

Jason S. Skinner, Ph.D., P.E.

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Electrical & Computer Engineering
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EDUCATION

Ph.D. Electrical Engineering, Clemson University	2005
M.S. Electrical Engineering, Clemson University	2002
B.S. Electrical Engineering, The Citadel	1998

ACADEMIC APPOINTMENTS

Associate Professor	2012 – present
Assistant Professor	2006 – 2012

Department of Electrical and Computer Engineering,
The Citadel, Charleston, SC
Responsible for development, preparation, and presentation of electrical engineering instruction in freshman-, junior-, and senior-level courses. Coordinates components of the computer engineering and communications curriculum.

PROFESSIONAL EXPERIENCE

Electric Circuits FE Review Course Instructor Test Masters, Inc. Houston, TX Responsible for development, preparation, and presentation of electrical circuits review course for engineers taking the Fundamentals of Engineering examination as part of the Professional Engineer licensure process. Taught eight-hour course at locations nationally, including Birmingham, AL, Charleston, WV, Charlotte, NC, College Park, MD, Columbia, SC, Newark, NJ, and Richmond, VA.	2010 – 2011
Senior Engineer (Part-Time) Scientific Research Corporation (SRC) North Charleston, SC Assisted SRC engineers and Space and Naval Warfare (SPAWAR) Systems Center engineers in developing white papers along with a technical paper on a Navy wireless networking system. Developed and led a fourteen-week review class for SPAWAR engineers taking the Fundamentals of Engineering examination as part of the Professional Engineer licensure process.	2006 – 2007, 2010
Engineering Consultant MANDEX, Inc. North Charleston, SC Utilized wireless and computer communications background, with mathematical modeling and simulation tools in developing and designing computer models of commercial wireless communication systems for SPAWAR Systems Center in Charleston, SC.	2008 – 2010

Electrical Engineer/Consulting Employee Science Applications International Corporation (SAIC) North Charleston, SC Employed operations research methods, wireless and computer communications background, and mathematical modeling and simulation tools in developing products and services for SAIC and SPAWAR Systems Center in Charleston, SC.	2007 – 2008
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PROFESSIONAL SERVICE

Co-Chair, FIRST Robotics Palmetto Regional Planning Committee	2010 – 2012
Technical Judge, FIRST Robotics Palmetto Regional	2006 – 2010
Host, Engineering Outreach Visits with Columbia Middle Schools	2007 – present
Technical Program Committee, IEEE Military Communications Conference	2013 – present
Reviewer, IEEE Military Communications Conference	2007 – present
Reviewer, IEEE Transactions on Vehicular Technology	2006, 2012

INSTITUTIONAL SERVICE

Faculty Senate	2016 – present
Faculty Assessment and Analysis Team	2010 – 2012
eLeadership Portfolio Working Group	2009 – 2010
Faculty Sabbaticals Committee	2012 – 2016
Faculty Development Committee	2009 – 2014
Faculty Research Committee	2006 – 2012
Pre-Knob Visits	2006 – present
ECE Information Technology Administrator	2006 – present
ECE Website Administrator	2006 – present
Engineers Week Robotics Competition	2006 – present
ECE Department Faculty Search Committee	2012 – 2013
ECE Department Curriculum Committee	2010 – present
ECE ABET Self-Study Committee	2007 – 2008, 2013 – 2014
Mechanical Engineering Faculty Search Committee	2013 – 2014
Chief Faculty Advisor, SC Gamma Chapter of Tau Beta Pi	2014 – present
Faculty Advisor/Treasurer, SC Gamma Chapter of Tau Beta Pi	2010 – 2014
Academic Advisor to Electrical Engineering Majors	2006 – present
Academic Advisor to Mike Company	2007 – 2011
Academic Advisor to Charlie Company	2006 – 2007

HONORS AND AWARDS

Multidisciplinary University Research Initiative (MURI) Fellow	2005
Massachusetts Institute of Technology (MIT) Lincoln Laboratory Fellow	2002 – 2005
The George E. Reves Award for Outstanding Achievements in Mathematics and Computer Science	1998

