

# External Relations in The Department of Electrical & Computer Engineering

AMANDA STEIN, DIRECTOR

KARA STAMETS, MARKETING COORDINATOR

WINTER 2019



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# ECE External Relations Team

**Dr. Joseph JaJa, Interim Chairman of ECE**

**Amanda Stein, Director**

Relationship Building & Community Outreach  
Corporate Relations/Corporate Affiliates Program  
Startup Support  
Advisory Board  
External Relations Management

**Kara Stamets, Coordinator**

Project management of marketing materials  
Event Promotion  
Public and Media Relations  
Website development & maintenance  
Student Coordination  
Writer/Editor/Photographer

**Darcy Long, Program Management Specialist**

QTC Coordinator  
Event Coordination/Logistics  
Administrative Tasks & Development Support  
Research

**Aaron Bobik, Major Gifts Officer**

Alumni Outreach  
Philanthropy



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# Board Update

welcome

**Lyndon Brown!**



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# Events



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# Fall 2019 Events

- ECE Family Night Reception & Lab Tours
- Juniper Networks Lab Ribbon-Cutting Ceremony
- ECE Fall Career Fair
  - 40 companies registered
- Industry Tech Talks/Lobby Days
- ECEGSA Academic Career Panel
- IEEE Leadership Seminars
  - Alka Bhave, Perspecta Inc.
  - Sarbari Gupta, Electrosoft
  - Gerald Charles, Under Armour
- IEEE Student events (Socials, Reading Day)
- 7 Booz Allen Hamilton Colloquium Speakers
- Clark School 125<sup>th</sup> Anniversary Events
- Technica - Student lead Hackathon
- ECE Alumni Open House
- Clark School Innovation Hall of Fame

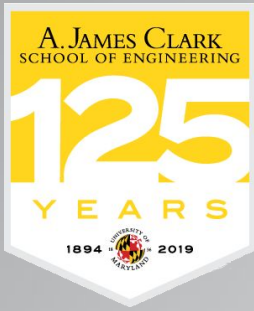


# Spring 2020 Events

- ECE Spring Career Fair – March 6
- Three IEEE Leadership Seminars
- Bitcamp – Student-led Hackathon
- 8 Booz Allen Hamilton Colloquium Speakers
- Lobby Day/Technical Talks
- ECEGSA Industrial Career Panel
- Maryland Day
- ECE Distinguished Alumni Awards – May
- ECE Graduation Reception – May
- Clark School Commencement – Golden Terps



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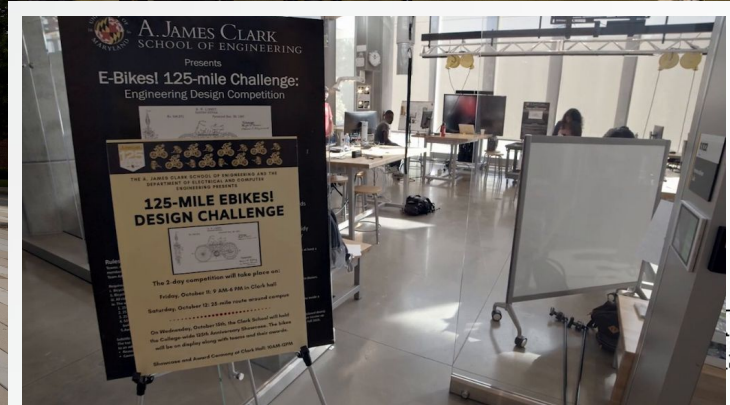
# 125<sup>th</sup> A. James Clark School Anniversary Events

## ECE Involvement in Anniversary Events:

- 125-Mile Ebikes! Design Challenge (October 10<sup>th</sup>-11<sup>th</sup>)
- Terps Racing EV Team
- 125<sup>th</sup> Anniversary Showcase & Awards Ceremony (October 15<sup>th</sup>)
- 4 Booz Allen Hamilton Colloquiums featured distinguished ECE alumni in conjunction with the Anniversary
- 125<sup>th</sup> Anniversary Gala (November 21<sup>st</sup>)
- 125<sup>th</sup> Anniversary Books



# Ebikes! 125-Mile Design Challenge







## About Terps Racing EV

- Terps Racing EV is an organization of students that **design, build, test, and race** an electric formula-style racecar in collegiate design competitions each year.
- This year's team has over 40 undergraduate students, two team mentors and it is advised by Prof. Alireza Khaligh.
- The Formula SAE competitions challenge teams of university undergraduate and graduate students **to conceive, design, fabricate, develop and compete** with small, formula style vehicles.

