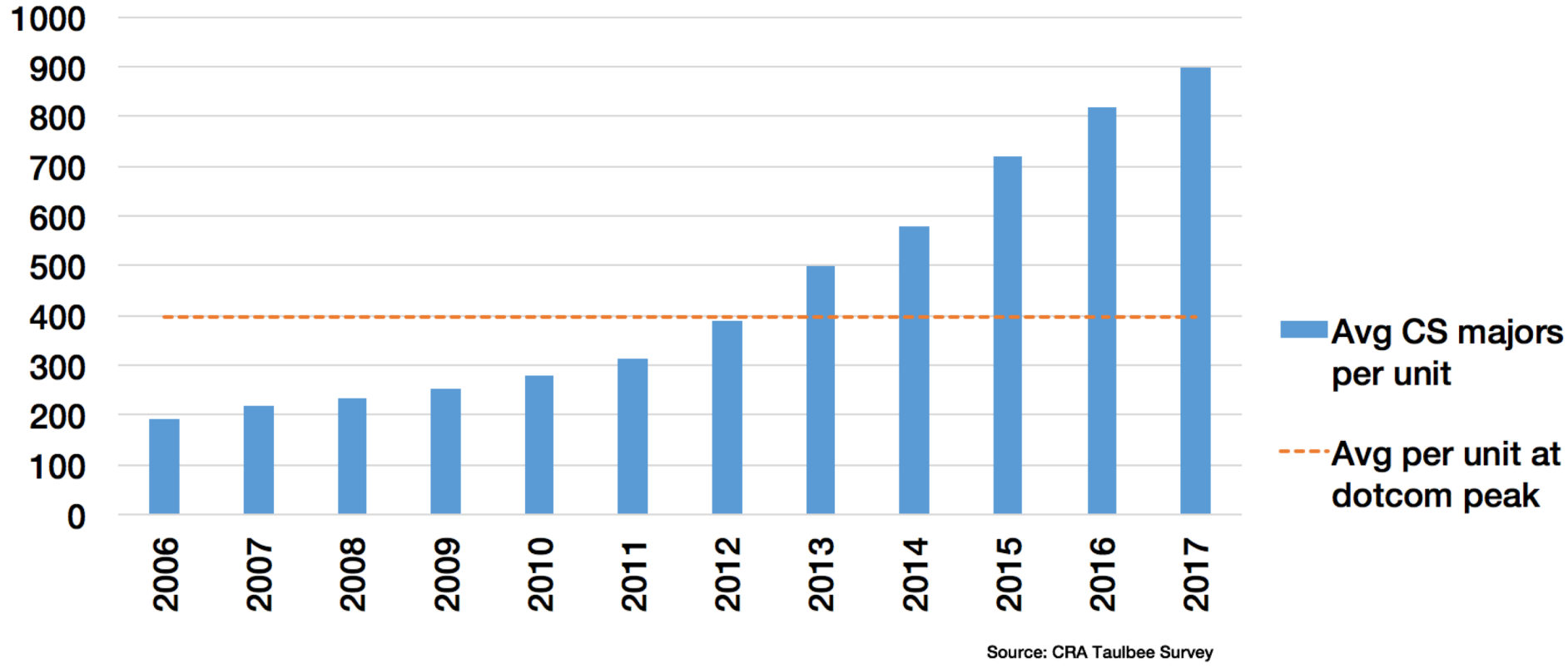
UF
- EE 601
- CE 577
- CS 1090

FIU
- EE 378
- CE 445
- CS 840

UCF
- EE 725
- CE 830
- CS 2098

