State of the FAMU-FSU College of Engineering (2013): “Two Universities - One College - Twice the Opportunities”

FAMU-FSU COE
OUTLINE

• Vision, Goals and Development Priorities
• Student Update: Enrollment and Achievements
• Faculty Update: Size and Accomplishments
• Other College/Institutional Accomplishments
• Question & Answer Session
FAMU-FSU College of Engineering: Strategic Vision and Goals

- Produce technically sound graduates with business and entrepreneurial skills (Double Enrollment; 10% FAMU & FSU)
- Enhance research profile and stature (Double Expenditures)
- Improve national ranking of College, academic departments and degree programs (Within top 50)
- Have strong impact on the local and State economies
- Promote and enhance active development/fundraising
Infusion of Business and Entrepreneurship in our ABET Accredited Programs

- Course on Technology Entrepreneurship and Commercialization
  - Open to all engineering students
- Entrepreneurship Component in Senior Design for AY 2013-2014
  - Starting with ECE, IME and ME senior designs
- Joint Entrepreneurship Effort of Engineering and Business Schools
  - Kickoff event/workshop on Saturday, April 20, 2013
  - Participants: engineering and business students; faculty; industry representatives; university IP staff; and investors
- Expecting Entrepreneurs-in-Residence in 2014

UF(1910) -38; UCF(1968) -72; USF(1964) -105
U/G: 4700/2230; 6100/1350; 3650/830

COE Graduate Programs
- Biomedical Engineering - Unranked
- Chemical Engineering - Unranked
- Civil Engineering - 108/118
- Electrical Engineering - 102/134
- Industrial Engineering - 59/79
- Mechanical Engineering - 77/138
<table>
<thead>
<tr>
<th>Metrics</th>
<th>Weighting Factor</th>
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<tbody>
<tr>
<td><strong>Quality Assessment</strong></td>
<td>0.40</td>
</tr>
<tr>
<td>Peer Assessment (Deans &amp; Graduate Deans)</td>
<td>0.25</td>
</tr>
<tr>
<td>Recruiter Assessment</td>
<td>0.15</td>
</tr>
<tr>
<td><strong>Student Selectivity</strong></td>
<td>0.10</td>
</tr>
<tr>
<td>Mean GRE Quantitative Score</td>
<td>0.0675</td>
</tr>
<tr>
<td>Acceptance Rate</td>
<td>0.0325</td>
</tr>
<tr>
<td><strong>Faculty Resources</strong></td>
<td>0.25</td>
</tr>
<tr>
<td>Student-Faculty Ratio (PhD-0.075; MS-0.0375)</td>
<td>0.1125</td>
</tr>
<tr>
<td>% Faculty in National Academy of Engineering</td>
<td>0.0750</td>
</tr>
<tr>
<td>Doctoral Degrees Awarded</td>
<td>0.0625</td>
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<tr>
<td><strong>Research Activity</strong></td>
<td>0.25</td>
</tr>
<tr>
<td>Total Research Expenditures</td>
<td>0.15</td>
</tr>
<tr>
<td>Average Research Expenditure per Faculty</td>
<td>0.10</td>
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(Engineering Specialty Rankings Based Solely on Peer Assessment by Department Heads/Chairs; Undergraduate Program Rankings Based Solely on Peer Judgments of Deans and Senior Faculty)
Development and Fundraising Priorities

- **Development Priorities** *(Named/Endowed)*
  - Scholarships, Fellowships, Lectureships, Professorships & Chairs
  - Engineering Support Services Center
  - Program for Undergraduate Research Experiences (PURE)
  - Academic Preseason Program
  - Honors Academy
  - Entrepreneurial 21st Century College
  - Annual Recognition Ceremony
  - Facilities and Infrastructure
  - Discretionary Funds for New Initiatives

- **Strengthen Engagement with Alumni**
  - National Alumni Network Organization (NANO)
### BREAKDOWN BY MAJOR

<table>
<thead>
<tr>
<th>Major</th>
<th>FAMU</th>
<th>FSU</th>
<th>TOTAL</th>
<th>%</th>
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<tbody>
<tr>
<td>Chemical</td>
<td>15</td>
<td>199</td>
<td>214</td>
<td>9.2%</td>
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<tr>
<td>Civil</td>
<td>15</td>
<td>214</td>
<td>229</td>
<td>9.9%</td>
</tr>
<tr>
<td>Computer</td>
<td>16</td>
<td>63</td>
<td>79</td>
<td>3.4%</td>
</tr>
<tr>
<td>Electrical</td>
<td>23</td>
<td>153</td>
<td>176</td>
<td>7.6%</td>
</tr>
<tr>
<td>Industrial</td>
<td>11</td>
<td>75</td>
<td>86</td>
<td>3.7%</td>
</tr>
<tr>
<td>Mechanical</td>
<td>22</td>
<td>306</td>
<td>328</td>
<td>14.2%</td>
</tr>
<tr>
<td>Pre-Engineering</td>
<td>259</td>
<td>945</td>
<td>1204</td>
<td>52.0%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>361</strong></td>
<td><strong>1955</strong></td>
<td><strong>2316</strong></td>
<td><strong>100%</strong></td>
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Student Update: FAMU-FSU College of Engineering Fall 2013 Enrollment Graduate

