

CATHERINE KRUESI

ckruesi@gmail.com

11885 Grand Commons Ave #207

Fairfax, VA 22030

610-505-0773

THE AEROSPACE CORPORATION, CHANTILLY, VA

JANUARY 2009 – PRESENT

Member of the Technical Staff, Digital Electronics and Electromagnetics Department
Successful completion of SSBI and polygraph, granted access to TS/SCI

EDUCATION

Master of Science in Electrical and Computer Engineering

Georgia Institute of Technology, Atlanta, GA, December 2008

GPA: 4.0/4.0

Electromagnetics Technical Interest Group, Minor in Mathematics

Bachelor of Science in Electrical Engineering, Bucknell University, Lewisburg, PA, May 2007

Major: Electrical Engineering

Minors: Mathematics and Dance

GPA: 3.91/4.00 – Summa Cum Laude

GRADUATE COURSEWORK

Applied Electromagnetics • Satellite Communications • Radar Signal Processing • Computational Electromagnetics • Electromagnetic Radiation and Antennas • Microwave Design • Optics • Digital Communications • Complex Analysis • Math Methods for Engineers

UNDERGRADUATE COURSEWORK

Wireless System Design • Digital Signal Processing • Linear Algebra • Senior Design • Electromagnetic Theory • Control Systems • Stochastic Processes • Electromechanical Energy Conversion • Electronics • Digital System Design • Advanced Digital Design • Linear Systems • Microcontrollers • Numerical Analysis • Computer Science

SKILLS

HFSS • Feko • Matlab • ADS • VHDL • FPGA • Java • Microsoft Office • PSpice • Xilinx • Perl • SQL • Unix • Systems Architect • Microsoft Visio

HONORS

GTIF Fellowship • Eta Kappa Nu • Summa Cum Laude • The Ernest and Josephine Christensen Award, 5/19/07 • The Professor George Allison Irland Prize 5/19/07 • The President's Award for Distinguished Academic Achievement, 2005, 2006, 2007 • Tau Beta Pi • Philadelphia Alumnae Chapter Kappa Alpha Theta Foundation Scholarship 2006 • Jeffrey James Harold Prize, Fall 2004 • Outstanding Chapter Officer Award for Greek Life, 2006

PAST PROFESSIONAL EXPERIENCE

GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA, GA

AUGUST 2007 – DECEMBER 2008

Graduate Research Assistant, Athena Lab, Technology Square Research Building

- Developed novel antenna structures for RFID applications
- Regularly publish work in prestigious RF IEEE conferences, including ACES, APS, and EuMC
- Extensively investigate three-dimensional antenna structure for use in sensing

Graduate Teaching Assistant

- Assisted with ECE 3065: Electromagnetic Applications by grading and holding office hours

LOCKHEED MARTIN, VALLEY FORGE, PA

MAY 2006 – JULY 2007

College Student Tech Spec

- Wrote data analysis and database scripts, which eliminated man hours and resulted in more efficient analysis of results for Systems Test engineers and Chief Engineers
- Developed new metrics for stability and mapped results onto a graph showing the progress of Systems Test over a given time period and presented work to System Test managers

- Participated in speakers, tours, Diversity Day, and traveled to the Center for Innovation
- Participated in procedure upgrades for a large software development program
- Used System Architect to document threads for SOA development project

BUCKNELL UNIVERSITY, LEWISBURG, PA

JULY 2005 – NOVEMBER 2005

Research Assistant

- Analyzed radio signals from the Army Research Laboratory and used Matlab to perform statistical analysis for signal detection
- Results used to determine plausibility of new communications technology for the army

INSTITUTE FOR LEADERSHIP IN TECHNOLOGY AND MANAGEMENT, LEWISBURG, PA

SUMMER 2005

Bucknell University

- 20 Students selected for a 6 week program focused on current world issues involving the integration of technology into a global society, economics, ethics, marketing, and systems engineering
- Project Team developed a strategic growth plan for Nobel Learning Communities, Inc.

PUBLICATIONS

CONFERENCE:

- C. Kruesi, M. M. Tentzeris, "A Novel Approach to the Design of Three Dimensional RFID Antennas," *Proc. of the Applied Computational Electromagnetics Society Conference*, pp. 744-748, Niagara Falls, Canada, March, 2008.
- C. Kruesi, M. M. Tentzeris, "'Magic-Cube' Antenna Configurations for Ultra Compact RFID and Wireless Sensor Nodes," *IEEE Antennas and Propagation Society International Symposium*, San Diego, CA, July 2008.
- A. Rida, L. Yang, R. Vyas, C. Kruesi, M. M. Tentzeris, "Low-Cost Inkjet-printed Paper-Based Modules for RFID sensing and Wireless Applications," *European Microwaves Conference*, Amsterdam, The Netherlands, October, 2008.
- C. Kruesi, L. Yang, D. Staiculescu, M.M. Tentzeris, M. Phelps, "Reusable Wearable Patch Antenna for Health Monitoring Body Area Sensor Networks," submitted for presentation at the *Applied Computational Electromagnetics Society Conference*, Monterey, CA, March, 2009.

ACTIVITIES

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS, BUCKNELL UNIVERSITY

2005-2007

President

- Lead and Managed Student Branch of IEEE
- Planned trips, including tour of Hershey Park, speakers, and social events for academic year
- Co-hosted Engineer's Week at Bucknell University

Secretary

- Recorded minutes for executive and student chapter meetings, aide in planning events

KAPPA ALPHA THETA, BUCKNELL UNIVERSITY

2004-2007

Vice-President Panhellenic

- Served as Panhellenic delegate and "Plan for Prominence" chair
- Chapter received Silver Star Status and \$2,500 due to work with "Plan for Prominence" accreditation

Faculty Chair

BUCKNELL DANCE COMPANY, BUCKNELL UNIVERSITY

2003-2007

Dancer and Choreographer

OTHER ACTIVITIES

- EuCAP 2007 delegate, Edinburgh, UK • Bucknell Engineer Magazine, 2006 • Society of Women Engineers • Externship with Northrop Grumman, 2005 • Social Justice Residential College, 2003 • Building on Foundations, 2003 • Best Buddies, 2003