Issue 002 | Summer 2019



# **Congratulations to the Following Individuals**

<u>UNCC Employee of The Year-Human Relations</u> Sara Watson, *Business Services Coordinator*, Civil and Environmental Engineering

<u>The Lee College SHRA Employee of the Year</u> Eric Rhodes, *Hardware Systems Administrator*, College of Engineering Computing Services

The Lee College EHRA Employee of the Year Bill Ardern, *Director*, Engineering Computing



# Congratulations to Ms. Green and Dr. Willis

<u>The Lee College of</u> <u>Engineering Excellence in</u> <u>Teaching Awards</u>

**Undergraduate** 

Ms. Courtney Green, Lecturer & Adviser, Engineering Technology & Construction Management <u>Graduate</u>

Dr. Andrew Willis, Associate Professor, Electrical and Computer Engineering.



LEARN MORE ABOUT MS. GREEN AND DR. WILLIS

## Dr. Richard Tankersley Appointed VC for Research and Economic Development

Dr. Richard (Rick) Tankersley was appointed UNC Charlotte's Vice Chancellor for Research and Economic Development effective May 1.

Dr. Tankersley has been serving as the Interim Vice Chancellor since May 2018 and was also Executive Director of the Charlotte Research Institute (CRI) as well as Associate Dean for Research and Graduate Education in the College of Liberal Arts & Sciences.



In announcing Dr. Tankersley's appointment, Provost Dr. Joan Lorden said, "UNC Charlotte sought a bold and inspirational leader with expertise in research-driven programs to execute our strategic vision to enhance our research collaborations locally, nationally and internationally and also to advance the University's reputation as a premier research institution. We believe Rick Tankersley is the right choice to realize this vision for UNC Charlotte."

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### UNC Charlotte Won Second Place in NASA's Student Launch Competition 2019

Innovative engineering in the construction, launching and operation of an autonomous drone led the 49er Rocketry Team to an extremely successful 2019 competition. The drone, or unmanned aerial vehicle (UAV), was the payload of the rocket, and judges ranked it as the top payload at the NASA Student Launch Initiative Competition held at Marshall Spaceflight Center in Huntsville, Alabama, on April 6th. **The UNC Charlotte team, mentored by Dr. Jerry Dahlberg, finished second overall at the competition**. The University of Vanderbilt placed first overall.



**Forty-five teams** from throughout the United States designed and built rocket systems for NASA's annual high-powered rocketry competition. Requirements for the competition included launching a rocket to a predicted altitude, releasing a payload compartment, landing the payload with parachutes, deploying a drone from the payload compartment, and flying the drone to a designated spot and dropping a simulated navigational beacon.

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# A Reminder from Contracts and Grants Office

#### **Faculty Leave**

Please notify the <u>**Contracts and Grants Office</u>** when a faculty member goes on leave status. This will ensure that the sponsoring agency gets notified in case of active external funding.</u>

#### **Proposal Deadlines**

Please inform the <u>Contracts and Grants Office</u> <u>five full business days</u> prior to the sponsor proposal deadline.



#### **Reduced Indirect Cost Wavier**

Effective January 1, 2019, a **ten-day** prior approval from the Vice Chancellor of Research & Economic Development (RED) is needed if the proposal requires a non-negotiated indirect cost rate. Please inform your assigned Pre Award research administrator if a reduced indirect cost rate applies.

# **Research Administration Update**

As of May 2019, the **College of Engineering** has received **114 awards** totaling **\$15.1M YTD**. This is a **33% increase** in award dollars received from last year at this time. Additionally, the **College of Engineering** has processed and submitted **223 proposals YTD**. This is a **14% increase** in number of proposals submitted from last year at this time.

For the last two years, the **College of Engineering** has led UNC Charlotte in research award dollars totaling **\$15M for FY 17** and **\$13.2M for FY 18.** 





# **UPDATES**

**GCA** has a new Tuition and Fees Rebudget Justification <u>Form</u> and Departmental <u>Guidebook</u>. These changes are effective immediately. Please click the link below and learn more.

**GRANTS & CONTRACTS ADMINISTRATION (GCA)** 

# **Faculty Research Spotlights**

Dr. Hansang Cho, *Professor*, Mechanical Engineering The National Institutes of Health recently awarded Dr. Cho a NIH Academic Research Enhancement Award (R 15) entitled *"To* 



Prove the Interplaying Roles of Central and Peripheral Immunity in Alzheimer's Disease".

This award has **three-year duration** with a total of **\$425,622.** Alzheimer's disease (AD) is the most prevalent neurodegenerative dementia and

neuroinflammation, is regarded as the key player in AD development; however, neuroinflammation contribution is difficult to delineate due to the multifaceted activations, multicellular interactions, and lack of tunable human brain models. Here, Dr. Cho and his research team create micro-scaled engineered platforms that function as simple, yet controlled, models of human AD brains (i.e., "Brain-on-Chips") and employ those models to determine the effects of crosstalk between central and peripheral immunity on the inhibition and/or exacerbation of AD pathogenesis. Dr. Cho and his team envision that these human brain models will contribute to the definition of the underlying mechanisms and identify inflammatory mediators, potentially leading to new therapies for neurodegenerative dementia.