## Goals for 2020

Manufacture our second Formula Style EV

Build our own battery pack

Design our own battery management system

Design our own PCB circuits

Design our own chassis

Compete at the Formula SAE North 2020 competition

Secure a place among the top 5



*Terps Racing EV 2020 CAD*

# Marketing



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# Marketing

## Print Marketing

- Marketing Invitations and Flyers, new BSIOT materials
- Family Weekend Direct Mailer
  - Sent to all ECE undergraduates and families
- 2019-2020 Connections Magazine
  - Over 7K sent to alumni, deans & chairs
  - 32 pages, 4 page Quantum feature



## Email Marketing

- **Fall E-Newsletters:** Open rate - exceeding industry average, click-through rate average

ECE E-Newsletters: Fall 2019	ECE Average	Industry Average
Open Rate	25%	21%
Click-through Rate	7%	7%



# Media Placements

**MarylandToday**  
Produced by the Office of Strategic Communication

DECEMBER 11, 2019

ATHLETICS ARTS & CULTURE CAMPUS & COMMUNITY PEOPLE RESEARCH

CAMPUS & COMMUNITY

## Telecommunications, With a Parachute

New Juniper Networks Lab Lets Students Experiment Safely

By Kara Starnetski / Sep 25, 2019



Teaching assistant Gaurav Singh leads a network configuration course in the new Juniper

KOSPI 2,105.62 ▲ 7.62 (0.36%) KOSDAQ 629.13 ▲ 2.60 (0.30%) Dollar/Won 1,194.70 ▲ 3.46 (0.29%)

## Pulse


by Maell Business News Korea

Biz & Company Tech Market Economy Seoul Asia K-wave

Home > Biz & Company

### Many open challenges lie ahead for fully autonomous driving: Manocha

2019.11.06 09:34:39 | 2019.11.06 09:35:04



Dinesh Manocha, University of Maryland

Much hyped fully autonomous cars will hit the road much later than expected due to still many open challenges, but ongoing research on the future mobility technology will significantly enhance driving safety and conditions in the near future, said Dinesh Manocha, professor of computer science at the University of Maryland.

"There are a lot of challenges ahead of self-driving cars," Manocha said in a recent interview with Maell Business Newspaper during the Open Data Science Conference (ODSC), the world's largest applied data science conference series, in San Francisco, the United States. "It's still a long way to go to replace a taxi driver and obtain full autonomy."

MOST READ MOST RECENT

- 1 S. Korea's lab develops new catalyst to convert CO2 into gas.
- 2 Hyundai Motor Group sets up future mobility venture Moecon.
- 3 Hyundai Motor wins deal to supply Sonata Hybrid taxis in Dubai.
- 4 Korea's Dec. 1 - 10 expects up 7.2% despite weak-clip shipments.
- 5 Workplaces employing under 300 in Korea given another year.
- 6 eWBM to supply LoRaWAN modules to Brazil, paving way for 5G.
- 7 Social groups under chocking smog for 2 straight days.
- 8
- 9

Technically Baltimore Jobs Companies News Events For Employers Login

SCIENCES

Aug 26, 2019 10:10 am

## UMD's new Quantum Technology Center has an eye toward future tech, jobs

The center is launching in College Park with a goal in part to bring research advances "from the lab to the marketplace."

By Stephen Babcock / STAFF



Join 30,000+ readers who receive daily email updates from Technically.

How to Build a Tech Derivative Read this ebook on how healthcare startups overcome doubted it.

**UMD RIGHT NOW** Wednesday, December 11, 2019

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## Two University of Maryland Engineers Named 2019 Fellows of the National Academy of Inventors

DECEMBER 3, 2019 SHARE EMAIL PRINT TWITTER

Contacts: Lee Tunc 301-405-6579

COLLEGE PARK, Md. — University of Maryland Professors Ray Liu and Min Vtu in the A. James Clark School of Engineering's Department of Electrical and Computer Engineering have been named 2019 Fellows by the National Academy of Inventors, joining the ranks of some of the nation's most prestigious and creative academic inventors.