PROFESSIONAL AFFILIATIONS

Licensed Professional Engineer, South Carolina, No. 27423
Institute of Electrical and Electronics Engineers (IEEE)
IEEE Communications Society
IEEE Information Theory Society
IEEE Signal Processing Society
Armed Forces Communications and Electronics Association (AFCEA)
American Society for Engineering Education (ASEE)
Tau Beta Pi Engineering Honor Society
Phi Kappa Phi Honor Society (Life Member)
The Citadel Alumni Association (Life Member)

COURSES TAUGHT AT THE CITADEL

CIVL 314 Engineering Economy (1 Semester)
ELEC 106 Fundamentals of Electrical Engineering (1 Semester)
ELEC 204 Electrical Laboratory (2 Semesters)
ELEC 206 Computer Applications for Electrical Engineers (6 Semesters)
ELEC 301 Linear Systems Laboratory (6 Semesters)
ELEC 302 Electrical Machinery Laboratory (1 Semester)
ELEC 308 Elements of Electrical Engineering (4 Semesters)
ELEC 309 Signals and Systems (7 Semesters)
ELEC 312 Systems I (7 Semesters)
ELEC 313 Electronics Laboratory (1 Semester)
ELEC 412 Applied Probability and Statistics for Engineers (9 Semesters)
ELEC 416 Communications Engineering (8 Semesters)
ELEC 419 Computer Network Architecture (12 Semesters)
ELEC 426 Antennas and Propagation (2 Semesters)
ELEC 645 Data Communication Networks (2 Semesters)
ELEC 655 Digital Communications (1 Semester)

PUBLICATIONS

Theses/Dissertations

J. S. Skinner, "Adaptive coding for mobile wireless frequency-hop spread-spectrum networks," Doctoral dissertation, Clemson University, Department of Electrical and Computer Engineering, (Clemson, SC), December 2005.

J. S. Skinner, "Reverse-link capacity in mobile CDMA cellular networks," Masters Thesis, Clemson University, Department of Electrical and Computer Engineering, (Clemson, SC), May 2002.

Journal Articles

M. R. Masse, M. B. Pursley, and J. S. Skinner, "Adaptive coding for frequency-hop transmission over fading channels with partial-band interference," *IEEE Transactions on Communications*, vol. 59, no. 3, pp. 854-862, March 2011.

M. B. Pursley and J. S. Skinner, "Adaptive coding for frequency-hop transmission in mobile ad hoc networks with partial-band interference," *IEEE Transactions on Communications*, vol. 57, no. 3, pp. 801-811, March 2009.

Refereed Publications in Conference Proceedings

R. J. Barsanti and J. S. Skinner, "Enhancing an electrical engineering communication course with an FM demodulator project," *2018 ASEE Southeastern Section Conference*, (Daytona Beach, FL), March 2018.

R. J. Barsanti and J. S. Skinner, "Amplitude modulation circuit implementation for use in a communication course for electrical engineering students," *2017 ASEE Annual Conference & Exposition*, (Columbus, OH), June 2017.

M. R. Masse, M. B. Pursley, T. C. Royster, IV, and J. S. Skinner, "Adaptive coding for wireless spread-spectrum communication systems," *Proceedings of the 2006 International Conference on Communications, Circuits, and Systems*, (Gui Lin, China), vol. 2, pp. 1321-1326, June 2006.

M. B. Pursley, T. C. Royster, IV, and J. S. Skinner, "Adaptive transmission for mobile packet-radio networks: protocol performance vs. capacity limits," *Proceedings of the Inaugural Workshop on Information Theory and its Applications*, (La Jolla, CA), February 2006.

M. B. Pursley, T. C. Royster, IV, and J. S. Skinner, "Protocols for the selection, adjustment, and adaptation of transmission parameters in dynamic spectrum access networks," *2005 IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks*, (Baltimore, MD), pp. 649-657, November 2005.

