State of the College
Hanchen Huang, Dean
Fall 2020

Highlights

• People Initiatives: Faculty Fellow, Research Revitalization, Staff Award
• Education programs: 4 new MS and 2 new BS degree programs
• Research annual award: $10M to $18M; or 80% increase
People – new faculty and staff

Sanjukta Bhowmick  
Associate Professor, CSCE  
Applications of graph theory, large scale networks and high performance computing

Edgardo Munoz-Coreas  
Assistant Professor, EE  
Quantum computing, quantum information processing and emerging technologies

Hassan Qandil  
Lecturer, ME  
Thermo-fluids, energy, environment, and sustainability

Aidin Imandoust  
Assistant Professor, MTSE  
Materials design, powder prototyping, additive manufacturing of metallic materials, fatigue and fracture, mechanical testing, electron microscopy, and texture analysis

Yusheng Wei  
Assistant Professor, EE  
Control systems and their applications

Anne Bavousett  
Dean’s Office  
Senior Graduate Academic Advisor

Cihan Tunc  
Assistant Professor, CSCE  
Cybersecurity, cloud computing, Internet of Things (IoT), and social media analysis for cybersecurity

Clement Chan  
Assistant Professor, BMEN  
Biomolecular and cellular engineering

Rusty Jordan  
Dean’s Office  
Administrative Specialist

Serdar Bozdag  
Associate Professor, CSCE  
Bioinformatics, machine learning, data mining, and cancer genomics

Huaxiao “Adam” Yang  
Assistant Professor, BMEN  
Human stem cell tissue engineering

Edgard Munoz-Coreas  
Assistant Professor, EE  
Quantum computing, quantum information processing and emerging technologies

Sanjukta Bhowmick  
Associate Professor, CSCE  
Applications of graph theory, large scale networks and high performance computing

2 more TTT accepted to start in Spring

Welcome all!
People – college team

Faculty Affairs & Operations: Yan Huang
Undergrad Studies: Nandika D’Souza
Research: Andrey Voevodin
Finance and Admin: Liz Assaad
Advancement & Corporate Relations: Angus McColl
Graduate Programs & Frisco: Barrett Bryant
Marketing and Communications: Kayla Green
IT: Jim Byford
Graduate Programs: Kathryn Beasley
Undergraduate Advising: Nancy Van Hoy
Research Services: Leyla Kimball
Executive Assistant to the Dean: Lisa Martin

Chairs: Shengli Fu, Yan Huang, Kuruvilla John, Nigel Shepherd, Vijay Vaidyanathan
People – external recognition of faculty

Jincheng Du
Fellow of the American Ceramics Society, 2020

Zhenhai Xia
2019 SOMIYA Award, International Union of Materials Research Societies

Saraju Mohanty
Fulbright U.S Specialist Award, 2020

IEEE Outstanding Service Award, 2020

Thomas Scharf
Fellow of ASM International, 2020

Yan Huang
ACM Distinguished Member, 2019

10-Year Impact Award, ACM SIGSPATIAL, 2019

Sundeep Mukherjee
India Hind Rattan Award, 2020

Sheldon Shi
Fellow of the International Society of Wood Science and Technology, 2020

Colleen Bailey
IEEE Outstanding Branch Counselor Award, 2019

Ifana Mahbub
NSF CAREER Award, 2019

Lin Li
American Epilepsy Society Young Investigator Award, 2019

Congratulations!
People – internal recognition of faculty

Raj Banerjee  
Presidential Professor, 2020

Diana Berman  
Presidential Early Career Professor, 2020

Wonbong Choi  
College of Engineering Faculty Research Award, 2020

Thomas Scharf  
College of Engineering Faculty Teaching Award, 2020

Congratulations!
People – faculty by the numbers

**FACULTY FTE**

- BME
- CSE
- EE
- ETECH
- MEE
- MTSE
- ME

**ADJUNCT FACULTY**

- BME
- CSE
- EE
- ETECH
- MEE
- MTSE
- ME

**Female TTTF** 19 22%
**Female TF** 3 19%

One CSE lecturer in Frisco in FY21
People – Star Performers and Outstanding Staff