According to the National Academy of Inventors (NAI), the NAI Fellows Program "highlights academic inventors who have demonstrated a spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development and the welfare of society. ... To date, NAI Fellows hold more than 41,500 issued U.S. patents, which have generated over 11,000 licensed technologies and companies, and created more than 36 million jobs. In addition, over \$1.6 trillion in revenue has been generated based on NAI Fellow discoveries."

The 2019 Fellows represent 136 research universities and governmental and non-profit research institutes worldwide and they collectively hold over 3,500 issued U.S. patents. Among the 2019 Fellows are six recipients of the U.S. National Medal of Technology & Innovation or U.S. National Medal of Science and four Nobel Laureates.

Professor Ray Liu

"I am honored to be named an NAI Fellow for the recognition of wireless AI technology that my team and I are developing," said Liu, who is a Distinguished University Professor and the Christine Kim Eminent Professor of Information Technology in the Department of Electrical and Computer Engineering. "This technology has been deployed as Bell's Linksys Avars for WiFi sensing for home security to over 150 countries worldwide. I am excited that we are making a real impact to the world with our technology."

Professor Liu, who joined the UMD faculty in 1990, is the leader of the University of Maryland Signal and Information Group (SIG). Liu's main fields of study are in signal processing and communications. As part of multiple teams, he has three times received the University's Invention of the Year Award. In

**Latest News**

DECEMBER 11  
The University of Maryland, College Park will open on time, Wednesday, December 11, 2019.

DECEMBER 5  
UMD Researchers Receive \$1M Spencer Award to Investigate Disparities in Resources for Children and Long-term Achievement Gaps Read

DECEMBER 4  
New Report Sets Keys to Success for Maryland Clean Energy Economy Comprehensive report on the future of clean energy innovation in Maryland delivered to Governor Hogan Read

Twitter

UMD Right Now @UMDRightNow  
The University of Maryland, College Park will open on time, Wednesday, December 11, 2019.

UMD Right Now @UMDRightNow  
New research from #UMD biologists on the way light deprivation changes the way brain cells interact could one day prove useful in helping people adapt to cochlear implants or hearing aids. #UMDinspires @UMDRidance go.umd.edu


**QUANTANEO** News Press review Press releases Books Agenda

REGISTER EARLY AND SAVE!  
A QUANTUM TECHNOLOGY BUSINESS SUMMIT | APRIL 2 - 3, 2020 | NEW

## NSF AWARDS \$2M GRANT TO UMD-LED TEAM TO DEVELOP QUANTUM-BASED MACHINE LEARNING ALGORITHMS AND HARDWARE

A team from the University of Maryland (UMD) has been awarded \$2 million by the National Science Foundation (NSF) for a quantum idea incubator aimed at developing quantum-based machine learning. The \$26 million grant is funded by the Quantum Leap Idea Program and the Division of Electrical, Communications, and Cyber Systems in the Directorate for Engineering.


Press release from University of Maryland September 4th 2019 | 1105 readers



The New York Times


## George Laurer, Who Developed the Bar Code, Is Dead at 94

Every purchase evokes his design of the rectangular Universal Product Code. But although it became ubiquitous, he received no royalties.



