IoT Applications for Defense Workshop and RIoT XIX
Tuesday, August 15, 2017
Trident Technical College
7000 Rivers Ave, N. Charleston, SC

AGENDA

8:30  SIGN IN / NETWORKING IN LOBBY

9:00  WELCOME

9:15  KEYNOTE: TRANSFORMING THE DEFENSE INDUSTRY THROUGH IoT
Eric Dean, Chief IT Officer, M.C. Dean

9:45  BREAK

10:00 SECURITY: OPEN ARCHITECTURE & SECURITY STANDARDS FOR AEROSPACE & DEFENSE
Ron Pascuzzi, CEO, Bridgera
Rob Proctor, Field Application Engineer, RTI

10:45 DATA ANALYTICS: CREATING INTELLIGENCE FROM BIG DATA & EMERGING TECHNOLOGIES
Dr. John Harer, Founder, Geometrics Data Analytics; Professor Duke University
Brian Carrigan, Director of Technology, Smashing Boxes

11:45 ENERGY: IMPROVING FACILITY PERFORMANCE THROUGH DATA ANALYTICS
Joseph Hirl, Founder & CEO, Agilis Energy

12:15 LUNCHEON KEYNOTE: DEFENSE APPLICATIONS OF IoT
Tao Rocha, Atlantic Wireless & Tactical Branch Head, SPAWAR

1:45 IoT & CLOUD: INTELLIGENCE FROM THE EDGE TO THE CLOUD
Sky Matthews, Distinguished Engineer, CTO, IBM’s Watson Internet of Things

2:15 PROJECT DEPLOYMENT: PREPARING VETERANS FOR THE 4TH INDUSTRIAL REVOLUTION
Dan Eddinger, Founder & CEO, FieldVets

2:45 BLOCKCHAIN: DEMYSTIFYING BLOCKCHAIN
Tom Wilson, Founder, Jack Russell Software

3:15 BREAK

3:30 IoT CONNECTIVITY: NEXT GENERATION WIRELESS - NARROW BAND TO 5G
Dr. Gerry Hayes, Founder, Wireless Research Center of NC

4:00 IoT & DEFENSE: BROADBAND COMMUNICATIONS TECHNOLOGIES TO STRENGTHEN THE WARRIOR
Randolph Clark, Verizon DoD Partnerships

5:00 RECEPTION

7:00 ADJOURN
IoT: Applications for Defense - Session Descriptions

KEYNOTE: TRANSFORMING THE DEFENSE INDUSTRY THROUGH IoT
Internet of Things as applied to DoD presents significant security risks and vulnerabilities. To date, most sensor based networks have been built within purposeful closed network environments. IoT opens opportunities within the cloud and integrated environments however security controls will need to protect against pervasive threats to DoD and exploitation of IoT devices and operating environments.

SECURITY: OPEN ARCHITECTURE & SECURITY STANDARDS FOR AEROSPACE & DEFENSE
By using open standards for integration, defense agencies maintain an open and competitive acquisition capability and ensure that systems integrators focus their innovation efforts on program objectives. Using open standards for integration helps defense agencies rapidly introduce new technologies and mitigate the impact of component obsolescence.

DATA ANALYTICS: CREATING INTELLIGENCE FROM BIG DATA & EMERGING TECHNOLOGIES
In this session, we will investigate the internet of things (IoT) from four different but related angles: Fusion, Triggering, Sensor Geometry, and Security. Together, these investigations merge a complete IoT pipeline, from data collection, aggregation, analysis, to a paradigm for inference. While the focus of the Internet of Things is typically on the increased availability and capability of internet connected hardware, there are many other advances in technology that allow us to better use all of the data generated by these devices. In this talk, we will explore other emerging technologies such as blockchains and machine learning and discuss what value they bring to the IoT ecosystem.

ENERGY: IMPROVING FACILITY PERFORMANCE THROUGH DATA ANALYTICS
Leverage the millions of records of data being generated annually from a building to materially increase operational efficiency without capital improvements. This session will explore lessons learned from more than 3000 buildings across 24 countries.

LUNCHEON KEYNOTE: DEFENSE APPLICATIONS OF IoT
This session will........

IoT & CLOUD: INTELLIGENCE FROM THE EDGE TO THE CLOUD
In this session, we will explore emerging technologies and capabilities for running analytics at the edge so the processing can be moved closer to the data. The rise of “Edge computing” and emergence of more dynamic compute models, such as Fog computing, enable us to deliver more flexibility in analyzing and reacting to data without having to move all data to a centralized compute facility. We will also show some short demonstrations of IBM Edge analytics capabilities to illustrate how it works.

PROJECT DEPLOYMENT: PREPARING VETERANS FOR THE 4th INDUSTRIAL REVOLUTION

BLOCKCHAIN: DEMYSTIFYING BLOCKCHAIN
What is Blockchain and what does it mean for IoT? This session will include a high-level overview of the Blockchain and some potential IoT use cases, even a short demo of creating and deploying a smart contract.

IoT CONNECTIVITY: NEXT GENERATION WIRELESS - NARROW BAND TO 5G
Solution partners are partnering with network providers to address engineering challenges and prepare for the arrival of the future of 5G. This session will also cover managing RF/antenna performance throughout the life cycle.

