STUDENT FORUM: TOWN HALL STYLE

REVIEW THIS PRESENTATION PRIOR, WE HOPE TO FILL THE HOUR WITH Q&A

LUNCH PROVIDED!
College of Engineering and Computer Science

2020 Spring Student Forum

Wednesday, January 29, 2020
1-2pm
EMCS Benwood Auditorium
CONTENTS

• College Overview and Updates
• Successes and Kudos
• Student Success Center
COLLEGE HISTORY & OVERVIEW

• Engineering Program established in 1969, offering one Bachelor of Science Degree in Engineering.


• College offers fully-accredited degrees in 8 undergraduate, 4 master’s, and a Ph.D. program. The college also offers 12 graduate certificates.

• Undergraduate and graduate students come to the College of Engineering and Computer Science from 65 Tennessee counties, more than 20 states, and 13 nations.

• Active student chapters representing 25 professional or student organizations exist.
Vision
To be a preeminent college of engineering, engineering management, technology, and computer science in education and applied research.

Mission
1. Educate and train future technical & engineering management workforce for Tennessee, the nation, and beyond.
2. Discover new knowledge in engineering, management, technology and computer science.
3. Engage communities through scholarship, service and economic development.
DEPARTMENTS

- Civil and Chemical Engineering
- Computer Science & Engineering
- Electrical Engineering
- Engineering Management & Technology
- Mechanical Engineering
OUR STUDENTS
YOU!

• Fall 2019 Total Enrollment: **1,595**
• Enrolled Full Time:
  • **90%** of undergraduate students are full time
  • **40%** of graduate students are full time
• Adult Learns (25-years and older)
  • **17%** of undergraduate students
  • **78%** of graduate students
• Nearly **1-in-5** are first generation college students
• **71** CECS students are veterans
• CECS students are **15% female, 85% male**
Undergraduate Enrollment by Degree Programs

College Totals: 1,074 1,152 1,216 1,261 1,350 1,395 1,415

*phasing out BSE program
Graduate Enrollment by Degree Programs

- MS Computer Science
- MS Engineering Management
- MS Engineering
- PhD Computational Science

- Total: 196, 193, 208, 175, 185, 190, 193
Applied Research Productivity: Dollars Received

FY 2015: $1,510,408
FY 2016: $1,106,583
FY 2017: $1,852,242
FY 2018: $4,516,728
FY 2019: $4,479,184

5-Year College Average: $2,693,029
40% of all UTC awards were from CECS faculty

Faculty Average: $106,647
College Demographics

2017
- Black or African American: 5.26%
- Hispanic: 7.14%
- White: 82.16%

2018
- Black or African American: 3.51%
- Hispanic: 8.77%
- American Indian or Alaska Native: 2.31%
- Unknown: 1.76%
- White: 78.15%

2019
- Unknown: 1.5%
- Asian: 2.65%
- Hispanic: 4.21%
- Two or More: 5.32%
- Nonresident Alien: 7.08%
- Black or African American: 7.9%
- White: 69.37%
VR to Protect Firefighters
Students wrote computer programming for simulations

Improving Leukemia Therapy
Cutting-edge biomedical engineering project with Erlanger

Problem Solving with TVA
Project with TVA to prove emergency power system output to Nuclear Regulatory Commission
COMMUNITY ENGAGEMENT THROUGH SCHOLARSHIP AND SERVICE

• Technology Symposium - Bringing event into the community by partnering with the Enterprise Center and Co-Lab, April 17, 2019
• New academic programs launched in response to industry needs
  • BAS in Mechatronics, BS in Computer Engineering
  • Program in partnership with Rollins College of Business: MS in Data Analytics
• $697k worth of industry sponsored projects executed
• Majority of 25+ student organizations performed one or more community service projects
• Seven student teams competed in regional and national competitions and placed high standings, including Rocket Mocs 1st place in the SEDS University Student Rocketry Challenge
December Graduation Reception

We’ll have a reception for May graduates!
Recent Accomplishments

- **Rocket Mocs SEDS**— placed FIRST out of 113 teams, including MIT, Arizona State and Tennessee Tech in 2018. (same pic as on slide below from last time)
- **Rocket Mocs NASA USLI Team** placed 4th in the altitude subcategory out of 32. John Brand and Ashwyn Sam won “best student paper” at the AIAA conference. This team has had a successful launch of their subscale rocket(s).
- **Racing Mocs** – placed 25th in Kansas and 24th in Illinois in 2017. The team is executing the first ever 4 wheel drive design by UTC.
- **Ballistics Armor Team** - created sample “plates” that will perform to class 2 protection (stop a 9mm) with 50% less weight than metal plating products and 50% less thickness than Kevlar products
Congratulations to the UTC Rocket Mocs on being selected to participate in the 2019-2020 NASA Student Launch Initiative!