M. B. Pursley, T. C. Royster, IV, and J. S. Skinner, "Adaptive transmission for opportunistic use of spectrum," *8th International Symposium on Communication Theory and Applications*, (Ambleside, UK), pp. 124-129, July 2005.

M. B. Pursley and J. S. Skinner, "Adaptive coding for mobile ad hoc networks with frequency-hop transmission and soft-decision decoding," *2005 IEEE International Conference on Wireless Networks, Communications, and Mobile Computing*, (Maui, HI), vol. 2, pp. 1418-1423, June 2005.

W. G. Phoel, J. A. Pursley, M. B. Pursley and J.S. Skinner, "Frequency-hop spread spectrum with quadrature amplitude modulation and error-control coding," *Proceedings of the 2004 IEEE Military Communications Conference*, (Monterey, CA), vol. 2, pp. 913-919, November 2004.

M. B. Pursley and J. S. Skinner, "Adaptive-rate turbo product coding for frequency-hop transmission and time-varying partial-band interference," *Proceedings of the 2003 IEEE Military Communications Conference*, (Boston, MA), vol. 1, pp. 446-451, October 2003.

M. B. Pursley and J. S. Skinner, "Decoding strategies for turbo product codes in frequency-hop wireless communications," *Proceedings of the 2003 IEEE International Conference on Communications*, (Anchorage, AL), vol. 4, pp. 2963-2968, May 2003.

M. B. Pursley and J. S. Skinner, "Turbo product coding in frequency-hop wireless communications with partial-band interference," *Proceedings of the 2002 IEEE Military Communications Conference*, (Anaheim, CA), vol. 2, pp. 774-779, October 2002.

J. S. Skinner and D. L. Noneaker, "The effect of power-control dynamics on the reverse-link capacity of a mobile cellular CDMA network," *Proceedings of the 2002 IEEE Military Communications Conference*, (Anaheim, CA), vol. 2, pp. 917-922, October 2002.

J. S. Skinner and D. L. Noneaker, "Performance of random-access reverse-link packet transmissions in mobile cellular CDMA networks," *Proceedings of the 2001 IEEE Military Communications Conference*, (McClean, VA), vol. 2, pp. 1019-1023, October 2001.

STUDENT RESEARCH & DESIGN PROJECT ADVISING

C. Reyes, M. Bukay, S. Mercer, C. Pittman, G. Nichols, "SecureBox: Smart Postal System", 2015-2016

R. Graf, P. C. Martin, M. Claeys, C. Colinco, Z. Smith, "PabloBot: An Intelligent Ground Vehicle", 2015-2016

H. Cole, J. C. Johnson, B. D. Moore, C. Pasqual, P. Singletary, "The Rolling Eye Mobile Surveillance Platform", 2014-2015

Hoffman, C.J., Mitchum, T.D., Ritsema, Z.P., Rudman, N.E., and Teague, M.F., "IEEE Southeast Conference 2015 Hardware Competition Robot – The Stingray", 2014-2015

Ketner, S., Reasoner-Blasch, C., Roth, A., and Rust, K., "The Bro", 2013-2014

Carter, K., Flowers, J.D., Gaston, S.E., and Scally, M.A., "G-Cap: Concussion Sensing Football Helmet", 2013-2014

Ketner, S., Reasoner-Blasch, C., Roth, A., and Rust, K., "The Bro", 2013-2014

Biggs, B., Bonilla, A., Brightwell, B., and Stultz, L., "Smart Pill Bottle Cap", 2012-2013

Cammarato, J., Kay, M., Qteifan, A., and Thomas, D., "Spectrum Analyzer", 2012-2013

Belekis, C., Boyd, K., and Bredesen, J.A., "Intelligent Cornhole Board (ICB)", 2011-2012

Durso, S., Hearl, M.W., Kinard, W.B., Lugo-Castillo, J.A., and Murphy, A.D., "Use of SCADA Principles to Simplify Pool Ownership", 2010-2011

