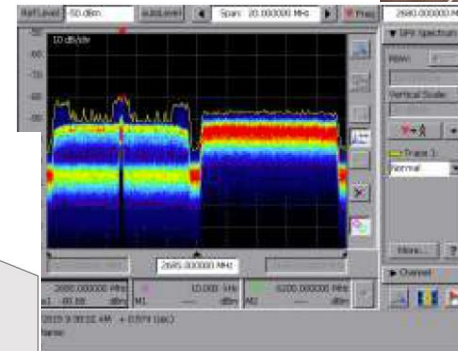
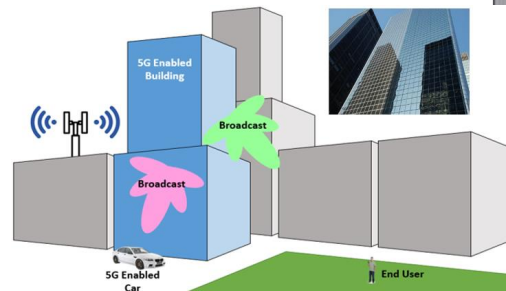
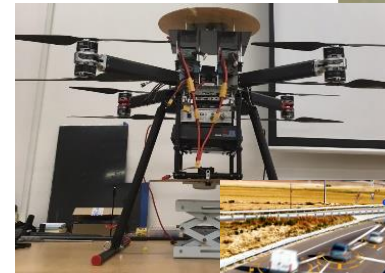
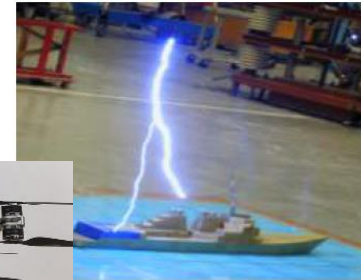


# Communications and Electromagnetics

The Communications and Electromagnetics includes faculty interested in antennae, microwaves, computational electromagnetics, and wireless communications, and networking.

- J. Patrick Donohoe
- Mehmet Kurum
- Ryan Green
- Vuk Marojevic
- Chun-Hung Liu



# Courses Related to COM/EM Research Areas

- RF & Microwave Engineering
- Antennas
- Electromagnetic Theory
- Electromagnetic Compatibility
- Introduction to Radar
- Radar Signal Processing
- Introduction to Remote Sensing
- Microwave Remote Sensing
- Data Communications Networks
- Wireless Communication
- Wireless Networks
- Embedded Systems
- Communications Theory
- Digital Communications
- Linear Algebra
- Complex Variables
- Complex Analysis
- Multivariate Statistical Methods
- Multivariate Analysis
- Applied Probability
- Stochastic Processes
- Numerical Analysis
- Random Signals and Systems

# COM/EM Courses Fall 2020

- ECE 6323 Electromagnetic Compatibility
- ECE 6813 Communications Theory
- ECE 6723 Embedded Systems
- ECE 6833 Data Comm Networks

# Dr. Pat Donohoe

*donohoe@ece.msstate.edu*

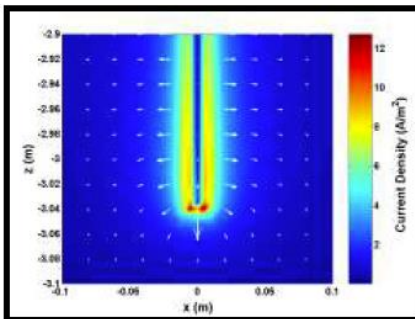


## Research Areas

- Computational Electromagnetics
- Electromagnetic Compatibility
- Electromagnetic Properties of Composite Materials
- Lightning Protection

## Graduate Courses

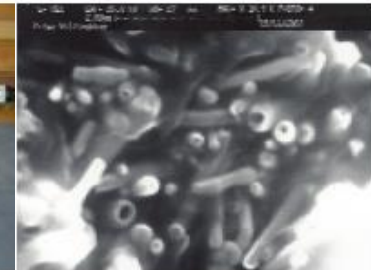
- Antenna Theory
- Microwave Theory
- Comp. Electromagnetics
- Electromagnetic Compatibility



