

Professor  
School of Computing  
Shelby Hall, Room 1119

Office phone: (251) 4606701

A.1 Professional Education  
Florida State University (USA)

Air Force Institute of Technology (USA)

University of Central Florida (USA)

A.2 Full-Time Academic Positions  
Professor

6. J.T. McDonald, Y. Kim, T.R. Anandel “Architectural Framework for Evaluating General, Efficient, and Measurable Program Protection,” AFOSR Dec 2007– Sep2010 \$82,500
7. T.R. Anandel “Formal Methods Approaches to Analyzing and Generating Routing Protocols” AFOSR Faculty Research Council Dec 2007 – Sep 2008 \$13,500

## B.2 Research Publications

### B.2.1 Refereed Journal Publications

1. Joshua Cazalas, Todd R. Anandel, and Jeffrey T. McDonald, “Analysis and Categorical Application of LSB Steganalysis Techniques,” Journal of Information Warfare, Jul 2014, vol. 13, no. 3., pp. 12-22.
2. Todd R. Anandel, John Barron, J. Todd McDonald, and Jeffrey W. Humphries, “RSA Power Analysis Obfuscation: A Dynamic Algorithmic Hardware Countermeasure,” International Journal of Computing & Digital Systems, May 2014, vol. 3, no. 2, pp. 633.
3. Todd R. Anandel, Austin Fritzke, Jeffrey W. Humphries, and J. Todd McDonald, “Design and Implementation of Hiding Techniques to Obfuscate Against Side-Channel Attacks on AES,” International Journal of Computing & Network Technology, May 2014, vol. 2, no. 2, pp. 672.
4. Jose E. Fadul, Kenneth M. Hopkinson, Todd R. Anandel, Christopher A. Sheffield, “A Trust Management Toolkit for Smart Grid Protection Systems,” IEEE Transactions On Power Delivery, Aug 2014, vol. 29, no. 4, pp. 1768-1779.
5. Jeffrey T. McDonald and Todd R. Anandel, “Integrating Historical Security Jewels in Information Assurance Education,” IEEE Security and Privacy: Lost Treasures, Computer Security & Privacy, Nov/Dec 2012, vol. 10, no. 6, pp. 45.
6. Kyle E. Stewart, Jeffrey W. Humphries, and Todd R. Anandel, “An Automated Virtualization Performance Analysis Platform,” Journal of Defense Modeling and Simulation: Cyber Defense - Methodologies and Techniques for Evaluation, vol 9, no 3, July 2012, pp. 262-267
7. Todd R. Anandel, Greg Back, and Alec Yasinsac, “Automating the Security Analysis Process of Secure Ad Hoc Routing,” Simulation Modelling Practice and Theory, vol 19, no 9, October 2011, pp 2032-2049.
8. B.W. Ramsey, B.E. Mullins, R.W. Thomas, and T.R. Anandel, “Subjective audio quality over a secure IEEE 802.11n network,” International Journal of Security and Networks, no 1, 2011 pp 5363.
9. L.A. Oquendo Class, K.M. Hopkinson, X. Wang, T. R. Anandel, R.W. Thomas, “A Robust Communication-Based Special Protection System,”