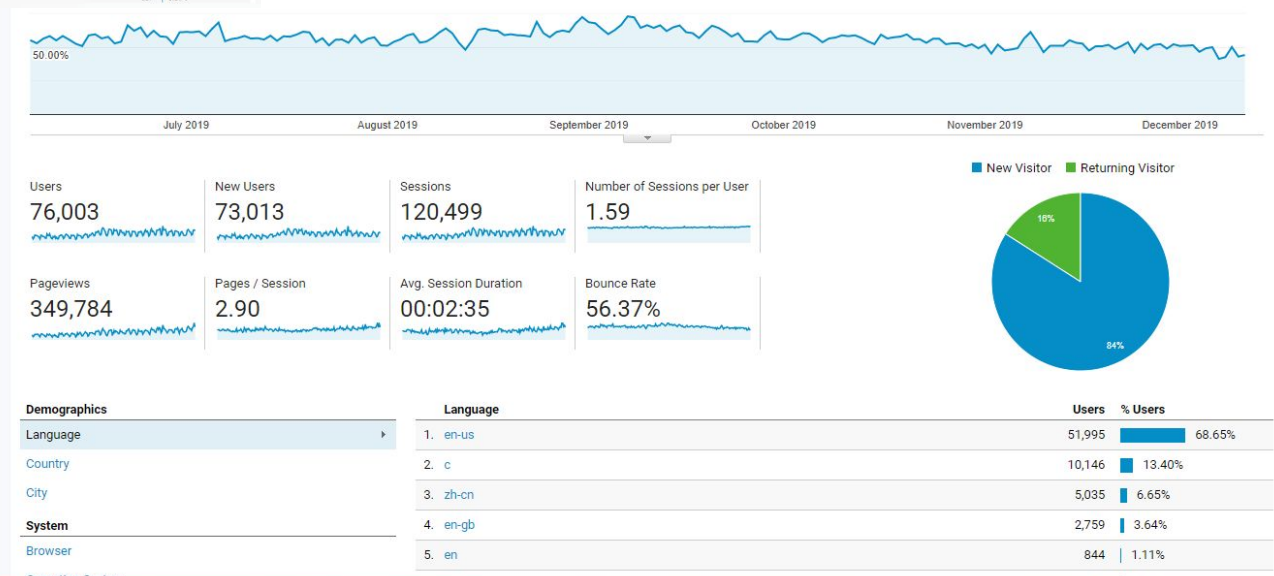
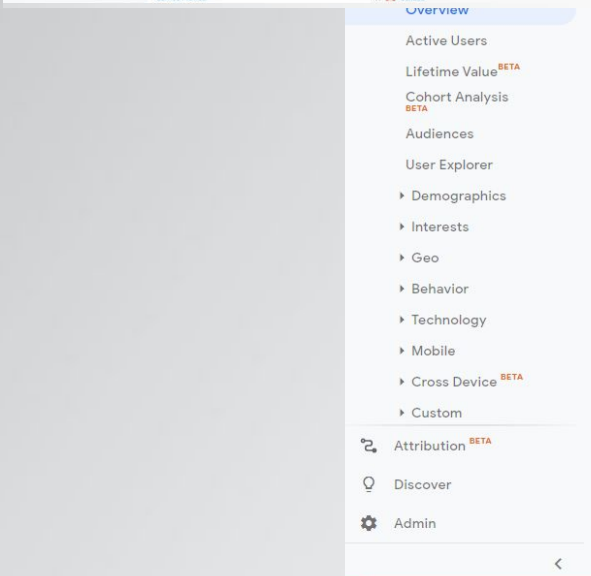
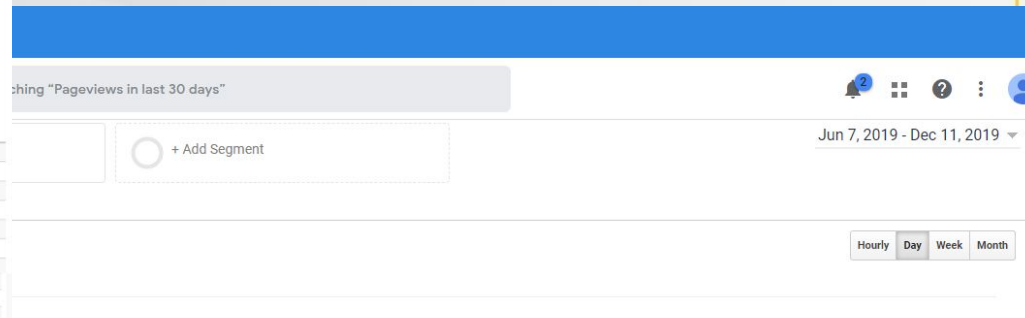
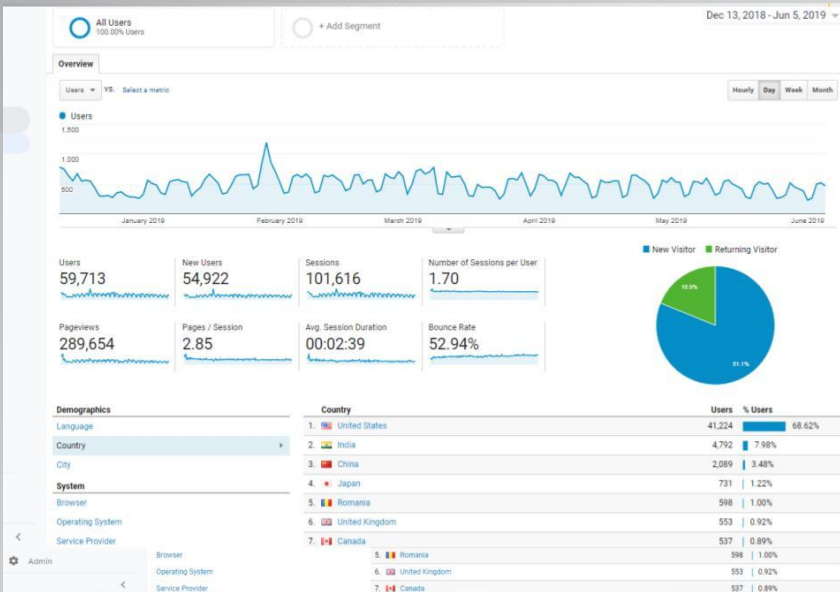
GEORGE J. LAURER