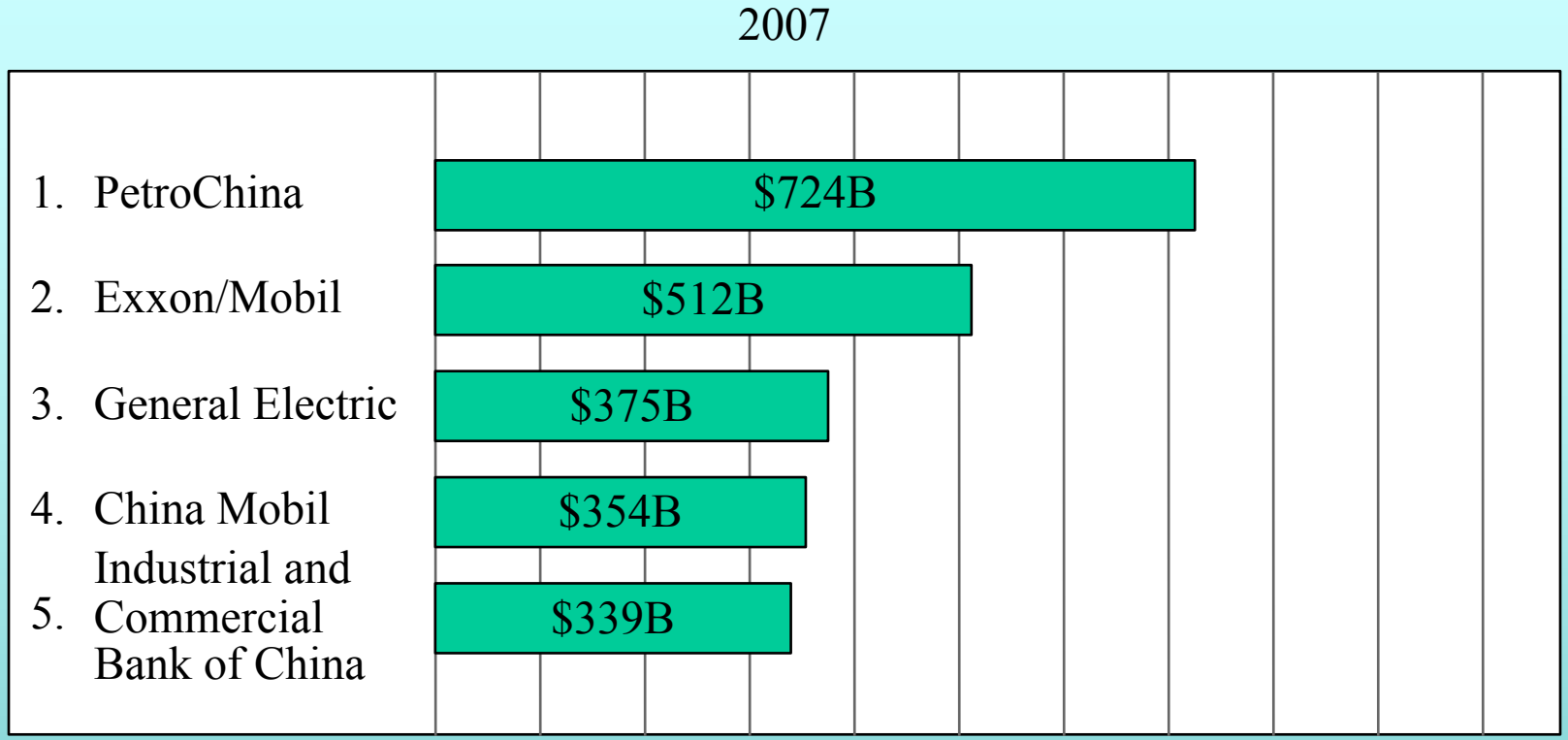
Vatech
- EE 525
- CE 546
- CS 767

Clemson
- EE 283
- CE 234
- CS 733

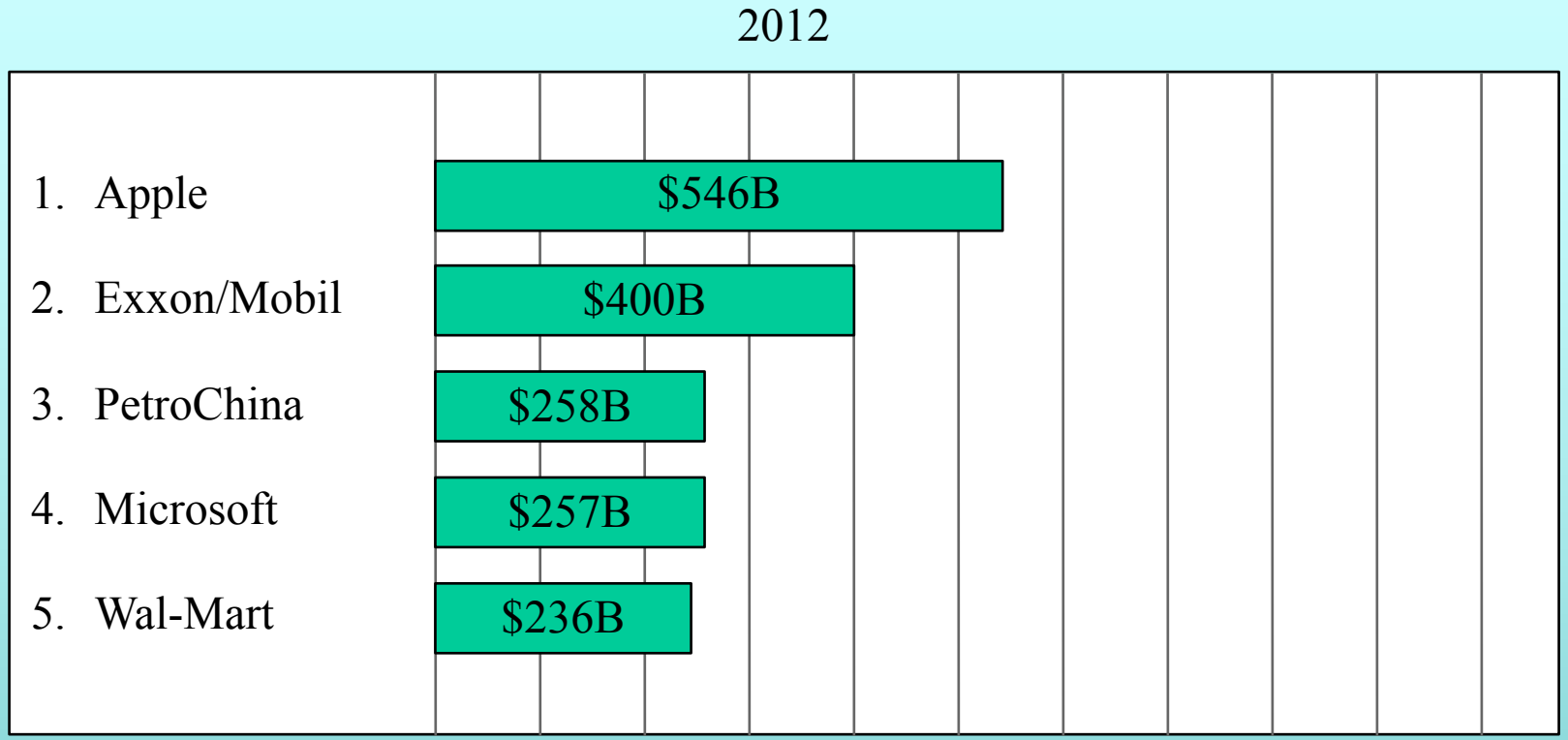