Carrillo, R., Claud, J., Jensen, K., Tchang, T., and Wylie, J., "Sudden Infant Death Syndrome (SIDS) Heart Rate and Temperature Monitor with Audible and Visual Alarms", 2009-2010

Besnard, M., Culick, F., Grimes, A., and Huffman, D., "South Carolina Intelligent Highway Alert System (IHAS)", 2008-2009

Hensley, D., Markiewicz, W., Nuckols, C., and Ridgell, T., "IEEE Southeastcon Robotic Competition", 2007-2008

Auger, R., Smith, T., and Webb, J., "Autonomous Surface Watercraft Senior Design Project", 2006-2007

Chronister, S., Knapman, D., and Mohseni, W., "LanBOT Senior Design Project", 2006-2007

PRESENTATIONS

Conference Presentations

"Adaptive Coding for Mobile Ad Hoc Networks with Frequency-Hop Transmission and Soft-Decision Decoding," *2005 IEEE International Conference on Wireless Networks, Communications, and Mobile Computing*, (Maui, HI), June 2005.

"Adaptive-Rate Turbo Product Coding for Frequency-Hop Transmission and Time-Varying Partial-Band Interference," *2003 IEEE Military Communications Conference*, (Boston, MA), October 2003.

"Decoding Strategies for Turbo Product Codes in Frequency-Hop Wireless Communications," *2003 IEEE International Conference on Communications*, (Anchorage, AL), May 2003.

"Turbo Product Coding in Frequency-Hop Wireless Communications with Partial-Band Interference," *2002 IEEE Military Communications Conference*, (Anaheim, CA), October 2002.

"The Effect of Power-Control Dynamics on the Reverse-Link Capacity of a Mobile Cellular CDMA Network," *2002 IEEE Military Communications Conference*, (Anaheim, CA), October 2002.

"Performance of Random-Access Reverse-Link Packet Transmissions in Mobile Cellular CDMA Networks," *2001 IEEE Military Communications Conference*, (McClean, VA), October 2001.

Invited Presentations

"An Introduction to Frequency-Hopping Spread-Spectrum (FHSS) Data Communication Techniques," Citadel Sigma Xi Luncheon, (Charleston, SC), February 2009.

"Frequency-Hop Spread Spectrum with Quadrature Amplitude Modulation and Error-Control Coding", MIT Lincoln Laboratory, (Lexington, MA), October, 2004.

GRANTS

Citadel Foundation Research Grants

"Adaptive Protocols for Mobile Wireless Frequency-Hop Spread Spectrum Networks," December 2008, \$2,999.63 (principal investigator).

"Parameter Estimation in Adaptive Transmission for Mobile Wireless Frequency-Hop Spread Spectrum Networks," October 2006, \$2,885.95 (principal investigator).

"Adaptive Transmission for Mobile Wireless Frequency-Hop Spread Spectrum Networks," January 2006, \$2,613.45 (principal investigator).

PROFESSIONAL DEVELOPMENT

Conferences and Workshops

2016 IEEE Military Communications (MILCOM) Conference	October 2016
Joint IED Defeat Organization Quarterly Techniques Working Group	May 2009
Joint IED Defeat Organization Quarterly Techniques Working Group	August 2008
Joint Counter Radio Controlled Improvised Explosive Device Electronic Warfare (JCREW) 3.3 Industry Day	December 2007
ABET Faculty Workshop on Assessing Program Outcomes	October 2007

TECHNICAL SKILLS

PROGRAMMING: BASIC; FORTRAN; C/C++; Java; Python; MATLAB; Maple; Mathematica; Visual Studio; LabVIEW
NETWORKING: Wireshark packet analysis; Nmap; SSH servers, DHCP servers, DNS servers, mail servers
OPERATING SYSTEM ADMINISTRATION: Windows (up to 10); Windows Server (up to 2016); Mac OS (up to 10.13); Linux, including RedHat, CentOS, Scientific Linux, Ubuntu, and Debian

REFERENCES

Available upon request