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# ECE Website Comparison

## Google Analytics 2019



# New Websites!

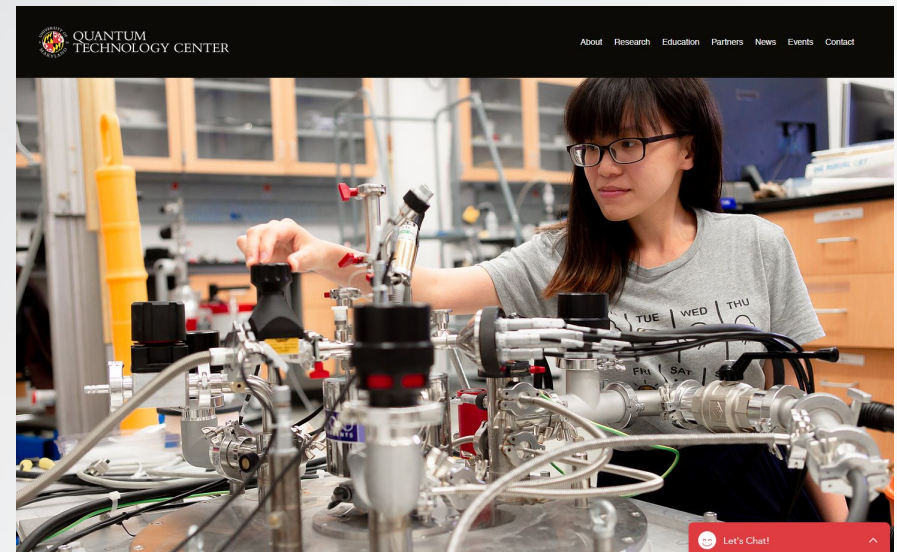
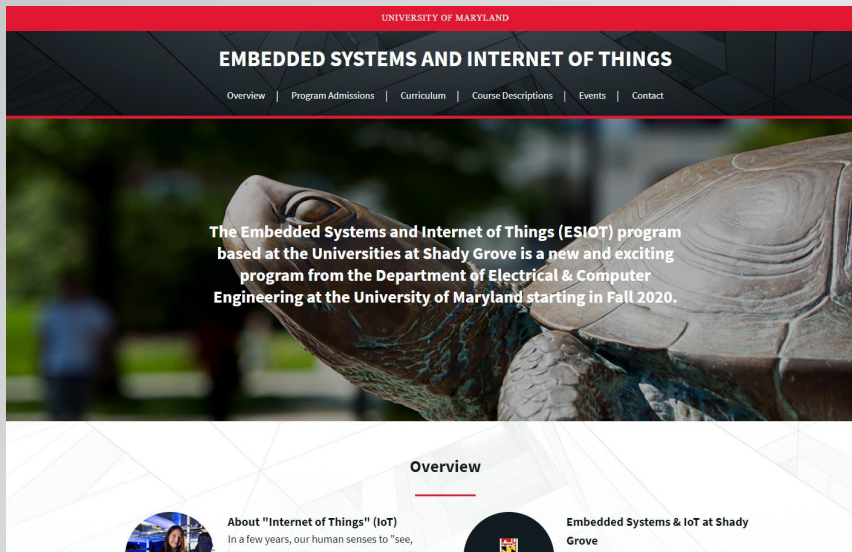
[shadygrove.ece.umd.edu](http://shadygrove.ece.umd.edu)