<table>
<thead>
<tr>
<th>BREAKDOWN BY MAJOR</th>
<th>FAMU</th>
<th>FSU</th>
<th>TOTAL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical</td>
<td>0</td>
<td>7</td>
<td>7</td>
<td>2.6%</td>
</tr>
<tr>
<td>Chemical</td>
<td>1</td>
<td>18</td>
<td>19</td>
<td>7.1%</td>
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<tr>
<td>Civil</td>
<td>8</td>
<td>50</td>
<td>58</td>
<td>21.6%</td>
</tr>
<tr>
<td>Electrical</td>
<td>8</td>
<td>71</td>
<td>79</td>
<td>29.4%</td>
</tr>
<tr>
<td>Industrial</td>
<td>3</td>
<td>31</td>
<td>34</td>
<td>12.6%</td>
</tr>
<tr>
<td>Mechanical</td>
<td>4</td>
<td>68</td>
<td>72</td>
<td>26.8%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>24</strong></td>
<td><strong>245</strong></td>
<td><strong>269</strong></td>
<td><strong>100%</strong></td>
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</tbody>
</table>
TOTAL ENROLLMENT AT THE FAMU-FSU COLLEGE OF ENGINEERING
as of 10/29/2013
## 2012-2013 Academic Year

### COE Graduation Data (SU 12, FA 12, SP 13)

<table>
<thead>
<tr>
<th>Degree</th>
<th>Summer 2012</th>
<th>Fall 2012</th>
<th>Spring 2013</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FAMU</td>
<td>FSU</td>
<td>FAMU</td>
<td>FSU</td>
</tr>
<tr>
<td>B.S.</td>
<td>5</td>
<td>26</td>
<td>4</td>
<td>37</td>
</tr>
<tr>
<td>M.S.</td>
<td>1</td>
<td>16</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

**AY 2012-2013 Graduate Total:** 366
Student Update:
Sample of 2013 Undergraduate Students Achievements

- **Nahom Tewolde**
  - Senior, ECE
  - 2013 Black Engineer of the Year Awards (BEYA) Student Leadership – Undergraduate Level Award

- **Kaitlyn Suzanne Kliewer**
  - May 2013 CEE graduate
  - One of only two 2013 NSF Graduate Research Fellowships in CE in FL

- **Sean Tracey**
  - Senior, CBE
  - Perfect GPA!
  - Student Spotlight at FSU Website

- **Matthew Vedrin**
  - Senior, ME
  - 2 prestigious Scholarships --- Boren(NSEP) and Goldwater Scholarships

- **Alysia Maxwell, Pre-computer engineering**
  - NAVY STEM Scholarship

- **Justin Vandenbroeck, IME**
  - 2013 FSU Presidents Humanitarian Award
  - Engineers W/O Borders

- **Stephen Alexander, ECE**
  - Association of Energy Engineers Scholarship
  - Engineers W/O Borders
Student Team Achievements


• ASCE Student chapter won 8 awards at 2013 Southeast Regional Conference. Won 5 in 2012. ASCE-FES voted “Most Active Chapter” by FES for 5 straight years.
Sample of 2013 Graduate Students Achievements

- **Sara Leonard**, PhD, CBE (Left) and **Indranil Bhattacharya**, PhD, ECE (Right)
- 1st (Sara) and 2nd (Indranil) Place, 1st Annual Statewide Graduate STEM Research Symposium, Tampa, Florida
- Indranil Bhattacharya now assistant professor at Tennessee Tech

- **Rebekah Downes**, Ph.D, IME
  - 2013 Cytec Engineered Materials Doctoral Fellow for Advanced Composites
  - 1st Place/Best Paper at SAMPE Conference

- **Wanjun Cao**, PhD, ECE
  - Finalist, 2013 MegaWatt Ventures Competition

- **Jeremy Weiss (Left, BS ME ‘10) and Carlos (Charlie) Sanabria (Right)**
  - 2 of 3 IEEE Council of Superconductivity Graduate Fellowships in US in 2013
  - PhD students of Profs. Larbalestier and Hellstrom of ME
Student Update: Diversity and Innovation

- Six African-American female PhDs expected through FAMU Title III program
- Renee Gordon; Shannon Anderson; Michelle V. Adejumo; Valesha A. Scott; Marcella Carnes and Tara M. Beach

- Active Participation of Graduate Students and Faculty in:
  - Sneak Peek
  - Jim Moran Institute’s InNOLEvation Challenge
  - MegaWatt Ventures Competition
  - Many Other Innovation Competitions

