Stephen Bass

sfbass@ou.edu

EDUCATION

University of Oklahoma, Norman, Oklahoma

- Doctor of Philosophy (PhD) in Electrical Engineering
  - Adviser: Dr. Jessica Ruyle
  - Expected Graduation: December 2020
- Master of Science (M.S.) in Electrical Engineering
  - GPA: 4.00 / 4.00
  - Adviser: Dr. Jessica Ruyle
  - Graduated: December 2017
- Bachelor of Science (B.S.) in Electrical Engineering
  - GPA: 3.72 / 4.00
  - Adviser: Dr. Jessica Ruyle
  - Graduated: August 2015

EXPERIENCE

Advanced Radar Research Center, University of Oklahoma, Norman, OK

Graduate Research Assistant — Sep 2015 – Dec 2017

"Investigation of Simultaneous Frequency and Pattern Reconfiguration Using Three Element Loaded Slot Antennas"

- Developing antenna design that allows simultaneous and independent control of pattern and frequency reconfiguration. A closed-form circuit model is being derived to fully describe the antenna reconfiguration mechanisms and enable future designs.

Teaching Assistant — Aug 2015 – May 2016

Electro-Magnetic Fields I

- Helped students understand the fundamentals of static and time-varying electro-magnetic fields including how they are created and how they interact with each other and different materials. Additionally lectured in place of the professor when necessary.

Undergraduate Research Assistant — May 2014 – Aug 2015

"Application of Babinet's Principle to a Dielectric Half-Space"

- Adapted Babinet's Principle to a dielectric half-space to provide a new theorem for modern dielectric-backed complementary antennas.

L3 Mustang Technologies, Plano, TX

Summer Intern — Jun 2017 – Aug 2017

- Tested SAR system to determine limits of operation
- Determined optimal method of measuring a radiation pattern using an anechoic chamber
- Improved system functionality to incorporate messaging a small CPU on a UAV

Credant Technologies, Addison, TX

Summer Intern — Jun 2012 – Aug 2012

- Quality assurance testing of encryption software security and cloud backup

PUBLICATIONS

S. F. Bass, B. M. Hennessy, L. M. Szolc, and J. E. Ruyle, "Analysis of Circularly Polarized Annular Slot Antennas to Determine Reconfiguration Mechanism," in Proc. 2014 Antenna Applications Symposium, Allerton Park, Monticello, IL, Sept. 2014.

S. F. Bass, L. M. Szolc, and J. E. Ruyle, "Investigation of Pattern Reconfigurability Using Three-Element Loaded Slot Array," in Proc. 2015 Antenna Applications Symposium, Allerton Park, Monticello, IL, Sept. 2015.

SKILLS

- Experienced with HFSS, FEKO, and AWR (MWO)
- Scripted Python code to integrate MATLAB and HFSS
- Proficient with anechoic chamber measurements
- Adept with lab equipment: network analyzer, spectrum analyzer, high-frequency oscilloscope
- Built antennas using chemical photolithography and electroplating

AWARDS

- Member of Tau Beta Pi
- Eagle Scout in the Boy Scouts of America
- College of Engineering Dean's Honor Roll
- Presidents Honor Roll at the University of Oklahoma