*Launched August 2019*

[qtc.umd.edu](http://qtc.umd.edu)

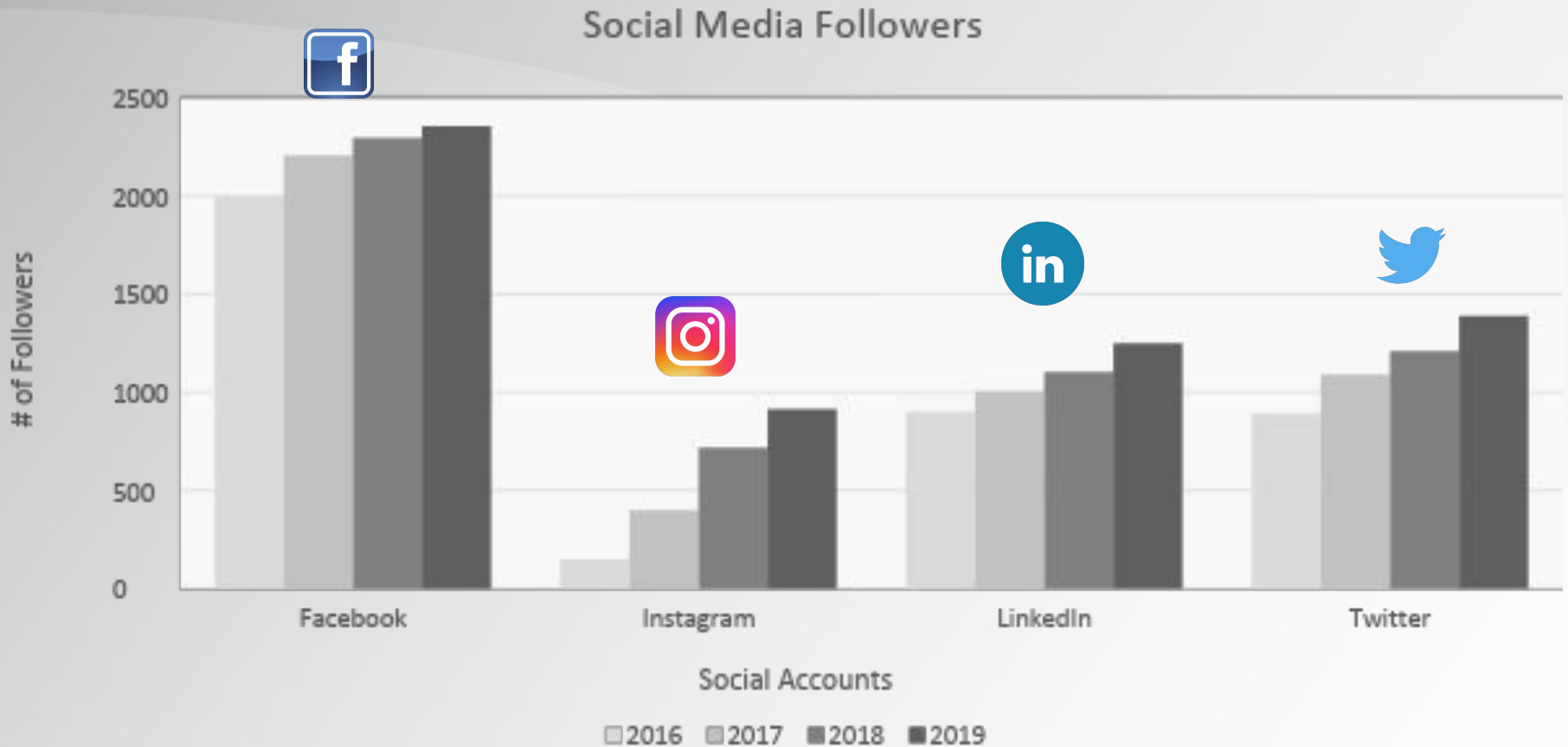
*Launched December 2019*

- *QTC\_UMD Twitter launched August 2019*



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# Social Media



# Alumni Engagement

- All IEEE Leadership Seminars were led by ECE alumni (2 of the 3 were women)
- 4 of our 7 Distinguished Booz Allen Hamilton Speakers were alumni
- Clark School Innovation Hall of Fame winner was ECE alum: Donald H. Willis '61
- Bikash Koley '00, led efforts for Juniper Networks Lab Opening
- First annual ECE Alumni Open House was a success: 40+ registered to attend
- Many re-shares and comments on ECE news articles



## News Story

### Alumnus & ECE Advisory Board Member Lyndon Brown Publishes Forbes Article Advising Business Leaders to Think More Like Engineers

Alumnus News

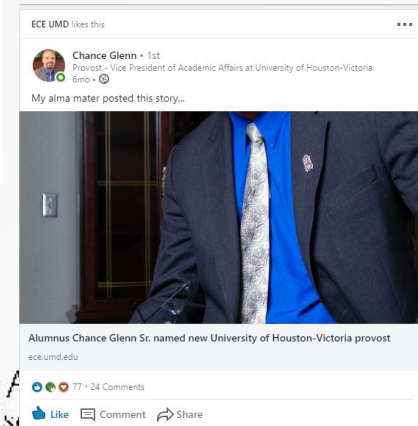
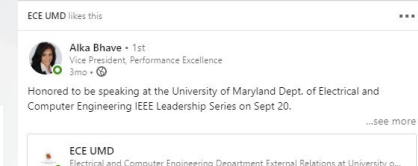


Electrical and Computer Engineering Alumnus [Lyndon Brown](#), Vice President of Business Development at Verodin, recently published a piece in Forbes entitled, "[Five Engineering Secrets Any Leader Can Apply to Grow Their Business](#)."

In his piece, Lyndon explains why many corporations are turning toward CEOs with engineering backgrounds. In fact, more of the world's top performing CEOs have engineering degrees than MBAs.

Lyndon received his bachelor's degree in electrical engineering in 2004 from the University of Maryland, College Park. He received his master's degree in systems engineering from Johns Hopkins University in 2007. Since graduating, Lyndon has been a senior executive in multiple successful software companies.