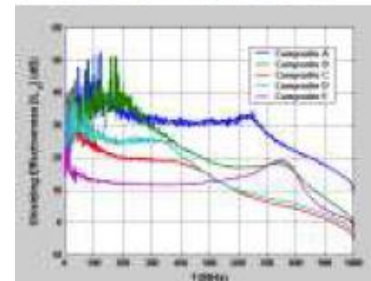
Computational Electromagnetics



Lightning Protection



Electromagnetic Properties of Composite Materials



# Dr. Mehmet Kurum

*kurum@ece.msstate.edu*



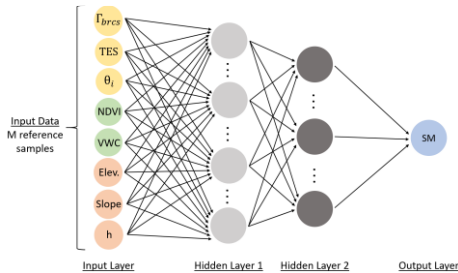
## Research Areas

- Microwave and Millimeter-wave Remote Sensing
- Signals of Opportunity
- Machine Learning
- Smartphone Sensing
- RF Sensors and System

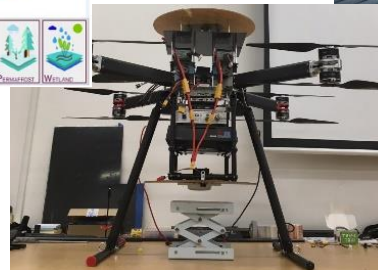
## Graduate Courses

- Antenna Theory
- Microwave Theory
- Microwave Remote Sensing

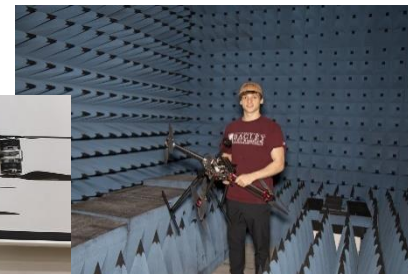
Web: <http://impress.ece.msstate.edu/>



EM Modeling for Small Satellites



Remote Sensing from UAS



Low-cost Reutilization of Existing Anthropogenic Signals for Remote Sensing



# Dr. Ryan B. Green

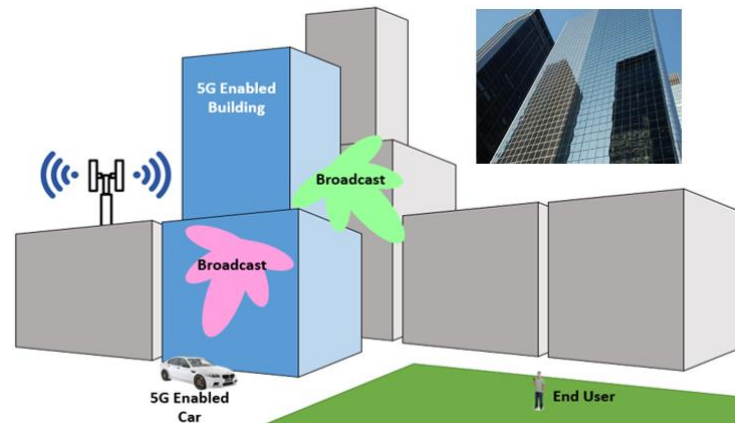
*green@ece.msstate.edu*

## Research Areas

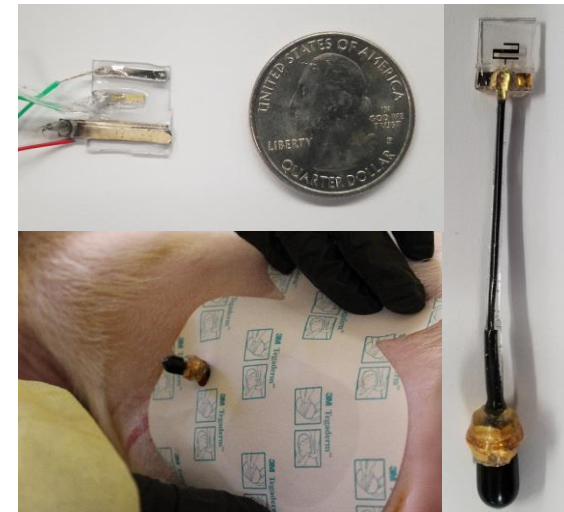
- Optically Transparent Communication Devices
- Internet of Things and Smart City Communication
- Wireless Medical Telemetry