13. John Barron, Todd R. Andel, and Yong Kim, "Dynamic Architectural Countermeasure To Protect RSA Against Side Channel Power Analysis Attacks," In Proceedings<sup>th</sup> of International Conference on Information Systems, Technology, and Management (ICISTM 2012), Lille, France, 28-30 March 2012, pp. 372-383.
14. Matthew F. Steele and Todd R. Andel, "Modeling the Optimized Link State Routing Protocol for Verification," Spring Simulation Multiconference (SpringSim12), Orlando, FL, 26-29 March 2012, 8 pages.
15. Kyle E. Stewart, Todd R. Andel, and Jeffrey W. Humphries, "Measuring the Performance of Network Virtualization Tool N2N in the Design of a Cyber Warfare Training and Education Platform," In Proceedings of 2011 Spring Simulation Multiconference (SpringSim11), Boston, MA, 4-7 April 2011, pp. 283-305.
16. Jose Fadul, Kenneth Hopkinson, Christopher Sheffield, James Moore, and Todd Andel, "Trust Management and Security in the Future Communication Based "Smart" Electric Power Grid," 44<sup>th</sup> Hawaii International Conference on System Sciences (HICSS-44), Maui, Hawaii, 4-7 Jan 2011, pp. 110-120.
17. J. E. Fadul, K. M. Hopkinson, T. R. Andel, J. T. Moore, and S. H. Kurkowski, "SCADA Trust Management System," in 2010 International Conference on Security and Management (SAM'10) (under The 2010 World Congress in Computer Science, Computer Engineering, and Applied Computing (WORLDCOMP'2010)), Las Vegas, Nevada USA, July 2010, pp. 548-558.
18. Todd R. Andel, Kyle E. Stewart, and Jeffrey W. Humphries, "Using Virtualization for Cyber Security Education and Experimentation," Proceedings of the 14<sup>th</sup> The Colloquium for Information Systems Security Education (CISSE 2010), Baltimore, MD, June 2010, 6 pages.
19. J. E. Fadul, K. M. Hopkinson, T. R. Andel, J. T. Moore, and S. H. Kurkowski, "Simple Trust Protocol for Wired and Wireless SCADA Networks," in 5<sup>th</sup> International Conference on Information Warfare and Security, Dayton, OH, April 2010, pp. 989-1000.
20. C.M. Durham, T.R. Andel, K.M. Hopkinson, and S.H. Kurkowski, "Evaluation of an OPNET Model for Unmanned Aerial Vehicle (UAV) Networks," Proceedings of 2009 Spring Simulation Multiconference (SpringSim09), San Diego, CA, 22-27 March 2009, 8 pages.
21. K.E. Stewart, J.W. Humphries, and T.R. Andel, "Developing a Virtualization Platform for Courses in Networking, Systems Administration and Cyber Security Education," In Proceedings of 2009 Spring Simulation Multiconference (SpringSim09), San Diego, CA, 22-27 March 2009, 7 pages.
22. M.G. Wabiszewski, Jr, T.R. Andel, B.E. Mullins, and R.W. Thomas, "Enhancing Realistic Hands-on Network Training in a Virtual Environment," In Proceedings of 2009 Spring Simulation Multiconference (SpringSim09), San Diego, CA, 22-27 March 2009, 8 pages.
23. B.W. Ramsey, B.E. Mullins, R.W. Thomas, and T.R. Andel, "Subjective Audio Quality over Secure IEEE 802.11 Wireless Local Area Networks," in IEEE International Performance, Computing and Communications Conference, 2008. IPCCC 2008, Austin, TX, Dec 2008, pp. 469-474.
24. Todd R. Andel and A. Yasinsac, "Automated Evaluation of Secure Route Discovery in MANET Protocols," in 15<sup>th</sup> International SPIN Workshop on Model Checking of Software (SPIN, 2008) Los Angeles, CA, Aug 10-12, 2008, LNCS vol. 5156, pp. 28-43.
25. Todd R. Andel and A. Yasinsac, "Adaptive Threat Modeling for Secure Ad Hoc Routing Protocols," In Proceedings of the 3<sup>rd</sup> International Workshop on Security and Trust Management (STM 07) Dresden, Germany Sep 27, 2007, vol. 197: ENTCS, pp. 3-14.

26. Todd R. Andel and Alec Yasinsac, "Automated Security Analysis of Ad Hoc Routing Protocols," In Proceedings of the Foundations of Computer Security and Automated Reasoning for Security Protocol Analysis (FCSRSPA'07), Wroclaw, Poland, July 8, 2007, pp. 20-26.
27. Todd R. Andel and Alec Yasinsac, "The Invisible Node Attack Revisited," In Proceedings of IEEE SoutheastCon 2007, Richmond, VA, March 22-25, 2007, pp. 686-691.
28. Todd R. Andel and Alec Yasinsac, "Wireless Protocol Security; to Simulate or not Simulate," Proceedings of 2006 Spring Simulation Multiconference (SpringSim06) on Braun Center, Huntsville, Alabama, April 26, 2006, pp. 515-517.
29. Todd Andel, Dan Caudill, Brent Givens, et al, "Lessons Learned in Virtual Strike Warfare Environment #7," In Proceedings of the 2000 Fall Simulation Interoperability Workshop (90F SIW-056), Orlando, FL, September 2000.
30. Jesse B. Zydallis, Todd R. Andel, Ernest F. Payne, "Real Performance of RTI Version 1.3," In proceedings of the 1999 Fall Simulation Interoperability Workshop (99F SIW-098), Orlando, FL, September 1999.

### B.2.3 Other Publications

1. Kyle Stewart, Michael Clark, Kenneth Hopkinson, and Todd Andel, "MASBE: Multi-Authority Anonymous Hierarchical Attribute Set Based Encryption ribute"

6. "Educating the Future IA Professional Workforce," CFITS Information Assurance Speaker Series, School of Computing, University of South Alabama, Mobile, AL, Mar. 20, 2013.
7. "Computer Security Research," ACM Chapter Meeting, University of South Alabama, Mobile, AL, Sep. 25, 2012.