Team Members:
Trevor Hodge, Sarah Todd, Vasili Doan, Braiden Lowe, & Triston Peralta

Undergraduate Advisors:
John Brand & Ashwyn Sam

Faculty Advisors:
Dr. Trevor Elliott & Dr. Chuck Margraves
John Brand, ME Senior, presents the UTC Rocket Mocs, NASA USLI modeling research at the AIAA 2019 Propulsion and Energy Forum.
Recent Accomplishments

• **Ashwyn Sam** was awarded the SEARCH Grant and completed his work on the awarded URaCE REU position. This resulted in a conference publication that was nominated for Best Paper in Hybrid Rockets at AIAA.

• **Ashwyn Sam** is also a finalist in a very prestigious international award - Knight-Hennessy Scholars Fellowship. Approximately 5000 students applied to this fellowship program that fully funds tuition, fees, living expenses, academic expenses, and travel to-from home town once a year. As a finalist he is one of 140 students that will go to Stanford for one on one interviews and from this the 70 awardees will be selected. He agreed that this could be released within the college. **UPDATE: Ashwyn received his acceptance to Stanford!**
Ashwyn Sam, ME Senior, presents his URaCE REU research at the AIAA 2019 Propulsion and Energy Forum
Recent Accomplishments

- **Flying Mocs** - will compete in Wichita, KS in April 2020. UTC finished 33rd out of the 115 teams selected for the competition.
- **Student chapter of AIAA** has been officially approved-January 2020
- **Aaron Crawford** has assistantship offers for graduate school (PhD programs) from Georgia Tech and Penn State (so far). He is expecting to hear soon from Maryland.
- **ME Dept** – Spring 2020 launched a pilot program: MATH 1950 Calculus 1/MATH 1960 Calculus 2 Recitation/Tutoring sessions specifically for its students to increase success in these classes.
Recent Accomplishments

STEM High School

Pictures show STEM School students and UTC CSE Students

Date – Wednesday January 9th, 2019*

* The new cohort started in January 2020
Recent Accomplishments

Behind the Scenes

Students working with a team from EPB and CDoT to implement sensors on the MLK Smart Corridor
Recent Accomplishments

CSE Undergraduate & Graduate Students

Computer Science and Engineering
Recent Accomplishments

Presenting to a group of high school students
Recent Accomplishments

• **CyberForce Team** competed at Department of Energy CyberForce Competition at Oak Ridge Nat’l Lab in Fall 2019.

• **CS PhD students** presented their research at IEEE international conf.

• **Ruipeng Zhang** presented his work on cloud computing at ICC 2019.

• **Chen Xu & Ruipeng Zhang** received travel grants from ICNP 2019 and MERIT 2019 to present their work on cloud computing.
Recent Accomplishments

Phd candidate Maxwell Omwenga, advised by Drs. Dalei Wu and Yu Liang, presented a paper titled "Autonomous Cognitive GPR Based on Edge Computing and Reinforcement Learning" at IEEE International Conference on Industrial Internet (ICII), Orlando, Florida, Nov. 11-12, 2019.

The Networked Intelligence Lab involved three STEM School Chattanooga high school students in project Visualizing Infrastructure in AR.

Undergraduates Samuel Clark and Evan Brock, advised by Drs. Dalei Wu and Yu Liang, won the 3rd place of the Computer Science and Engineering Poster Best Overall: “Combining Augmented Reality and Drones for Subsurface Object Visualization and Mapping” at 2019 CECs Technology Symposium.
Recent Accomplishments

Samuel Clark, Evan Brock, Dakila Ledesma, and Griffin Miller gave project demos at the Nation of Makers Conference (NOMCON), Chattanooga, TN, June 15-16 2019.
Recent Accomplishments


Dakila Ledesma, advised by Drs. Yu Liang and Dalei Wu, a junior in Computer Science Department, won the 1st place in Undergraduate Lighting Round Competition in Research Dialog 2019.
Recent Accomplishments

The Networked Intelligence Lab collaborated with researchers from the University of Vermont in conducting field experiment of subsurface infrastructure sensing and mapping on MLK Blvd, Miller Park, and UTC campus in March 2019.
Recent Accomplishments

2019 ChattSat REU – 10 students from US and Puerto Rico + 2 UTC students
Recent Accomplishments

Robotics Team Placed 3rd at SoutheastCon Robotics Hardware Competition

Electrical Engineering

Department won $25K in funding for the Solar Splash Event in Springfield, Ohio, June 9-13, 2020
Funding donated by TBAEE (Tennessee Board of Architectural and Engineering Examiners)
Recent Accomplishments

Faculty Achievements
• The NIH funded our R15 proposal titled "Experimentally Guided Modeling and Simulation for Cholera Dynamics" (3 years, $340k) PI: Dr. Jin Wang, Co-PIs: Drs. David Giles and Bradley Harris.
• Our NSF REU iCompBio program led by PI, Dr. Hong Qin and co-PI, Dr. Palchoudhury had a successful first year.
• Dr. Danquah elected as a Fellow of the Royal Society of Chemistry.
• ChE funding pursuits: 2 x NSF CAREER, 1 NSF REU, 1 NSF IRES, 1 NSF RUI (over $2 million in research proposals).
• Dr. Osama Osman won the User Information Systems’ Best Paper Award from the Transportation Research Board of the National Academy of Sciences.
Recent Accomplishments

Student Achievements
• Emily (Katie) Chase has been admitted to multiple top tier PhD programs (Univ. Minnesota, Univ Wisconsin, Northwestern Univ).

