

## **Seminar Talk**

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**MS student**

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Old Dominion University**

**Friday, February 01, 2019**

**3:00 p.m. KH 224**

**Title:** Electrical System Design for Cubesat to Ground Communications Using Software Defined Radio and Packet Radio Switching

### **Abstract:**

Nano satellites are now a mainstay in the Academic Research Community and are becoming evermore prevalent in Industrial and Military Applications due to their relatively low development and launch costs. The research conducted by Old Dominion University, UVA, Virginia Tech, and Hampton University is funded by NASA and The Virginia Space Grant Consortium. The collaborative efforts of the participating Universities are the design, test, and implementation of three 1U Cubed Nano Satellites in support of ongoing research efforts to more clearly understand and mathematically model the Lower Earth Orbit (LEO) Thermosphere. In particular, the research conducted by Old Dominion University has resulted in a student-designed Electrical System Architecture, Software platform, and the Mechanical Structure from which this architecture operates the satellite. Moreover, the Communications Protocol and its implementation seeks to expand upon existing research conducted by previous graduates and hopes to show empirical results in the use of the Digital Amateur Radio Protocol, AX.25.

### **Bio:**

Electrical and Computer Engineering and conducts his research under the direction of Dr. Dimitrie C. Popescu. In addition to his research interests, he serves as a teaching assistant for the Department under the guidance of Dr. Vishnukumar Lakdawala. He served nearly ten years in the United States Navy and deployed several times in support of Operations Iraqi and Enduring Freedom. As a First-Generation College Student, he was the first in his family to earn any Baccalaureate Degree of any kind and did so proudly at Old Dominion University. He has a wife Diana of ten years and son Lorenzo aged two. After graduating, he and his family are moving to Texas to fulfill his role as a Digital Hardware and Mixed-Signal Design Engineer at Lockheed Martin Missiles and Fire Control, located in Grand Prairie, TX.