### B.3 Student Research Advising

#### - Graduated Masters (Thesis Research Advisor)

1. Durham, Clifton M., "Evaluation of an OPNET Model for Unmanned Aerial Vehicle Networks Sponsor: Air Force Research Laboratory, Information Directorate, Graduated: March 2009.
2. Wabiszewski, Michael G. Jr, "Enhancing Realistic Hands On Network Training in a Virtual Environment", Sponsor: 505th Training Squadron, Formal Training Unit, Graduated: March 2009.
3. Stewart, Kyle E, "Developing a Hybrid Virtualization Platform Design for Cyber Warfare Training and Education," Sponsor: Air Force Research Laboratory, Information Directorate, Graduated June 2010. (CoAdvised)
4. Huber, Derek J "Attaining Realistic Simulations of Mobile Ad Hoc Networks Sponsor: Air Force Office of Scientific Research, Graduated: June 2010. (CoAdvised)
5. Barron, John W, "RSA Power Analysis Obfuscation: A Dynamic FPGA Architecture Sponsor: Air Force Office of Scientific Research, Graduated: March 2012.
6. Brown, Brandon A, "An FPGA Noise Resistant Digital Temperature Sensor with Auto Calibration," Sponsor: Air Force Office of Scientific Research, Graduated: March 2012.
7. Fritzke, Austin W., "Obfuscating Against Sidechannel Power Analysis using Hiding Techniques for AES," Sponsor: Air Force Office of Scientific Research, Graduated: March 2012.
8. Steele, Matthew F. "Security Verification of Secure MANET Routing Protocols, Sponsor: Air Force Office of Scientific Research, Graduated: March 2012.

#### - Masters Committee Membership: 21 completed

##### Air Force Institute of Technology:

1. Roberts, G., Grad: Mar 08
2. Carroll, S., Grad: Mar 08
3. Savage, K., Grad: Mar 08
4. Page, B., Grad: Mar 09
5. Ramsey, B., Grad: Mar 09
6. Oquendo, Claudio, Grad: Mar 09
7. Stanton, William E., Grad: Mar 2011
8. Trejo, Roberto A., Grad: Mar 2011
9. Falkinburg, Jeffrey L., Grad: Mar 2011
10. Bochert, John R., Grad: Mar 2011
11. Oslter, Ryan T., Grad: Mar 2011
12. Corn, Paul, Capt, Grad: Mar 2012
13. Cicale, Randy, Grad: Mar 2012
14. Butler, Michael, Grad: Mar 2012
15. Wolf, Andre, Grad: Mar 2012
16. Badenhop, Chris, Grad: Mar 2012
17. Hagen, John, Grad: Jun 2012

University of South Alabama:



Computer Systems Architecture FA-short07 (17). SU-short08(A)

University of South Alabama:  
1. CSC 532



- 2014 CSC 520, Computer Architecture Integrated new course project utilizing the SimpleScalar toolkit. This project allows the students to apply advanced class concepts to determine overall effect on system performance against standardized benchmark suites. The project is focused on cost/performance design concepts in modern processors.
- 2014 CSC 490/590, Special Topics Intro to Network Security- Developed and taught first offering of this course at USA. This required initial development of the syllabus and learning objectives, and lecture material. Course was a hybrid combination of CSC 580 & CSC 582 concepts in both an undergraduate and graduate form.
- 2015 CSC 612 Cybersecurity Developed doctoral seminar class covering Cyber policy and guidance; legal, privacy and ethical issues; national defense critical inf-2(i)1(f)-2(o)d cov2( t)8(r)-4(ii)8 0.002 Tvecysn 582 c 053226

2012 – pres	Undergraduate student advising
2012-2013	Chair, BS Cyber Assurance Development Committee
2012-2013	CS Faculty Hiring Committee
2013 – 2014	Chair, CS Faculty Hiring Committee
2013	SoC Internal Grant Reviewer
2014 – pres	Cyber Assurance Program Coordinator
2015	CS Faculty Hiring Committee

University:	
Mar 2013	Student Interviewer, University Honors Program
Sep 2013 – pres	Scholarship and Financial Aid Committee

## D.2 Professional Service

- 8th International Conference on Information Warfare and Security (ICIWS 2013)
- 1st International Conference on Cloud Security Management (ICCSM 2013)
- 8th International Conference on Availability, Reliability and Security (ARES 2013)
- 1st International Conference on Cloud Security Management (ICCSM 2013)
- 9<sup>th</sup> International Conference on Cyber Warfare and Security (ICCCWS 2014)
- 4<sup>th</sup> International Workshop on Privacy, Security and Trust in Mobile and Wireless Systems (MobiPST 2014)
- 9th International Conference on Availability, Reliability and Security (ARES 2014)
- 9th Annual Cyber and Information Security Research Conference (CISRC 2014)
- 2<sup>nd</sup> International Conference on Cloud Security Management (ICCSM 2014)
- 17<sup>th</sup> International Conference on Computer and Information Technology (ICCIT 2014)
- 4<sup>th</sup> Workshop on Program Protection and Reverse Engineering (PPREW-2014)
- 5<sup>th</sup> International Workshop on Privacy, Security and Trust in Mobile and Wireless Systems (MobiPST 2015)
- 10th Annual Cyber and Information Security Research Conference (CISRC 2015)
- 10<sup>th</sup> International Conference on Cyber Warfare and Security (ICCCWS 2015)
- 10<sup>th</sup> International Conference on Availability, Reliability and Security (ARES 2015)
- 18<sup>th</sup> International Conference on Computer and Information Technology (ICCIT 2015)

Conference Paper Reviews (not provided).

comprised of 20 top federal employees with leadership experience within the