Student Journal Publications
• Armel Boutchuen and Dell Zimmerman published their first journal article on nanoparticle fertilizers in the Journal of Nanomaterials.
• Evan Gildernew is submitting his works for a journal publication in the Computational Materials Science.
Recent Accomplishments

Student Poster Presentations

• Dell Zimmerman and Armel Boutchuen won first place in poster competition at the NanoBio Summit held in Atlanta.
• Dell Zimmerman and Armel Boutchuen presented their poster on hydrogels at AIChE Annual Student Meeting held in Orlando, FL.
• Hannah Margavio presented her posters at AIChE Annual Student Meeting held in Orlando, FL.
• Emily (Katie) Chase presented her posters at AIChE Annual Student Meeting held in Orlando, FL.
• Katy Jackson presented her posters at SoCon SURF Conference.
• Evan Gildernew presented his posters at Council on Undergraduate Research Conf.
Recent Accomplishments

- **Alexander Coronis** participated in the National Science Foundation- Advanced Technological Education 2019 conference in Washington, DC (October 23rd to 25th) and presented a paper titled: Advances in Energy-Efficient Manufacturing using Industrial Robotics.

- **Dr. Kaplanoglu** was awarded the UTC-UTCOMC-Erlanger grant to design a smart balance board to help with orthopedic patient recovery success. He will work with Dr. Jeremy Bruce of Erlanger.
Recent Accomplishments

• Madison Chan organized and executed a workshop series with assistance from Dr. McLean
College of Engineering and Computer Science
Center for Student Success

Julie David, Director
Center for Student Success

- Academic Advising
- Outreach
- Professional Development
- Success Tools
- Experiential Learning

Student Life
CECS Academic Advisors

Lisa Tarr
Lisa-Tarr@utc.edu
EMCS 344D
423-425-5465

Sarah Alsobrooks
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Carmela Castro
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Laura Lee Jenkins
Laura-L-Lee@utc.edu
Location: EMCS 344B
423-425-4309
Peer-to-Peer Tutoring

Lisa Tarr-Staff Mentor
Connor McPherson-CECS Lead Peer Tutor

12 Peer Tutors
2 Study Rooms

To schedule a tutor session:
MyMocsNet/Academics Tab/NAVIGATE/
Get Assistance. Then Choose tutoring
OUTREACH

Sara Jackson
Outreach Coordinator
Sara-Jackson@utc.edu
(423) 425-5828
344B EMCS

Student leaders are encouraged to participate in outreach activities. In Fall 2019, CECS outreach participated in more than 200 recruiting events.
STUDENT AMBASSADORS

Ambassadors are here to help. If you have a question, please ask. Learn more - utc.edu/ambassadors
SUCCESS SERIES Workshops

Workshops are at 11:00am in the Maytag Room

- **January 28**: Achieving your personal best: tips and tricks on striving to be the best you
- **February 4**: Test anxiety conquered
- **February 12**: Happiness and health in the middle of a busy life
- **February 27**: Vision for your financial future: negotiating job offers, planning for your financial security, the cost of benefits
- **March 19**: Rules of the job search game: you cannot win if you don’t know the rules
- **April 1**: Innovation 2020 and beyond: research, graduate school, future options and staying on top of new technology
Developing Professionalism

- **Suit Up Event**: Sunday, January 26
- **Handshake/LinkedIn Workshop**: Friday, February 21
- **Backpack 2 Briefcase**: Friday, February 28
- **Resume Doctor**: Monday, March 2

**Career Fair**: Wednesday, March 4th
Professional Development

Nicole Wake, CECS Career Counselor
EMCS 332
423/425-4730

Schedule an appointment with Nicole through Handshake
• Resume Review
• Job Search Techniques
• Interview Skills
• Dress For Success
• Prep for the Career Fair tips
Register in Handshake to see a list of vendors attending and location assignments on the 3rd and 4th floors of the EMCS building.
Find Your Next
Why should I use Handshake?

6,000+ Employers
1400 within CECS focused Industries

Industries:
- Manufacturing – Other (344)
- Internet & Software (362)
- Automotive (77)
- Civil Engineering (76)
- Utilities and Renewable Energy (61)
- Electronic & Computer Hardware (55)
- Environmental Services (73)
- Scientific and Technical Consulting (80)
- Aerospace (16)
- Telecommunications (39)
- Construction (140)
- Electronic and Comp Hardware (55)
GET STARTED: STEP 1

Log In
Open the camera app to scan QR code, and tap the notification that pops up.
Alternatively, visit
utc.joinhandshake.com
GET STARTED: STEP 2

Download the app

Search for “Handshake” on the App Store or Google Play.

12.4K reviews
GET STARTED: STEP 3

Develop and launch your career.

Find your next.

Log into the Handshake app today and kick off your college-to-career journey.
IT’S POPCORN FRIDAY!

Center for Student Success
EMCS 3rd Floor, Room 344