Transparent Antennas and Antenna Array



Smart City Reflectors and Broadcasters



Implantable, wireless, real-time glucose sensor

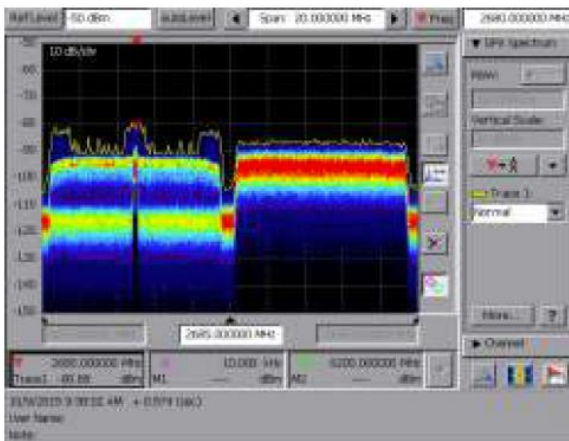
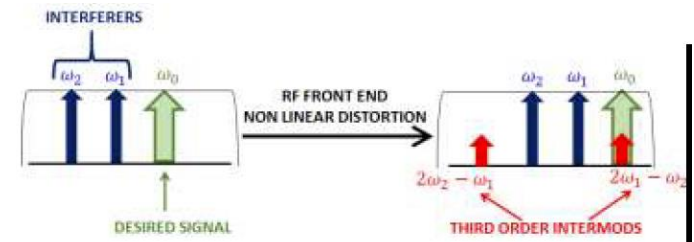


# Dr. Vuk Marajevic

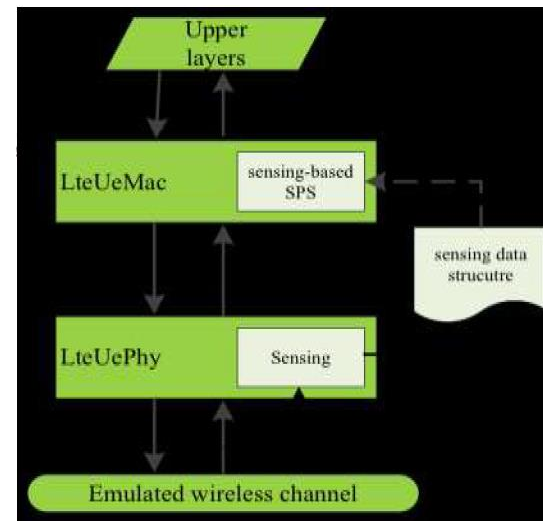
*vuk.marajevic@ece.msstate.edu*

## Research Areas

- 4G/5G Cellular Communications
- Wireless Network Virtualization
- Wireless Security
- Spectrum Sharing
- RF nonlinearity



LTE TDD (left) and FDD downlink (right) using software radios and test equipment



C-V2X ns-3 simulator



# Dr. Chun-Hung Liu

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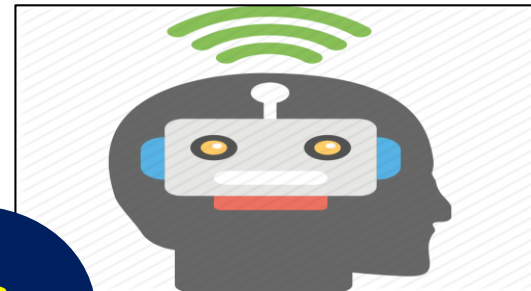
## Research Areas

- 5G/6G Wireless Networks
- Machine Learning and Its Applications in Wireless Communication & Networking
- Signal Processing for Wireless Communication

**Wireless  
Network Security**



**Learning over  
Wireless Networks**



**5G/6G**

**V2V  
Communications**



**UAV Cellular  
Network**