Diana Bergeman
Computer Science and Engineering

Melanie Dewey
Computer Science and Engineering

AJ Ponce
IT

Beverly Wilks
Advising Office

Heather Burrow
Advising Office

Amanda Hurst
Research Services

Errica Smith
Advising Office

College of Engineering
Outstanding Staff of the Year

Payton Climer
IT

Leyla Kimball
Research Services

Rachel Smith
Advising Office

Erin Allice
Mechanical Engineering

Lisa Martin
Office of the Dean

Jaimie Tesdahl
Biomedical Engineering

Yao Zhou
Research Services

Congratulations!
Impactful Engineering
People – staff by the numbers

<table>
<thead>
<tr>
<th>STAFF</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
<th>FY20</th>
<th>FY21</th>
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<td>55.8</td>
<td>58.75</td>
<td>64.75</td>
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+ 7 vacant positions due to hiring freeze
People – new initiatives

Research Revitalization Initiative
• Allows tenured faculty with a heavy teaching load to revitalize their research efforts
• Provides one course release and research support up to $13,000 or two course release
• Launched: August 2019
• Deadline for nominations: March 1 for Fall; July 1 for Spring

Distinguished Faculty Fellow
• Recognizes tenure/tenure-track assistant and associate professors who have gone above and beyond
• Provides $5,000 discretionary funds each year for two years, totaling $10,000
• Launched: August 2019
• Deadline for nominations: September 15

Outstanding Staff of the Year
• Recognizes staff who have gone above and beyond
• Provides 1-2 staff professional development opportunity
• Launched: August 2019
• Deadline for nominations: May 30
• First awarded: 2020
Education – ABET accreditation

Special thanks to...

Biomedical Engineering
Vijay Vaidyanathan
Jaimie Tesdahl

Computer Engineering
Stephanie Ludi
Diana Bergeman
Barrett Bryant

Construction Engineering Technology
Cheng Yu
Al Attah
Saman Rashidyan
Gina Pumphrey

Electrical Engineering
Partha Guturu
Murali Varanasi
Stacey Janczak
Shengli Fu

Materials Science and Engineering
Rick Reidy
Lisa Dunlop
Andrey Voevodin
Nigel Shepherd

Mechanical and Energy Engineering
Erin Allice
Callie Wooten
Robbin Shull
Xiaohua Li
Tae-Youl Choi
Kuruvilla John

Mechanical Engineering Technology
Leticia Anaya
Huseyin Bostanci
Reza Mirshams
Hayley Walden

Office of the Dean:
Nandika D’Souza
Nancy Van Hoy
Liz Assaad
Cindy Dutton
Lisa Martin
Melissa Getty
AJ Ponce
Jim Byford
Kayla Green
Xiaozhong Luo

External Supporters:
Kim Campbell, Technical Communication
LeGrande Slaughter, Chemistry
Jingbiao Cui, Physics
Ralf Schmidt, Mathematics
Jianguo Li, Mathematics
Jyoti Shah, Biology
Ashley Wheelis, Registrar
Kimberly Wells, Registrar
Sian Brannon, Libraries
Cheryl Benningfield, Facilities

Thank you, and congratulations to all!
## Education – new programs (growing enrollment)

<table>
<thead>
<tr>
<th>Program</th>
<th>Start Date</th>
<th>Current Enrollment</th>
<th>Yr 1 Projected Enrollment</th>
<th>Yr 5 Projected Enrollment</th>
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<tr>
<td>MS Artificial Intelligence</td>
<td>Fall 2020; THECB approved 12/16/19</td>
<td>41</td>
<td>25</td>
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<tr>
<td>MS Data Engineering</td>
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<td>15</td>
<td>45</td>
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<tr>
<td>BS Cybersecurity</td>
<td>Fall 2020; THECB approved 3/9/20</td>
<td>18 (23 pre-majors)</td>
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<tr>
<td>BS Construction Management</td>
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<tr>
<td>BS Computer Science + GIS</td>
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<tr>
<td>CSCE 1010 Discovering Computer Science as core</td>
<td>Fall 2020; THECB approved 6/1/20</td>
<td>52</td>
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Education – undergraduate