IoT & DEFENSE: BROADBAND COMMUNICATIONS TECHNOLOGIES TO STRENGTHEN THE WARRIOR
This session will discuss examples of DoD IoT Implementations challenges and benefits. We will explore leveraging emerging commercial technologies to support the mission.
Speaker Bios

**Larry Steffann, General Manager, Wireless Research Center**

Mr. Steffann has over 35 years in technology, and has been a CEO (NSO/AMEX), a COO (BOCI/Nasdaq), and a serial entrepreneur. He is currently GM of the Wireless Research Center of North Carolina, and was formerly VP of Product Development for Consert and Co-Founder of Joystick Labs, the initial tenant of the American Underground in Durham.

**Tom Snyder, Executive Director, RIoT**

Tom is Executive Director of RIoT, a nonprofit operated under the Wireless Research Center of North Carolina that supports Internet of Things and disruptive technology industry growth. Previously, Tom held an executive leadership role at the ASSIST Center, a NSF-sponsored effort to create wearable electronics for healthcare monitoring.

**Rob Proctor, Field Application Engineer, Real-Time Innovations**

Rob has over 20 years of experience in the A&D embedded software space. Working for Rockwell-Collins, Boeing and Raytheon before joining the dark side as a field engineer for embedded SW vendors. While not on the road for work, Rob enjoys patiently waiting for the next book in the ‘A Song of Ice and Fire’ series to come out.

**Eric Dean, Chief Technology Officer, M.C. Dean**

Eric is the Chief Technology Officer for M.C. Dean, Inc. based in Tysons Virginia. He holds a Masters Degree in Telecommunications from University of Maryland and a B.S in Electrical Engineering from George Mason University. Mr. Dean has over 25 years of experience working with electronics, networking, computing, cloud, and industrial systems and applications.

**Dr. John Harer, CEO, Geometric Data Analytics**

John is Professor of Mathematics and Electrical and Computer Engineering at Duke University and CEO of Geometric Data Analytics (GDA), a small company in Durham, NC. At Duke, Prof Harer has served as PI on many grants and contracts from the DoD, NSF and NIH. GDA is a small company that focuses on shape analysis and learning with shape features.
Joseph Hirli, CEO, CTO & Founder, Agilis Energy

Joseph is a US Navy veteran and has spent his entire career in energy with extensive experience in software development, energy trading, risk management, business development, restructuring and power plant operations in the United States, Europe and Asia Pacific.

Tom Wilson, Executive Vice President, JRS Innovation Center

Tom an Executive Vice President and Chief Technology Innovation Officer. He was previously VP of Software Development for Tabula Rasa Healthcare and President of Jack Russell Software, a division of Tabula Rasa Healthcare. Tom is also passionate about teaching all groups to learn to code, and feels that learning to code is a valued skill whether you plan to create applications for your profession or just seeking a better understanding of today’s technical world.

Gerard Hayes, Executive Director, Wireless Research Center

Dr. Gerard Hayes is President and Founder of the Wireless Research Center of North Carolina. Prior to establishing the WRCNC in 2010, he held technical roles at GreenWave Scientific, Sony Ericsson Mobile Communications (USA) Inc., and Lockheed Martin. He has participated in the development of international standards and, holding over 75 U.S. patents, has maintained a prominent technical role in the wireless industry.

Sky Matthews, Distinguished Engineer, CTO, IBM’s Watson Internet of Things

Sky is responsible for technical strategy and directions related to the Internet of Things within IBM. Sky has lengthy experience working with clients in complex and embedded systems development across many industries, including telecom equipment, aerospace/defense, automotive, and electronics. His current areas of focus include cognitive analytics for IoT, security and privacy, and edge and fog computing architectures. Prior to his current role, he was the CTO for the Systems Engineering and Embedded Software portfolio in IBM Rational. Sky is based in Research Triangle Park, North Carolina.

Ron Pascuzzi, SVP Sales & Marketing, Bridgera

Ron leads sales and marketing at Bridgera focusing on helping clients that lack software development skills become successful with their IoT initiatives without compromise. Ron considers himself an evangelist for the Internet of Things and believes that IoT initiatives should not be compromised due to a lack of software development skills or having to force fit a commercial platform.
Randolph Clark, Client Partner – Connected Solutions, Defense & National Security, Verizon Enterprise Solutions

Randolph supports IoT solutions across the enterprise and wireless business units to implement value added systems to meet current & future business and operational needs. He has held executive management positions at SARCOS Robotics and Oceus Networks where he has managed strategic programs and sales initiatives.

Dan Eddinger, Founder & CEO, FieldVets

Dan is a seasoned and well-rounded executive with experience leading widely varying missions. Dan is the best at focusing teams on goals at hand and distilling pieces of the puzzle for a quick solution, regardless the challenge or business type.

Brian Carrigan, Director of Technology, Smashing Boxes

Brian is Director of Technology at Smashing Boxes, a digital product agency in downtown Durham. He has spent the last seven years traversing the technology stack from transistor to web tech and is actively involved in the IoT and emerging technology spaces.