CRA
Computing Research Association

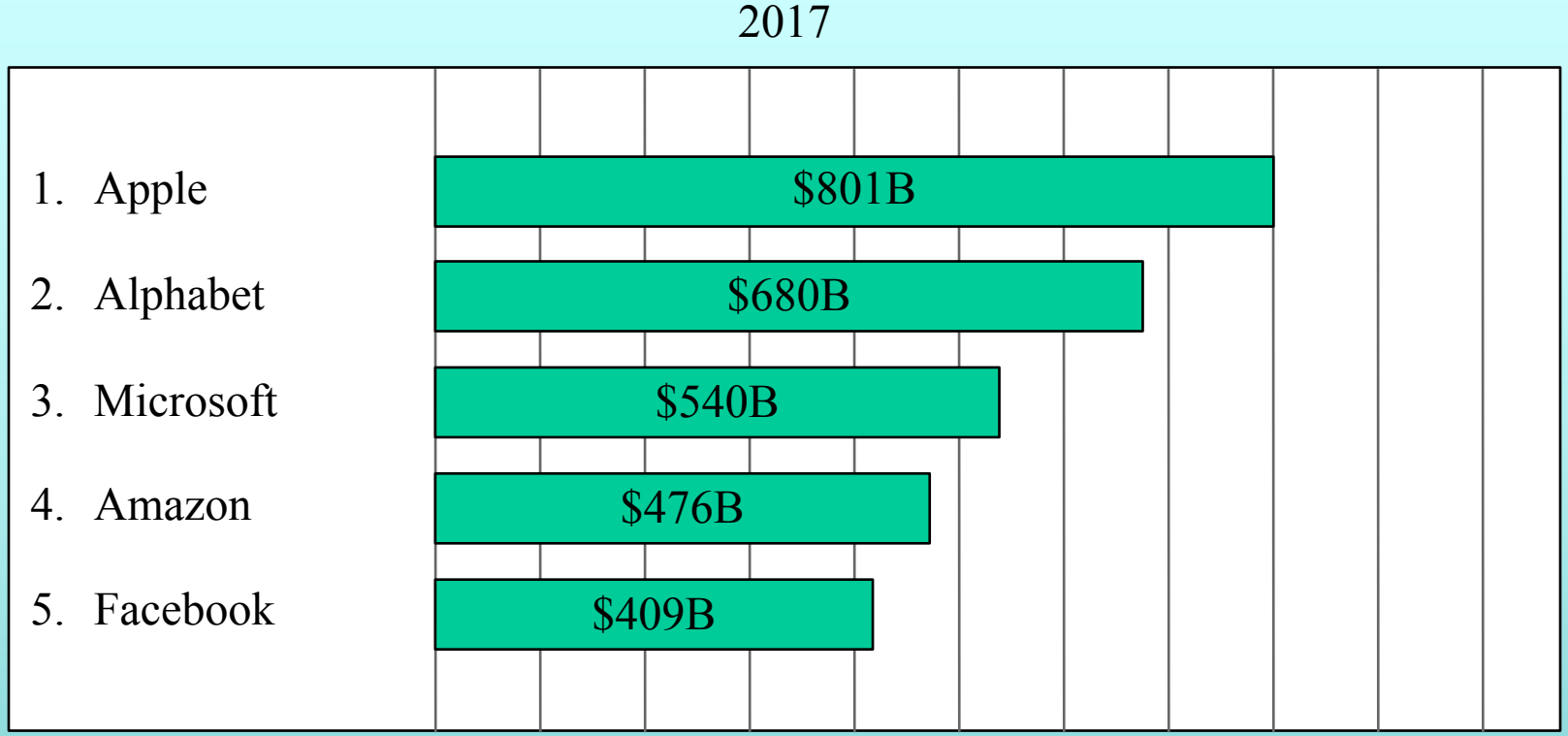
The Five Largest Industrial Corporations