David Olawale
Tarik Dickens
Okenwa Okoli
2012 Awardees
IME

Chase Knight
2013 Awardee
IME
3. Faculty Update: Research & Accomplishments

- Faculty
  - Total Number of Faculty: 81 (2013)
  - Annual Research Expenditure: $17 million (2012)

- Research Expertise/Focus Areas
  - Energy and Power: Production and Storage
  - Transportation Infrastructure & Structural Monitoring
  - Materials: Polymers and Nanomaterials
  - Robotics and Aerospace / Aero-propulsion
  - Environmental Sustainability and Water Resources
  - Communication, IT and Cyber Security
  - Biomedical and Imaging
  - Manufacturing and Operations Research
Our Committed Faculty & Accomplishments

- 81 full-time faculty: 2 NAE, 32 Fellows, and 5 recent CAREER Awardees
More Sample Faculty & Staff Accomplishments
Key College-Level Accomplishments

- Positive & Forward-looking Slogan, “Two Universities, One College, Twice the Opportunities”, making a big difference
- Relationship, cooperation and goodwill between FAMU & FSU top Administrators at an all-time high
  - Monthly meetings of two provosts and dean at COE Campus
  - FAMU President invited to speak at FSU BOT Fall 2013 meeting
- Received approval for Associate Dean for Research position
- FAMU and FSU now provide start-ups and counter retention offers
- Established Safety, Faculty, Staff, and Student Advisory Councils for shared governance
- Assembled new Engineering Advisory Council to help advance the College; especially in development/fundraising
- Developed an approved IP Policy to guide FAMU-FSU faculty and student collaboration
- Restructured FAMU K-12 and Title III engineering programs; now completely under the College
- Invested heavily in infrastructure (VoIP, 100 seat classroom, new computers, desks and chairs)
- Developed excellent working relations with FAMU and FSU budget, facilities, security and maintenance personal
- Raising the level of contact and engagement with alumni in major population and industrial centers
- Expanded international collaborations and programs
- Celebrated 30th anniversary of College and 10th anniversary of Challenger Learning Center
Key Faculty-Related Accomplishments

- Removed longstanding & morale-killing inequity in FAMU & FSU Faculty salaries
  - Involved 10 FAMU faculty salaries
- Made two administrative discretionary salary increases to two FSU highly productive and outstanding full professors with low salaries
- Recruited nine (9) new faculty for Fall 2013
- All departments required to have mentoring programs for new junior faculty
- Policy on compensation for high achievers will apply to ALL faculty
- Both institutions willing to work to retain our most outstanding faculty
- Tremendous opportunities to add future faculty through
  - Energy AND Materials Initiatives (3 filled + 14 more)
  - Opportunity hires
THANK YOU ALL FOR YOUR DEDICATION, COMMITMENT AND HARDWORK!

- QUESTION AND ANSWER SESSION
... Achieving Strategic Vision and Goals

- Be Student-Centered and Entrepreneurial College
- Ensure Research and Teaching Go Hand-in-Hand
- Have Dynamic and Exciting Engineering Programs
- Good & Hardworking Students
- Dedicated and Enthusiastic Staff
- Committed and Passionate Faculty
- Caring and Supportive Alumni & Friends
# Building Your Legacy

## Giving Opportunities

<table>
<thead>
<tr>
<th>Giving Opportunities</th>
<th>Annual</th>
<th>Endowment</th>
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<tbody>
<tr>
<td><strong>CREATING THE COLLEGE OF ENGINEERING FOR THE NEXT 30 YEARS</strong></td>
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<tr>
<td>Entrepreneurial 21\textsuperscript{st} Century College of Engineering – Senior Design Projects, Labs</td>
<td>$4,000 - $5,000</td>
<td>$100,000 - $125,000</td>
</tr>
<tr>
<td>Endowed Lectureship</td>
<td>$125,000</td>
<td></td>
</tr>
<tr>
<td>Endowed Professorship</td>
<td>$250,000</td>
<td></td>
</tr>
<tr>
<td>Endowed Department Chair</td>
<td>$2,000,000</td>
<td></td>
</tr>
<tr>
<td><strong>ENABLING THE GROWTH AND DEVELOPMENT OF THE ENGINEERING STUDENT EXPERIENCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program for Undergraduate Research Experiences</td>
<td>$5,000 per student</td>
<td>$150,000 per student</td>
</tr>
<tr>
<td>Academic Preseason Program for Incoming Freshmen</td>
<td>$5,000 per student</td>
<td>$125,000 per student</td>
</tr>
<tr>
<td>Center for Engineering Student Support</td>
<td>$5,000 per student</td>
<td>$125,000 per student</td>
</tr>
<tr>
<td>Honors Academy with Global Experiences</td>
<td>$5,000 per student</td>
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<tr>
<td>Endowed Undergraduate Student Scholarships</td>
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<td>Endowed Graduate Fellowships</td>
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