He serves as an advisor for various organizations including the Advisory Board of the Department of Electrical and Computer Engineering at the University of Maryland, College Park. Based on his technical background, Lyndon advocates the use of five core engineering practices to improve business performance:





# Initiatives Met

## Spring-Fall 2019

- Collaborate with the Undergraduate Advising Team to deploy new website and marketing campaign for the Bachelor of Science degree at Shady Grove in Embedded Systems and IOT
- Strengthen alumni relationships – more spotlight articles, social media highlights/outreach on LinkedIn, speaking engagements
- Host ECE Alumni Event during UMD Homecoming week
- Drive the 125<sup>th</sup> Anniversary Clark School Campaign



# Looking Forward in Marketing >>

- Continue to increase social media following and buzz on ECE & QTC accounts
- Maintain and amplify ECE, QTC, and Shady Grove Websites
  - Develop video for ESIOT program
- Late February: Launch admitted women student outreach initiatives with Advising Office
- Continue to host distinguished speakers and enhance social and academic student events



# Spring 2019 – Full Time Hiring Data



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# Clark School- Overall

873 students

396 Unique Companies

>40 employers hired 5 or more students

261 hired 1 student

## Top 10:

- Northrop Grumman – 42
- Naval Air Systems Command (NAVAIR) - 38
- JHU Applied Physics Lab- 26
- Whiting-Turner- 23
- Lockheed Martin- 18
- Amazon- 14
- NAVSEA- 13
- Deloitte- 11
- Textron- 11
- Boeing- 11
- NASA- 10