**Dr. Ian Marriott, Department of Biological Sciences,** is the **Co-PI** for this project.

Dr. Robert Cox, Associate Professor, Electrical and Computer Engineering Department of Energy (DOE)-recently awarded Dr.Cox a grant-Solution for



**Curbside-Charging Electric Vehicles for Planned Urban Growth.** This award has a **thirty-nine month duration** with a total of **\$942,757**. This project will pilot a solution for the emerging problem of providing owners of electric vehicles charging points at or near their homes or work when road side parking is the primary option. Supporting this need, especially for urban populations that live in areas increasingly restrictive of conventional automobiles, will require public-private partnerships among asset owners, utilities, and (principally) local and regional government agencies. The proposed team, led by Duke Energy and supported by the Energy Production and Infrastructure Center (EPIC) at the University of North Carolina at Charlotte, will complete development and pilot testing of a new tool for addressing the need for curbside EVSE by tapping into spare electrical service capacity available in public street lighting. The technical team is integrated with the principal regional governmental representative of the Charlotte, North Carolina, metropolitan area, which is the Centralina Council of Governments (CCOG). In addition to bringing regional planning expertise, the CCOG houses the Centralina Clean Fuels Coalition (CCFC), a member of the US DOE Clean Cities program. The project utilizes a new commercially available networkcontrolled and monitored circuit breaker by Eaton that will be mechanically and electrically configured within a utility-managed street light pole to provide subscriber-based Electric Vehicle charging services to urban and dense suburban residents that do not have access to private parking facilities. CCOG will engage multiple public agencies as required to design and pilot a public trial in the Charlotte metro area. **Dr. Madhav Manjrekar, Dr. Michael Mazzola, Dr. Jean-Claude Thill, and Dr. David Young** are **Co-PIs** for this project.

Dr. Hamed Tabkhi, *Assistant Professor*, Electrical and Computer Engineering The National Science Foundation (NSF)-



recently has awarded Dr.Hamed Tabkhi a grant entitled "SCC: Building Safe and Secure Communities through Real-time Edge Video Analytics". This award has a four-year duration with a total of \$1,897,466.

The emergence of intelligent technologies is enabling a new era of connection between community residents and the surrounding environments, both in the United States and around the world. With the new wave of growth in urban areas, ensuring public safety is an essential precursor toward "smart" cities and communities. This project proposes a novel "intelligent" policing technology as a transformative solution to efficiently enhance law enforcement while minimizing unnecessary interactions and maintaining resident privacy. The proposed technology offers a network of smart cameras that do not require continuous monitoring but instead are trained to generate alerts on the spot in real-time. Since the cameras identify behaviors and not identities, they can reduce biases, minimize false alarms, and protect personal privacy. The intelligent policing technology will be co-designed and co-created with the direct help of community residents, neighborhood leaders, and local business owners, as well as agencies including the City of Charlotte and local law enforcement agencies in Charlotte-Mecklenburg and Gaston counties. The proposed research makes fundamental advances in multiple areas from computer vision, computer architecture, and real-time edge computing, as well as criminology and community-technology interaction. It paves the path for bringing the recent advances in deep learning and data analytics to enhance the safety and security of communities without jeopardizing the privacy of residents. To this end, this project formulates social-technical advances to efficiently analyze and assist communities and governing agencies in making real-time, smart reactions. The project enables real-time vision processing near the cameras (edge nodes) and cooperative processing over the edge network. At the same time, the proposed research interprets, formalizes, and models public safety and security events to be machine detectable, reducing biases and enabling broad-based community support and trust. Additionally, the proposed community-based pilots will serve as exemplars to other communities across the nation. Dr. Shannon Reid, Dr. Arun Ravindran, Dr. Douglas Shoemaker, and Dr. Srinivas Pulugurtha are Co-PIs for this project.

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#### **Upcoming Events and Training**

#### Research Administration Conferences

**NCURA**: Annual Meeting of the Membership, Washington DC, 8/4/2019 - 8/7/2019

**<u>SRAI</u>**: Annual Meeting, San Francisco, CA 10/2019/19 - 10/23/2019

#### **COEN New Faculty Orientation:**

COEN new faculty orientation is scheduled on 8/16/2019, 8:00 to 12:15 in EPIC conference room 1332. Are you interested in learning more about **CRA**? Click **here** to see the Candidate Handbook, Body of Knowledge, and Exam & Review Sessions.

Grants and Contracts Office offers a certified training program: Grants and Contracts Administration. It is designed for staff in academic departments whose job responsibilities include providing financial and administrative support for grants and contracts to Principle Investigators, Department chairs and others. Click <u>here</u> to register.

#### **Have News To Share?**

Please send any news, awards, photos, etc. along to <u>Joanne Zhang</u> to be included in the Contracts and Grants Office newsletter.

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