Undergraduate Enrollment by Program

BS Graduates by Program
Education – undergraduate

Gender by Program

Undergraduate Student Diversity
Education – MS graduate

MS Enrollment by Program

- MEEN-MS
- MSEN-MS
- EENG-MS
- EMGT-MS
- ETECH-MS
- CYBR-MS
- CMPE-MS
- CSCI-MS
- BMEN-MS
- ARIN-MS

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<td>ARIN-MS</td>
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<td>41</td>
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</table>

AI MS Concentration Distribution:
- Machine Learning: 31
- Autonomous Systems: 5
- Biomedical Engineering: 5

MS Graduates by Program

- BMEN-MS
- CSCI-MS
- CMPE-MS
- EENG-MS
- ETECH-MS
- MTSE-MS
- MEEN-MS

<table>
<thead>
<tr>
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<td>ETECH-MS</td>
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<td>22</td>
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<td>15</td>
<td>31</td>
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<td>8</td>
<td>43</td>
<td>46</td>
<td>8</td>
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</table>
Education – MS & PhD graduate

Gender by Program

- MEEN-PhD
- MTSE-PhD
- EENG-PhD
- CSCE-PhD
- MEEN-MS
- MTSE-MS
- ETEC-MS
- EENG-MS
- CMPE-MS
- CSCI-MS
- BMEN-MS

Enrollment by Gender

- Male: 30%
- Female: 70%

Enrollment by Ethnicity

- Am. Indian: 6%
- Asian: 7%
- Black: 19%
- Hispanic: 1%
- White: 61%
- Unknown: 5%
- Non-resident: 1%
• CAAAM (Narendra Dahotre): $4.7M+ out of $5M per year
Research – proposals

Impactful Engineering

Proposal Amount

BME CSE EE ETECH MEE MTSE DEAN

$67,905,929 $70,218,054 $70,955,910 $111,295,514 $91,998,175 $77,594,971

• CIIMS; Tribology Consortium; and Flexible Electronics plus up
Research – impact during pandemic

3D Printing of ventilator splitters, face shields, smart masks and nose plugs
Fort Worth Business Press, Denton Record-Chronicle

Virtual summer camp during pandemic
Leticia Anaya, Maurizio Manzo, and Huseyin Bostanci
NBC
Standing – research and education

U.S. News Graduate Engineering Ranking

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S. News</th>
<th>Our Graduate Ranking</th>
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Better Than: Green
Our Graduate Ranking: Blue

U.S. News Undergraduate Engineering Ranking

<table>
<thead>
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<td>2021</td>
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<td>25</td>
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Better Than: Green
Our Undergrad Ranking: Blue
Standing – research and education

BME

EE

CE

MEE

MTSE

CS

Impactful Engineering
State of College – where we were in Fall 2019

Faculty

Students

Staff

Resources
State of College – where we are in Fall 2020

- Faculty: 75 → 86 TTT
- Graduate advisor
- Department staff

- Students: 4 MS + 2 BS
- CSCE 1010
- BS CS+X

- Staff

- Resources: Research: $10M → 18M
- Differential tuition $60/SCH
- Strategic investment: NAE, AD, AI...
State of College – future look: *continued growth*

- **Grow** enrollment
  - By FY 2025
    - 4000 BS
    - 1000 MS/PhD

- **Grow** faculty
  - By FY 2025
    - 120 TTT
    - 20-30 TF

- **Grow** excellence, funding, program & reputation
  - By FY 2025
    - $30M/yr
    - PhD in all
    - Top 100