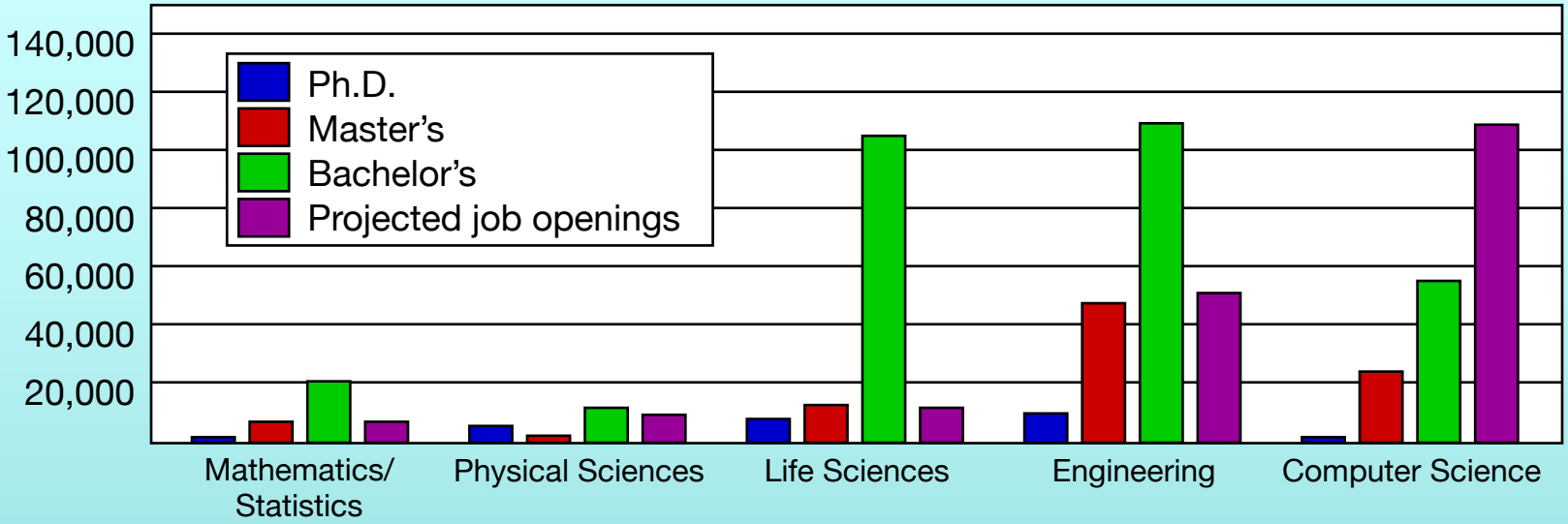
The Five Largest Industrial Corporations