# Clark School- Compare to 2018

- NAVAIR employed the most in 2018 w/ 42 (down 4)
- Northrop Grumman employed 40 (up 2)
- APL went from 18 hires to 26
- Deloitte, Textron, Boeing and NASA were not in the Clark School's top 10 in 2019
- Accenture, Orbital ATK and Clark Construction dropped out of the top 10



# Electrical Engineering

154 Students (grad and undergrad)  
88 Unique Companies  
66 hired 1 student

## Companies with 3 or more hires:

- Northrop Grumman- 14
- NAVAIR- 11
- JHU Applied Physics Lab- 9
- Textron- 5
- Deloitte- 4
- Amazon- 4
- Google- 4
- MC Dean- 3
- Exelon- 3
- Hughes- 3
- Leidos- 3
- Intelligent Automation Inc. - 3

## 2018 Top 5 Employers:

- Northrop Grumman- 14  
(stayed the same)
- NSA- 5 (no EEs in 2019, 5 CE)
- NAVAIR- 5 (up 6)
- MC Dean- 5 (down 2)
- NIST- 5 (down 4)



# Computer Engineering

68 Students (undergrad only)

46 Unique Companies

36 hired 1 student

## Companies with more than one hire:

- Capital One- 5
- Microsoft- 4
- Northrop Grumman- 3
- NSA- 3
- Amazon- 3
- Booz Allen Hamilton- 3
- Leidos- 3
- Google- 2
- JHU Applied Physics Lab- 2
- JP Morgan- 2

## 2018 Top 5 Employers:

- Northrop Grumman- 8 (down 5)
- Amazon- 7 (down 4)
- Capital One- 6 (down 1)
- Appian- 6 (down 5)
- APL- 4 (down 2)



# Masters In Telecommunications

26 Students

13 Unique Companies

9 hired 1 student

## Companies with more than one hire:

- Qualcomm- 6
- Amazon- 5
- Hughes – 3
- Cisco Systems- 3

## 2018 Top 5 Employers:

- Oracle - 6
- Cisco Systems - 5
- Akamai Technologies - 3
- Qualcomm – 2
- T-Mobile - 2





# Salary Data- 2019

- **Intern Hourly Wage**
  - Computer Engineering- \$24.80
  - Electrical Engineering- \$23.70
- **Entry Level Salary (BS):**
  - Computer Engineering- \$89,600 (highest in the College and University!)
  - Electrical Engineering- \$76,900
- **Entry Level (MS)**
  - Electrical Engineering- \$95,400
- **Entry Level (PhD)**
  - Electrical Engineering- ~\$120,000



# Corporate & Alumni Relations



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# Clark School Funding Priorities

- Doctoral fellowships
- Facilities
- Professorship & chairs
- Facilities
  - New Buildings- IDEA Factory
  - Labs
- Unrestricted support
  - Seeding research
  - Instrumentation
  - Faculty start-up funds
- Scholarships
  - Maryland Promise matching gift program



# Strategic Priorities

- Women in ECE
- Alumni Relations Outreach
- Corporate Engagement
  - Hiring ECE Students
  - Research with Faculty
  - Teaming
  - Startup Support
- Additional Renovation of Existing Labs
- Subject matter priorities
  - Machine Learning
  - IoT
  - Quantum
  - Cybersecurity



# 2019 Engagements of Note

- - \$50,000 endowed scholarship- merit based for junior or senior EE or CE student
- Partnership Renewals
  - 11 years of Booz Allen Hamilton Colloquium
  - TI Peer Mentoring & ENEE 101 Lab Renovations
  - Renewal of Thales Corporate Affiliates (lapsed 3 years!)
- New Corporate Affiliate- CoolCAD Electronics
  - sponsorship of student/research
- Software Defined Network Industry sponsored grants
- QTC planning- both government and corporate



# Looking Forward-2020

- Secure funding for a new and/or lab renovation
- Secure inaugural partners for QTC- Government and Industry
- Work with the campus on Amazon proposals/relationship development
- Capstone projects for ML
- Sponsorship of the Academy of Machine Learning
- Funding for IoT program
- Chair/Endowed Faculty position



# Let's Talk SWOT for Corporate Relations



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**Thank you!**

**Questions??**



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