The Five Largest Industrial Corporations



Degree Production Falls Short of Need

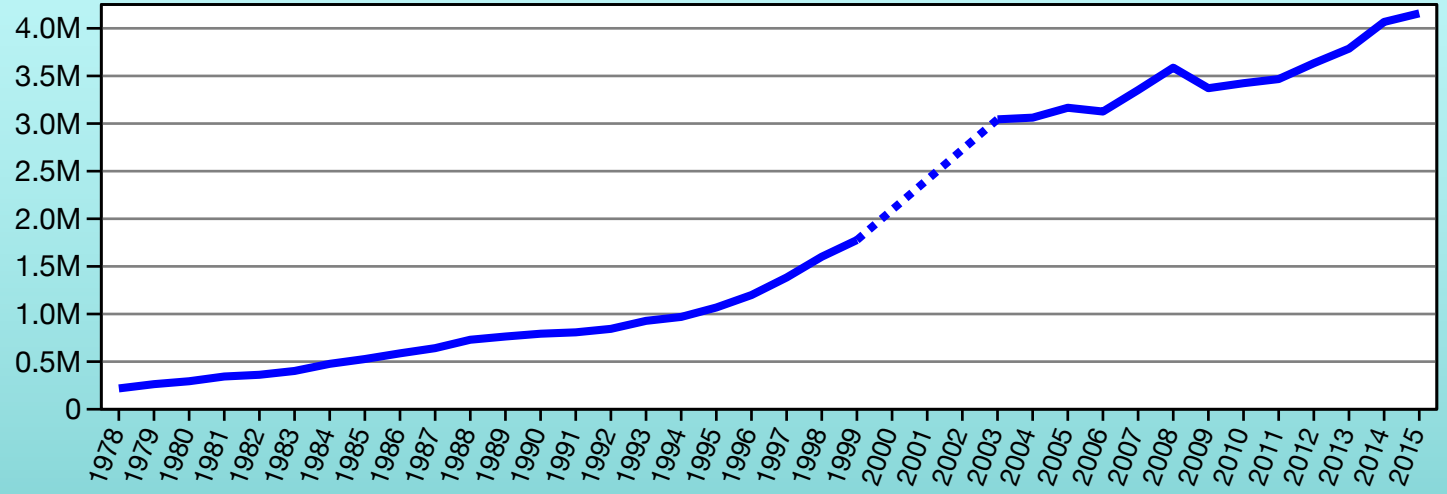


- Computing is the only major sector of the economy in which the number of jobs exceeds the supply of people with degrees.

Sources: Degree data from the National Center for Education Statistics 2014; projected annual job openings from the Bureau of Labor Statistics 2014-2024 projections. The idea for this graph comes from a presentation by John Sargent, Senior Policy Analyst, Department of Commerce, at the CRA Computing Research Summit in 2004.

Employment Growth Has Been Steady

- Data from the Bureau of Labor Statistics show that employment in computing has risen by almost a factor of 20 since 1978.
- Unfortunately, statistics from the period covering the dot-com collapse are unreliable because of changes in classification.



Source: Bureau of Labor Statistics.

Issues

- Job demand?
- Starting salaries?
- Employed past age 40?
- Hiring engineers for software development preferred?
- Software engineering?
- Do we need to make EE more computer like?

MIT

- MIT raised $1B to start a new college of computing to “educate the bilinguals of the future.” “Bilinguals” are people in fields like biology, chemistry, politics, history and linguistics who are also skilled in the techniques of modern computing that can be applied to them.

Robotics in the ECE Curriculum

Hulya Kirkici

Panel members

Hanqi Zhuang– FAU

Nick Younan – Mississippi State

Zhihui Qu – UCF

Tim Wilson – Embry Riddle Aeronautics Univ.

Topics:

- Should we use robotics more in ECE Curriculum
- What Kind of Requirements
- What Kind of courses
- Other topics

General Comments:

- Schools with robotics major
- Departments offer robotics courses
  - which department?
  - How many courses?
    - At what level?
    - Required elective?

Cool Videos

- AFU => : https://youtu.be/UdfHtRCYw4Y
- UCF = > : https://www.youtube.com/watch?v=2AM2RUnck7A
- USA = > https://www.youtube.com/playlist?list=PL_D7_GvGz-v2uU3EvonrXITb9kj3Mx2-s
- E-R Aeronautics: