

Curriculum Vitae of John A. Hamilton, Jr.

Name: John A. Hamilton, Jr.

Nickname: Drew

Address: P.O. Box 1589 Starkville, MS 39760-1589

Email: drew@drew-hamilton.com

Place of Birth: Hawaii

Citizenship: US

1. Professional Preparation

a. Education:

1996: Ph.D., Computer Science, Texas A&M University

1990: M.S., Computer Science, Vanderbilt University

1987: M.S., Systems Management, University of Southern California

1979: B.A., Journalism, Texas Tech University

b. Employment History:

2017 – Present: Director, Distributed Analytics and Security Institute, Director, Center for Cyber Innovation and Professor of Computer Science and Engineering, Mississippi State University.

2016 – 2017: Director, Center for Cyber Innovation and Professor of Computer Science and Engineering, Mississippi State University.

2013 – 2016: Associate Vice President for Research and Professor of Computer Science and Engineering, Mississippi State University.

2010 - 2013: Alumni Professor, Computer Science & Software Engineering & Director, Auburn Cyber Research Center, Samuel Ginn College of Engineering, Auburn University.

2009 – 2010: Professor, Computer Science & Software Engineering & Director, Auburn Information Assurance Center, Samuel Ginn College of Engineering, Auburn University.

2004 – 2009: Associate Professor, Computer Science & Software Engineering & Director, Auburn Information Assurance Center, Samuel Ginn College of Engineering, Auburn University.

2001 – 2004: Associate Professor, Computer Science & Software Engineering & Director, Auburn Information Assurance Laboratory, Samuel Ginn College of Engineering, Auburn University.

1998 – 2001: Director, Joint Forces Program Office, US Space and Naval Warfare Systems Command & Visiting Associate Professor of Computer Science, US Naval Postgraduate School.

1996 – 1998: Assistant Professor of Computer Science & Research Director, Electrical Engineering & Computer Science, US Military Academy, West Point.

1997: Special Assignment Director of the Ada Joint Program Office in Washington, DC.

1993 – 1996: Fully funded Computer Science Ph.D. graduate studies at Texas A&M University.

1992 – 1993: Department Head, Officer Training Division, US Army Computer Science

School, Fort Gordon, GA.

1991 – 1992: Software Engineering Branch Chief, Officer Training Division, US Army Computer Science School, Fort Gordon, GA.

1990 – 1991: Computer Programming Instructor, Software Engineering Branch, Officer Training Division, US Army Computer Science School, Fort Gordon, GA.

1988 – 1990: Fully funded Computer Science M.S. graduate studies at Vanderbilt University.

1979 – 1988: US Army Field Artillery command and staff assignments including four battery commands, two assignments as a battalion personnel officer, two assignments as a battalion logistics officer and short assignments in intelligence and 4th and 5th order field surveying.

2. Honors and Awards

- 2015 Elected a Fellow of the Society for Modeling and Simulation International.
- 2013 Responsible for Auburn's efforts to be competitively designated as an NSA Center of Academic Excellence in Cyber Operations for five years by the National Security Agency, 2013 – 2018.
- 2013 Letter of Appreciation, Major General Scott Hanson, Commandant, Air War College, 23 Jan 2013.
- 2012 Auburn Outstanding Computer Science & Software Engineering Faculty.
- 2012 Auburn Engineering Senior Research Award for Excellence.
- Joint Appointment Auburn University Industrial and Systems Engineering, 2011 – 2014.
- Society for Modeling and Simulation Presidential Service Award, 29 October 2010.
- Alumni Professorship, Endowed by the Auburn University Alumni Association, 2010 – 2015.
- 2010 Adjunct Professor, Air Command & Staff College, Maxwell, AFB.
- 2009 Curriculum Award, Committee on National Security Systems and the National Security Agency, "Information Assurance Risk Analysis" CNSS 4016.
- Joint Appointment AU Department of Management, 2009 – 2013.
- Society for Modeling and Simulation Distinguished Service Award, 16 June 2008.
- Responsible for Auburn's efforts to be competitively designated as a Center of Academic Excellence in Information Assurance Education for five years by the National Security Agency, 2009 – 2014.
- Responsible for Auburn's efforts to be competitively designated as a Center of Academic Excellence in Information Assurance Research for five years by the National Security Agency, 2008 – 2013.
- 2008 Best Paper Award, Amer*, S.H., Hamilton, J.A., Jr. (30%), *Understanding Security Architecture*, 2008 SCS/ACM DOD Architecture Framework Modeling, Spring Simulation Multiconference, Ottawa, Ontario, 13 – 17 April, 2008.
- 2008 Outstanding Conference Contribution Award, SCS/ACM Spring Simulation Multiconference, Ottawa, Ontario, 13 – 17 April 2008.
- 2007 Best Paper Award, Richardson*, K. P., Hamilton, J.A., Jr. (30%), Carlisle, M.C., *A Performance Analysis of the SPRiNG Protocol Through Simulation*, 2007

SCS/ACM Simulation Software Security Symposium, Spring Simulation Multiconference, Norfolk, Va., 25 – 29 March, 2007.

- 2007 Elected Senior Member of the ACM.
- 2006 named to Who's Who in Engineering Education, American Society of Engineering Education.
- 2006 Curriculum Award, Committee on National Security Systems and the National Security Agency, "Senior System Managers" (for information assurance) CNSS 4012.
- 2006 Curriculum Award, Committee on National Security Systems and the National Security Agency, "System Administrators" (for information assurance) CNSS 4013, beginning, intermediate and advanced levels.
- Responsible for Auburn's efforts to be competitively re-designated as a Center of Academic Excellence in Information Assurance Education by the National Security Agency, 2006, 2009.
- 2005 – Present Society for Modeling and Simulation Distinguished Lecturer (<http://www.scs.org/DLP.cfm>).
- 2005 Letter of Appreciation, Colonel M.S. Bohn, USMC, Director, US Marine Corps Operational Test and Evaluation Activity.
- 2004 Outstanding Computer Science & Software Engineering Faculty.
- 2004 Auburn Engineering Senior Research Award for Excellence.
- 2004 Letter of Appreciation, Ms. Tara Ragan, Director of Software Engineering, Space & Missile Defense Command.
- Responsible for Auburn's efforts to be competitively designated as a Center of Academic Excellence by the National Security Agency, 2003 and re-designated for another three years in 2006.
- 2003 Elected Senior Member of the IEEE.
- 2002 Curriculum Award, Committee on National Security Systems and the National Security Agency, "Training Standard for Information Systems Security Professionals" NSTISSI 4011.
- 2002 Curriculum Award, Committee on National Security Systems and the National Security Agency, "Designated Approving Authority" (for information security) NSTISSI 4012.
- Auburn University Alumni Council, College of Engineering, \$20,000.00 Fellowship, 2002.
- Eagle Scout, 1974.

3. Extramural Funding

a. Research Proposals – FUNDED

62 funded research grants (53 as PI, 9 as Co-PI) totaling \$22,711,251 all competitively awarded (2002 – present).

1. \$124,503.63 "MSU Cyber Scholarship & Cyber Certification," National Security Agency H98230-17-1-0375 (Sept. 2017) PI Hamilton (50%), Co-PI Pape (25%) and

Co-PI Thomas (25%). (Oct 2017 – Oct 2018).

2. \$359,000.00 “Circadence Network Mapper,” US Army Threat Systems Management Office, #W31P4Q-14-D-A001 PI Reese, Co-PI Hamilton (30%) (Sep 2017 – Jul 2018).
3. \$1,312,315.00 “Dynamic Defense Strategy Planning for Research and Development and Infrastructure Networks,” US Army Corps of Engineers #W9I2HZ-17-C-0019 PI Hamilton (30%), Co-PI Iannucci, (Apr 2017 – Apr 2020).
4. \$3,112,393.00 NSF #1565484 “Cyber Corps: Scholarship for Service - A Continuation Program at Mississippi State University” PI Hamilton (70%), Co-PI Lee. (Jul 2017 – Jul 2021).
5. \$626,949.00 Supplement to NSF #1241722 PI Hamilton (70%), Co-PI Lee. “Growth and Enhancement of the Scholarship for Service Program at Mississippi State University,” (May 2017 – Jul 2018).
6. \$268,932.00 “Scalable Distributed Event and Intrusion Detection Systems (DEIDS) for Cyber-physical Power Systems,” DHS Science & Technology Division DHSST-LRBAA14-02-CSD.04-0018-I. (July 2016 – Dec 2017) PI Hamilton (70%), Co-PI Abdelwahed (30%).
7. \$231,475.80 NSA #H98230-16-1-0355 “Reserve Component IASP Capacity Building,” National Security Agency (July 2016) PI Hamilton (70%), Co-PI Dampier (30%).
8. \$187,829 USN Award# N00189-16-P-Z343 “Implementation of a Cyber Master’s Program for the U.S. Navy,” PI Hamilton (60%), Co-PI Dampier (40%) (Aug 2016 – Aug 2017).
9. \$213,433.00 NSA BAA-003-15 “Software Reliability Verification Framework,” PI: Pape, Co-PIs Hamilton (30%) and Ivancic (Sept 2015 – Sept 2016).
10. \$2,704,074 NSF #1430364 “The Smart MATerial Design, Analysis, and Processing (SMATDAP) Consortium: Building next-generation polymers and the tools to accelerate cost-effective commercial production,” EPSCOR Track 2, State of Mississippi PI: Hamilton (5%), (Aug 2014 – Jul 2017).
11. \$527,368.72 “CTTSO Distributed Mobile Computing (DMC) Project, Naval Air Systems Command (FGS Subcontract) PI: Pick, Co-PIs Hamilton (6%), Poss, (Jun 2014 – May 2015).
12. \$135,528.00 NSF #1359706 “Collaborative Project - SFS CB: Establishing the New Mexico Digital Forensics Academy,” PI Hamilton (100%), (Aug 2013 – Jul 2016).

13. \$299,995 NSF #1266036 “I/UCRC: Collaborative Research: Broadband Wireless Access & Applications Center (BWAC)” PI: Mao, Co-PIs: Hamilton (15%), Dai, Niu, Tugnait, (Sept. 2013 – Aug. 2018).
14. \$159,020.00 DOD Information Assurance Scholarship Grant from the National Security Agency “Outreach to USAF Air War College” and “Digital Forensics Outreach to WNMU” PI Hamilton (85%), Co-PI Chang (5%), Co-PI Umphress (10%). (Aug 2013 – Aug 2014) \$44, 499.57 *transferred from Auburn University to Mississippi State University.*
15. \$122,451.00 NSF #1254976 Supplement to: “SFS Scholarship: Auburn-Tuskegee-Albany State-Western New Mexico Scholarship Partnership” PI Hamilton (85%), Co-PI Imsand (10%) and Co-PI Chang (5%) (Oct 2011 – Sept 2015). *Subcontracted from Auburn University to Mississippi State University.*
16. \$24,948.00 NSF #1241370 Supplement to: CI-TEAM Implementation Project. Collaborative Project: A Digital Forensics Cyberinfrastructure Workforce Training Initiative for America's Veterans, (Aug 2008 – Aug 2013), PI Hamilton 50%, Co-PI Qin 20%, Co-PI Ku, 20%, Co-PI Chang 10%.
17. \$61,000.00 DOD University Affiliated Research Center (UARC) / Stevens Institute of Technology, “Graphical CONOPS Demonstrator for ARDEC,” (Sept 2012 – May 2013) PI Hamilton (100%) (Through DOD UARC Contract #: H98230-08-D-0171).
18. \$4,122,880, NSF #1241722 “Growth and Enhancement of the Scholarship for Service Program at Mississippi State University,” PI Hamilton (70%), Co-PI Lee (30%) (Aug 2012 – Jul 2018).
19. \$30,000.00 STTR (Phase 1) Polymorphic Malware Detection Unit (PMDU) with Sentar, Inc. PI Hamilton (100%).
20. \$120,935.00 DOD Information Assurance Scholarship Grant from the National Security Agency “HBCU/HSI Outreach and Mentoring,” and “DOD Transitions.” PI Hamilton (65%), Co-PI Umphress (30%) and Co-PI Chang (5%), (Aug 2012 – Dec 2013).
21. \$109,970.00 DOD University Affiliated Research Center (UARC) / Stevens Institute of Technology, “Prototype of a Graphical CONOPS Development Environment for Agile Systems Engineering,” (Apr 2012 – Dec 2012) PI Hamilton (100%) (Through DOD UARC Contract #: H98230-08-D-0171).
22. \$1,376,769.00 NSF #1129477 SFS Scholarship: Auburn-Tuskegee-Albany State-Western New Mexico Scholarship Partnership, PI Hamilton (85%), Co-PI Imsand (10%) and Co-PI Chang (5%) (Oct 2011 – Sept 2015).

23. \$94,752.35 DOD IASP Capacity Building Grant from the National Security Agency, “Outreach to Minority Institutions” and “Wounded Warrior Updates.” PI Hamilton (65%), Co-PI Imsand (30%) and Co-PI Chang (5%). (Sept 2011 – Dec 2012).
24. \$10,540.10 RAM Labs “Cloud Computing Project,” PI Hamilton (100%) (May 2011 – July 2011).
25. \$154,000.00 DOD University Affiliated Research Center (UARC) / Stevens Institute of Technology, “Integration of M&S (Modeling and Simulation), Software Design and DoDAF (Department of Defense Architecture Framework)” (Aug 2010 – July 2011) PI Hamilton (70%), Co-PI Imsand (30%) (Through DOD UARC Contract #: H98230-08-D-0171).
26. \$750,000.00 Joint IED Defeat Organization “Counter-IED Medical Technology Initiative,” (Sept 2010 – Sept 2011) PI Hamilton (50%), co-PI Imsand (25%), co-PI Biaz (10%), co-PI Chapman (10%), co-PI Chang (5%) (DOD Contract # HQ0034-10-C-0031).
27. \$120,000.00 2010 MDA Phase II SBIR with RAM Laboratories and Auburn University, “Real-time Application Security Analyzer,” (Sept 2011 – March 2013) PI Hamilton (100%).
28. \$2,190.00 2010 DOD Information Assurance Partnership with the Information Resource Management College, (August 2010 – August 2011) PI Hamilton (100%).
29. \$200,000.00 DOD University Affiliated Research Center (UARC) / Stevens Institute of Technology, “Systems Engineering in a Secure Computing Intensive Environment,” (June 2010 – June 2011) PI Umphress, Co-PI Smith, Co-PI Hamilton (30%), (Through DOD UARC Contract #: H98230-08-D-0171).
30. \$20,348.00 DOD University Affiliated Research Center (UARC) / Stevens Institute of Technology, “Security Engineering,” (Nov 2009 – Apr 2010) PI Hamilton 100% (Through DOD UARC Contract #: H98230-08-D-0171).
31. \$40,000.00 “MDA Vulnerability Analysis,” Grant from Missile Defense Agency to study simulation software vulnerabilities (Oct 2009 – Apr 2010) PI Hamilton 60%, Co-PI Imsand 40%, *publication restricted*.
32. \$27,000.00 DOD Joint IED Defeat Office / Bodiflo “Individual Blast Tracking System,” (Oct 2009 – Dec 2009) PI Hamilton 60%, Co-PI Imsand (40%).
33. \$10,000.00 DOD Joint IED Defeat Office / ISHPI “Combat Medical Triage Simulation Software Evaluation,” (Apr 2009 – Oct 2009) PI Hamilton (100%).
34. \$84,644.04 “Information Warfare Exercise / Intelligence Analysis and Information Assurance Education,” DOD IASP Capacity Building Grant from the National

- Security Agency. (Aug 2009 – Aug 2010) PI Hamilton 70%, Co-PI Umphress 15%, Co-PI Norton 15% (NSA Contract Number NSA-H98230-09-1-0364).
35. \$149,999.00 NSF #0837341 “QoSec: A Novel Middleware-Based Approach to Teaching Computer Security Courses, (Nov 2008 – Nov 2011), PI Qin, Co-PI Ku, Co-PI Hamilton (25%), Co-PI Chang.
 36. \$20,000.00 MDA Phase I SBIR B083-042-0063 “A Real-time Application Security Analyzer,” (April 2009 – April 2010) RAM Labs PI McGraw, Auburn PI Hamilton 100% (MDA contract number HQ0006-09-C-7165).
 37. \$60,000.00 Northrop Grumman #G00004246 “Mission/Business Effects of Technical Risks/DODAF Information Assurance Architecture,” (Jan 2009 – Dec 2009) PI Hamilton (100%).
 38. \$26,280.00 “A Single Hop MAC Layer for Noisy Channels,” Grant from RAM Laboratories. (May 2008 – May 2009) PI Hamilton 100%.
 39. \$200,000.00 NSF #0831502 “CyberTrust -ISG: SPEAR: Space Encryption based Query Processing for Privacy-Aware Location-based Services,” (Aug 2008 – Aug 2011) PI Ku, Co-PIs Wang, Qin, Hamilton (15%).
 40. \$325,000.00 (\$175,000.00 to Auburn) NSF #0830831 “Building Information Assurance Capacity with Albany State University,” (Sep 2008 – Sep 2010) PI Hamilton (70%) Co-PIs Ku (10%), Qin (10%) and Chang, (10%).
 41. \$299,636.00 NSF #0753305 “CI-TEAM Implementation Project. Collaborative Project: A Digital Forensics Cyberinfrastructure Workforce Training Initiative for America's Veterans,” Collaborative Proposal with Mississippi State University, (Aug 2008 – Aug 2013), PI Hamilton 50%, Co-PI Qin 20%, Co-PI Ku, 20%, Co-PI Chang 10%.
 42. \$117,914.07 “DOD Information Assurance Scholarship Program,” Grant from the National Security Agency. (Aug 2008 – Aug 2009) PI Hamilton 70%, Co-PI Chang 30% (NSA Contract # NSA-H98230-08-1-0212).
 43. \$150,000.00 “MDA Vulnerability Analysis,” Grant from Missile Defense Agency to study simulation software vulnerabilities (Jan 2008 – Jan 2009) PI Hamilton 100%, (DOD Contract # HQ0006-02-2-0013), *publication restricted*.
 44. \$227,945.35 “DOD Information Assurance Scholarship Program,” Grant from the National Security Agency. (Aug 2007 – Aug 2008) PI Hamilton 60%, Co-PI Chang 40% (NSA Contract # NSA-H98230-07-1-0224).

45. \$21,000.00 “Software Anti-Tamper Testbed,” Grant from RAM Laboratories. (Aug 2007 – May 2008) PI Hamilton 100%.
46. \$100,000.00 “MDA Vulnerability Analysis,” Grant from Missile Defense Agency to study simulation software vulnerabilities (Oct 2006 – Sept 2007) – PI Hamilton 100%, (DOD Contract # HQ0006-02-2-0013), *publication restricted*.
47. \$241,000.00 “Data Dissemination from Small Army UAV’s,” Army AMCOM, (Oct 2006 – Sept 2007) PI Chapman, Co-PI Hamilton 15%, Co-PI Umphress, Co-PI Crouse.
48. \$105,902.36 “DOD Information Assurance Scholarship Program,” Grant from the National Security Agency. (Sept 2006 – Sept 2008) PI Hamilton 60%, Co-PI Chang 40% (NSA Contract # NSA-H98230-06-1-0115).
49. \$30,000.00 2006 DOD Information Assurance Capacity Building for Auburn University Proposal. Grant from the National Security Agency to conduct outreach to Redstone Arsenal and for new curriculum development. (Sept 2006 – Sept 2007) PI Hamilton 100%(NSA Contract # NSA-H98230-06-1-0115).
50. \$1,500,000.00 NSF #0621307 “SFS: Scholarship Partnership with Alabama State University and Tuskegee University.” (Sept 2006 – Sept 2009) PI Hamilton, 50%, Co-PI Chang, 20%, Co-PI Dozier 10%, Co-PI Wang, 10%, Co-PI Gilbert, 10%.
51. \$35,589.72 US Army Space and Missile Defense Command, “Secure Wireless for Future Operational Capability Tactical Operations Center II.” (Feb 2006 – Sept 2006) PI Hamilton 50%, Co-PI Wu 50%.
52. \$3000.00 British Aerospace Corporate Gift, Sponsorship of Auburn ACM Programming Contest Team, Nov 2005.
53. \$100,000.00 NSF #0516432 Collaborative Research: Building Information Assurance Education Capacity with Alabama State University. (Sept 2005 – Sept 2008) PI Hamilton, 50%, Co-PI Chang, 30%, Co-PI Dozier 10%, Co-PI Wang, 10%.
54. \$77,457.54 2005 DOD Information Assurance Capacity Building for Auburn University Proposal. Grant from the National Security Agency to conduct outreach to Redstone Arsenal, Alabama State University, US Air Force Academy and for new curriculum development. (Sept 2005 – Sept 2006) PI Hamilton 60%, Co-PI Chang 40% (NSA-H98230-05-1-0134).
55. \$3000.00 Scitor Corporate Gift, Sponsorship of Auburn Digital Combat Exercise Team, Mar 2005.

56. \$630,000.00 Army AMCOM “Wireless Network Software for Unmanned Aerial Vehicles”, (Mar 2005 – Sept 2007) PI Chapman, Co-PI Hamilton 15%, Co-PI Umphress, Co-PI Wu.
57. \$41,352.00 “Distance Learning to Redstone Arsenal,” Grant from the National Security Agency to develop and conduct Information Security (INFOSEC) qualification courses (Jul 2004 – Sept 2005) PI Hamilton (100%) (NSA Contract # H98230-04-1-0229).
58. \$100,000.00 “U.S. Air Force Academy Research, Development, and Education Support,” Grant from the U.S. Air Force Academy to study security architecture and denial of service attacks. (Aug 2004 – Sept 2005) – PI Hamilton (100%).
59. \$270,000.00 “MDA Vulnerability Analysis,” Grant from Missile Defense Agency to study simulation vulnerabilities (Sept 2003 – Sept 2004) PI Hamilton (100%), (DOD Contract # HQ0006-02-2-0013), *publication restricted*.
60. \$100,000.00 “MDA Vulnerability Analysis,” Grant from Missile Defense Agency to study simulation vulnerabilities (Sept 2003 – Sept 2005) PI Hamilton (100%), (DOD Contract # HQ0006-02-2-0013), *publication restricted*.
61. \$25,935.00 Research Grant from the Space and Naval Warfare Systems Command to study command system interoperability (June 2002 – Sept 2003) PI Hamilton (100%)
62. \$5000.00 Equipment Grant from the Space and Naval Warfare Systems Command to study command system interoperability (Oct 2001) PI Hamilton (100%)

b. Research Proposals – PENDING

1. \$374,117.88 “Commercial Cyber Certifications for Military Reserve Components: A Public-Private Partnership,” National Security Agency, (July 2018) PI Hamilton (60%), Co-PI Pape (25%), Co-PI Thomas (15%).
2. \$393,756.00 “Cybertraining:CIP: Certification Training for Future Research Professionals,” NSF # 1829789 (Sept 2018) PI Pape (50%), Co-PI Pape (35%), Co-PI Hamilton (15%).
3. \$450,283.00 “Circadence Network Mapper Renewal” US Army Threat Systems Management Office, (July 2018), PI Reese (70%), Co-PI Hamilton (30%).
4. \$213,088.00 “Engaging the Mississippi Delta in CyberCorps,” NSF#1820623 (July 2018) PI Hamilton (50%), Co-PI Pape (25%), Co-PI Thomas (25%).
5. \$321,670.00 “SaTC: CORE: Small: Collaborative: Malicious By Association: Identifying malware in memory through object relationships,” NSF#1816900 (July 2018). PI Thomas (80%), Co-PI Hamilton (20%).

6. \$150,000.00 “Open Source Intelligence Program,” National Air and Space Intelligence Center, USAF (October 2018) PI Hamilton (100%).
7. \$225,000.00 “Automated Software Security Utility Retrofitting Engine (ASSURE), NSF SBIR (July 2018) with RAM Laboratories, Co-PI Hamilton (25%).

c. Intergovernmental Personnel Act (IPA) Employees

Manage six MSU employees assigned to US Federal Government IPAs. Total annual payroll exceeds \$1.1M.

4. Diversity Practice

- Established cyber security programs at 3 HBCUs and 1 HSI via NSF and National Security Agency competitive grants.
 - Tuskegee University
 - Albany State University
 - Alabama State University
 - Western New Mexico University
- External CyberCorps Reviewer: University of New Mexico (HSI)
- NSA/DHS Mentor: Mississippi Valley State University (HBCU)

5. Publications

a. Summary:

- 2 Books
- 2 Conference Proceedings (Editor)
- 24 peer-reviewed journal articles
- 129 Conference papers

b. Books and Proceedings Editor:

1. Editors: Ades, M.J., Chinni, M.J., Hamilton, J.A., Jr., (20%), Hill, J.M.D., Rajaei, H. and Wu, C., *Proceedings of the 2007 Spring Simulation Multiconference*, vol. 2, ISBN 1-56555-314-4.
2. Editors: Hamilton, J.A., Jr., (70%), MacDonald, R., Chinni, M.J., *Proceedings of the 2006 Spring Simulation Multiconference*, vol. 1 ISBN 1-56555-304-7, vol. 2 ISBN 1-56555-303-9.
3. Hamilton, J.A., Jr., (80%) et al., *Modeling Command and Control Interoperability: Cutting the Gordian Knot*, SCS Press, San Diego, Calif. 2004. ISBN: 1-56555-281-4.
4. Hamilton, J.A., Jr., (60%) Nash, D.A., Pooch, U.W., *Distributed Simulation*, CRC Press, Boca Raton, Fla., 1997. ISBN: 0-8493-2590-0.

c. Refereed Journal Publications

*indicates student author

1. Hamilton, J.A., Jr., (75%), Pape, P., *Ada 20 Years After the Mandate*, Crosstalk, the Journal of Defense Software Engineering, Hill AFB, Utah, vol. 30, no. 1, Jan-Feb 2017, pp 4 - 8.
2. Pape, P. and Hamilton, J.A., Jr., (25%), *Better Reliability Verification in Open-Source Software Using Efficient Test Cases*, Crosstalk, the Journal of Defense Software Engineering, Hill AFB, Utah, vol. 29, no. 1, Jan-Feb 2016, pp 31-36.
3. Britt*, W., Miller, J., Wagner, P., Bevly, D., Hamilton, J.A., Jr., (15%) *An Embedded System for Real-Time Navigation of a Trained Canine*, Personal and Ubiquitous Computing, Springer-Verlag Vol.15, Issue 1, January 2011, pp 61-74.
4. Garrett*, A. Hamilton, J.A., Jr., (25%), Dozier, G.V., *Generic Algorithm Techniques for the Cryptanalysis of TEA*, International Journal on Intelligent Control and Systems Special Session on Information Assurance. vol. 12, no. 4, Dec. 2007, pp 325 - 330.
5. Torri*, S., Sanders*, D., Evans, G. and Hamilton, J.A., Jr., (25%), *Java Obfuscation*, Crosstalk, the Journal of Defense Software Engineering, Hill AFB, Utah, December 2007, pp 19 – 23.
6. Mkpong-Ruffin*, I, Hamilton, J.A., Jr., (20%), Carlisle, M., *The New Java Security Architecture*, Crosstalk, the Journal of Defense Software Engineering, Hill AFB, Utah, July, 2006,
<http://www.stsc.hill.af.mil/CrossTalk/2006/07/0607RuffinHamiltonCarlisle.html>.
7. Hamilton, J.A., Jr. (100%) *A Conceptual Model for Interoperable Command and Control Acquisition*, Journal of Defense Modeling and Simulation, vol. 3, no. 2, April 2006, pp 125 – 138.
8. Hamilton, J.A., Jr. (100%) *DODAF – Based Information Assurance Architectures*, Crosstalk, The Journal of Defense Software Engineering, vol. 19, No. 2, February 2006, pp 4 – 7.
9. Imsand*, E.S., Evans, G., Dozier, G., Hamilton, J.A., Jr., (30%) *Using Genetic Algorithms to Aid in a Vulnerability Analysis of National Missile Defense Simulation Software*, Journal of Defense Modeling and Simulation, vol.1, no.4, October 2004, pp 215 – 224.
10. Hamilton, J.A., Jr., (75%) Greaney, K.J., Evans, G., *Defining a Process for Software Vulnerability Assessments*, Crosstalk, The Journal of Defense Software Engineering, vol. 16, No. 11, November 2003, pp 22 – 25.
11. Hamilton, J.A., Jr. (45%), Rosen, J.D. and Summers, P.A., *An Interoperability*

- Roadmap for C4ISR Legacy Systems*, Acquisition Review Quarterly, vol. 28, Winter 2002, pp 17 – 31.
12. Hamilton, J.A., Jr. (45%), Murtagh, J.L. and Zoller R.G. *Programming Language Impacts on Learning*, ACM SIGAda Letters, Vol. XX, Issue 3, August – September 2000, pp 12 – 19.
 13. Bryan, J.D., Deal, J.C., Hamilton, J.A., Jr. (40%), *Army Enterprise XXI*, Army RD&A, September-October 1998, pp 18 - 20.
 14. Hamilton, J.A., Jr. (100%), *Why Programming Languages Matter*, Crosstalk, The Journal of Defense Software Engineering, vol. 10, no. 12, December 1997, pp 4 - 6.
 15. Arnette, J.P. and Hamilton, J.A., Jr. (75%), *Open Architectures for Diverse Missions: Opening Windows for the Department of Defense*, Crosstalk, The Journal of Defense Software Engineering, vol. 10, no. 11, November 1997, pp 3 - 7.
 16. Hamilton, J.A., Jr., (50%) Ratterree, G.R., Brutch, P.B., Pooch, U.W., *Public Domain Tools for Modeling and Simulating Computer Networks*, Simulation, vol. 67, No. 3, September 1996, pp 161 - 169.
 17. Hamilton, J.A., Jr., (60%) Cook, D.A., Pooch, U.W., *A Software Engineering Perspective on Distributed Simulation*, Crosstalk, The Journal of Defense Software Engineering, vol. 9, no. 2, February 1996, pp 13 - 15.
 18. Hamilton, J.A., Jr., (60%) Ratterree, G.R., Pooch, U.W., *A Toolkit for Monitoring the Utilization and Performance of Computer Networks*, Simulation, vol. 64, No. 5, May 1995, pp 297 - 301.
 19. Hamilton, J.A., Jr., (70%) et. al. *Getting Inside Your Local Area Network: Tools, Techniques and Resources*, Crosstalk, The Journal of Defense Software Engineering, vol. 8, no. 1, January 1995, pp 19 - 23.
 20. Hamilton, J.A., Jr., (100%) *Actualizing the Automation Experience*, Army Communicator, vol. 17, No. 1, Spring 1992, US Army Signal School, Fort Gordon, Ga., pp 33 – 36.
 21. Hamilton, J.A., Jr., (100%) *A Canned Exercise: The Combat Field Feeding Test*, Field Artillery Journal, vol. 54, No. 2, March – April 1986, US Army Field Artillery School, Fort Sill, Okla. pp 51 – 53.
 22. Hamilton, J.A., Jr., (100%) *Faithful and True (History of the 5th U.S. Field Artillery Regiment)*, Field Artillery Journal, vol. 52, No. 2, March – April 1984, US Army Field Artillery School, Fort Sill, Okla. pp 30 – 32.
 23. Hamilton, J.A., Jr., (100%) *Coup de Grace (technical employment of artillery at Khe*

Sanh), Field Artillery Journal, vol. 52, No. 1, January – February 1984, US Army Field Artillery School, Fort Sill, Okla. pp 51 – 53.

24. Hamilton, J.A., Jr., (80%) and Kaplan, L.M., *Le Roi des Batailles: The Decisive Role of the Artillery at Dien Bien Phu*, Field Artillery Journal, vol. 51, No. 2, March – April 1983, US Army Field Artillery School, Fort Sill, Okla. pp 26 – 30. (Best Paper Award from US Forces Command).

d. Refereed Conference Papers

*indicates student author

1. Hamilton, J.A., Jr. (70%), Pape, P. and Thomas, D. “Commercial Cyber Certifications for Military Reserve Components: A Public-Private Partnership,” 2018 American Society of Engineering Educators, Salt Lake City, Utah, 24 – 27 June 2018.
2. Hamilton, J.A., Jr. (75%) and Pape, P. “Reserve Component Cyber Certifications,” 2018 American Society of Engineering Educators (ASEE) Southeast Conference, Daytona Beach, Fla., 4 – 6 Mar. 2018.
3. H.A. Kholidy, S. Iannucci, Q. Chen, S. Abdelwahed, J. Hamilton (10%), S. Sengupta. “Attacks Detection in SCADA Systems Using an Improved NON-NESTED GENERALIZED EXEMPLARS Algorithm.” IEEE 12th International Conference on Computer Engineering & Systems (ICCES), 19 – 20 Dec., Cairo, Egypt.
4. Chen, Q., Kholidy, H.A., Abdelwahed, S., and Hamilton, J.A., Jr., (25%), *Towards Realizing a Distributed Event and Intrusion Detection System*, Int. Conference on Future Network Systems and Security 2017, Gainesville, Fla. 31 Aug – 2 Sept, 2017.
5. Hamilton, J.A., Jr. *A High-Integrity Cybersecurity Framework for Combat Systems*, 16th European Conference on Cyber Warfare and Security, Dublin, Ireland, 29 – 30 June 2017.
6. Pape, P., Ivancic, C. and Hamilton, J.A., Jr. (25%) *A Look at Efficiently Predicting Variable Rankings by Relative Importance*, 8th Annual Southeastern Cyber Security Summit, Huntsville, Ala., 8 – 9 June 2016.
7. Pape, P. and Hamilton, J.A., Jr. (25%) *Generating Interest in Cybersecurity Through High School Digital Forensics Education*, 7th Annual Southeastern Cyber Security Summit, Huntsville, Ala., 3 – 4 June 2015.
8. Hood*, J., Hamilton, J.A., Jr. (10%), Umphress, D., Yilmaz, L., and Sims, J., *Two-Way Trusted, Third-Party Authenticated, Quantum Key Distribution*, 7th Annual

Southeastern Cyber Security Summit, Huntsville, Ala., 3 – 4 June 2015.

9. Hood*, J., Scott*, T., Yu*, J., Qin, X., Yilmaz, L. and Hamilton, J.A., Jr. (10%) *We Didn't Start the Fire: Using an Agent-Directed Thermal Simulator to Keep Servers Cool.* SCS/ACM Spring Simulation Multiconference, Tampa, Fla., 13 – 16 April 2014.
10. Cook*, D., Illg*, J., Imsand, E., Overfelt R., Hamilton, J.A., Jr. (10%), *Using Data Mining to Correlate Cabin Air Quality Incidents,* 42nd International Conference on Environmental Systems (ICES), San Diego, California, 15-19 July 2012.
11. Amer, S. and Hamilton, J.A., Jr. (10%) *Managerial Guide to Intrusion Detection Systems,* Conference on e-Learning, e-Business, EIS, and e-Government (EEE 2012), Las Vegas, Nev., 16 – 19 July 2012.
12. Harrison*, C., Cook*, D., McGraw, R., Hamilton, J.A., Jr. (10%), *Constructing a Cloud-based IDS by Merging VMI with FMA,* IEEE TRUSTCOM, Liverpool, UK, 25-27 June 2012.
13. Perr*, C.W., Compton*, D., Hamilton, J.A., Jr. (10%), *Trolling Online for Real-World Identities,* 7th International Conference on Information Warfare and Security, Seattle, Wash., 22-23 March 2012.
14. Perr*, C.W., Harrison*, C., Compton*, D., Hamilton, J.A., Jr. (10%), *DoDAF as a Penetration Testing Tool,* 15th Colloquium for Information Systems Security Education, Fairborn, Ohio, 13-15 June 2011.
15. Imsand, E.S., Hamilton, J.A., Jr. (30%), *Digital Battlefield Forensics,* 15th Colloquium for Information Systems Security Education, Fairborn, Ohio, 13-15 June 2011.
16. Perr*, C.W., Hamilton, J.A., Jr. (10%), *A Call For Improved Information Warfare Strategy and Public Policy,* 6th International Conference on Information Warfare and Security, Washington, D.C., 17-18 March 2011.
17. Hamilton*, S.S., Imsand, E.S., Hamilton, J.A., Jr. (10%), *Increasing Organization Efficiency through Software Architecture A case study of the JTF-GNO,* IEEE MILCOM 2010, San Jose, Calif., 30 Oct. – 3 Nov.
18. Imsand, E.S., Hamilton, J.A., Jr. (30%), *Software Architecture for Simulation Integration.,* 2010 Huntsville Simulation Conference, Huntsville, Ala. 26 – 28 October 2010.
19. Amer, S.H., Hamilton, J.A., Jr. (30%), *A Danger Theory Model,* 2010 International Conference on Bioinformatics and Computational Biology (BIOCOMP'10), Las Vegas, Nev., 12 – 15 July, 2010.

20. Amer, S.H., Hamilton, J.A., Jr. (30%), *Resource Evaluation of Positive and Negative Selection*, 2010 International Conference on Security and Management (SAM '10), Las Vegas, Nev., 12 – 15 July, 2010.
21. Imsand, E.S., Hamilton, J.A., Jr. (30%), *A Digital Forensics Program to Retrain America's Veterans*, 5th Annual Symposium on Information Assurance (ASIA '10), New York State Cyber Security Conference, Albany, N.Y., June 16 – 17, 2010, pp 62 - 66.
22. Banavara*, S., Imsand, E.S., Hamilton, J.A., Jr. (10%), *Information Assurance in Video Streaming: A Case Study*, 5th Annual Symposium on Information Assurance (ASIA '10), New York State Cyber Security Conference, Albany, N.Y., June 16 – 17, 2010, pp 37 – 41.
23. Hamilton, J.A., Jr. (100%), *From Architecture to Operational Communications Planning: Network Simulation for Executable Architectures*, NATO MSG-082 Modeling and Simulation of Complex Systems in Public Safety and Military Operations, Ottawa, Ontario, Canada, 3 – 4 May, 2010.
24. O'Farrell*, R., Banavara*, S., Folds*, D., Hamilton, J.A. Jr. (15%), *Information Assurance Modeling Using the Department of Defense Architecture Framework*, SCS/ACM 43rd Annual Simulation Symposium, Orlando, Fla. 11 – 14 April 2010.
25. Kuskuntla*, R., Imsand, E.S., Hamilton, J.A. Jr. (15%), *Enhanced Expert Field Medical Training Simulations and their effect on the Modern Combat Life Saver Training Procedures*, 2010 SCS/ACM Military Modeling and Simulation Symposium, Orlando, Fla. 11 – 14 April 2010.
26. Trawick*, G. and Hamilton, J.A. Jr. (15%), *Digital Forensics Detection and Disruption of JPEG Steganography*, 5th International Conference on Information Warfare and Security, Air Force Institute of Technology, Wright-Patterson AFB, Ohio, 8-9 April 2010.
27. Sanders, D.T., McGraw, R., Hamilton, J.A. Jr. (10%), Corder, A., Ooi, T., *DOD Architecture Framework Modeling of a Unified Analysis Framework for Software Security*, 2009 Huntsville Simulation Conference, Huntsville, Ala. 28 – 29 October 2009.
28. Hamilton, J.A. Jr. (80%), Sanders, D.T., McGraw, R., Corder, A., Ooi, T. *Applying DODAF 2.0 Modeling Techniques to a Real-Time Security Analyzer*. 2009 Huntsville Simulation Conference, Huntsville, Ala. 28 – 29 October 2009.
29. Kuhr*, M., Sanders*, D.E. and Hamilton, J.A. Jr. (20%), *Enhancing DODAF Views into an Information Assurance Architecture for the DIACAP*, SCS/ACM International Simulation Multiconference (ISMC'09) Istanbul, Turkey, 13 – 17 July 2009.

30. Conkling*, W.R., LtCol Trawick*, G.T., Hamilton, J.A. Jr. (20%). *Engaging IA Students through an Information Assurance Exercise*, 13th Annual Colloquium for Information Systems Security Education, Seattle, Wash., June 1 – 3 2009, pp 51 – 58.
31. Hamilton, J.A. Jr. (65%), Owor, R.S., Dajani K.F., *Building Information Assurance Education Partnerships with Minority Institutions*, Richard Tapia Celebration of Diversity in Computing, Portland, Ore. 1 – 4 April 2009.
32. Torri*, S. A., Britt,* W., Hamilton, J.A. Jr. (35%), *A Compiler Classification Framework for Use in Reverse Engineering*, IEEE Symposium on Computational Intelligence in Cyber Security (CICS 2009), Nashville, Tenn., 30 March – 2 April, 2009, pp 159 – 166.
33. Imsand, E.S., Garrett, D., Hamilton, J.A. Jr. (35%), *User Identification Using GUI Manipulation Patterns and Artificial Neural Networks*, IEEE Symposium on Computational Intelligence in Cyber Security (CICS 2009), Nashville, TN, March 30 – April 2, 2009, pp 130 – 135.
34. O’Farrell*, R. and Hamilton, J.A. Jr. (35%), *Using Software Architecture to Facilitate Reuse in a Product Family*, SCS/ACM 42nd Annual Simulation Symposium, San Diego, Calif., 22 – 27 March 2009.
35. Conkling*, W. and Hamilton, J.A. Jr. (35%), *Suggested Improvements to the DoDAF for Modeling Architectural Security*, SCS/ACM 42nd Annual Simulation Symposium, San Diego, Calif., 22 – 27 March 2009.
36. Hamilton, J.A., Jr. (100%), *Network Simulation for Executable Architectures*, International Test and Evaluation Association Live-Virtual-Constructive Conference, El Paso, Tex., 12 – 15 January 2009.
37. Imsand, E.S., Hamilton, J.A. Jr. (35%), *Masquerade Detection through GUIID*, IEEE GLOBECOM 2008 Computer and Communications Network Security Symposium, New Orleans, La., 30 November – 4 December, 2008.
38. Hamilton*, S.S. and Hamilton, J.A. Jr. (20%) *Secure Jam Resistant Key Transfer*, IEEE MILCOM 2008, San Diego, Calif., 17 – 19 November 2008.
39. Trawick*, G., Hamilton, J.A., Jr. (20%), *A Validated Simulation Model for 802.11 Security Vulnerabilities*, 2008 Huntsville Simulation Conference, Huntsville, Ala. 22 – 23 October 2008.
40. Kuhr*, M., Hamilton, J.A., Jr. (20%), *Migrating Legacy Command and Control (C2) Systems to Next Generation Combat Systems Architecture: A Case Study*, 2008 Huntsville Simulation Conference, Huntsville, Ala. 22 – 23 October 2008.

41. White*, J., Gilbert, J., Chapman, R.O., Hamilton, J.A., Jr. (10%), *A Training System for Pilot Radio Communications*, 2008 Huntsville Simulation Conference, Huntsville, Ala., 22 – 23 October 2008.
42. Amer*, S.H., Hamilton, J.A. Jr. (45%), *Investigating Intrusion Detection Systems that Use Trails of System Calls*, IEEE 2008 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS'08), Edinburgh, Scotland, 16 – 18 June 2008, pp 377 – 384.
43. Manzanares*, A., Qin, X., Hamilton, J.A. Jr. (15%), *The Relationship Between Software Architectures and Visual Programming Languages*, SCS/ACM Grand Challenges in Modeling & Simulation (GCMS '08) Edinburgh, Scotland, 16 – 18 June 2008, pp 1 – 9.
44. Box*, D., Hamilton, J.A., Jr. (15%), *Preventing Denial of Service Attacks Through Software Architecture, Design, Analysis, and Simulation of Distributed Systems*, SCS/ACM Summer Computer Simulation Conference (SCSC'08) Edinburgh, Scotland, 16 – 18 June 2008, pp 76 – 83.
45. Hamilton, J.A. Jr. (100%), *Leveraging the DODAF to Model Information Assurance Architectures*, SISO European Simulation Interoperability Workshop, Edinburgh, Scotland, 16 – 19 June 2008.
46. Yi, L., Peng, W.C., Wang, T.W., Ku, W.S and Hamilton, J.A., Jr., (5%), *A Cloaking Algorithm based on Spatial Networks for Location Privacy*, SUTC 2008: IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing, Taichung, Taiwan, 11 – 13 June 2008, pp 90 – 97.
47. Conkling*, W.R., Hamilton, J.A., Jr., (20%), *The Importance of Information Security Spending: An Economic Approach*, SCS/ACM Business and Industry Symposium (BIS'08), Ottawa, Ontario, 14 – 17 April 2008, pp 293 – 300.
48. Sanders*, D., MacDonald, R.A., Hamilton, J.A., Jr. (20%), *Supporting A Service-Oriented Architecture*, SCS/ACM DOD Architecture Framework Modeling (DODAF'08), Ottawa, Ontario, 14 – 17 April 2008, pp 325 – 334.
49. Amer*, S. H., Hamilton, J.A., Jr., (20%), *Host-Based Intrusion Detection Systems*, SCS/ACM DOD Architecture Framework Modeling (DODAF'08), Ottawa, Ontario, 14 – 17 April 2008, pp 335 – 342.
50. Kuhr*, M., Hamilton, J.A., Jr., (20%), *Building Executable Service-Oriented Architectures with the WS-Management Specification*, SCS/ACM DOD Architecture Framework Modeling (DODAF'08), Ottawa, Ontario, 14 – 17 April 2008, pp 315 – 324.
51. Amer*, S. H., Hamilton, J.A., Jr., (20%), *DSR and TORA in Fixed and Mobile*

Wireless Networks, The 46th ACM Southeast Conference (ACMSE 2008), Auburn, Ala., 28 – 29 March 2008.

52. Leithiser*, R. Hamilton, J.A., Jr., (20%), *Agile Versus CMMI - Process Template Selection and Integration with Microsoft Team Foundation Server*, The 46th ACM Southeast Conference (ACMSE 2008), Auburn, Ala., 28 – 29 March 2008.
53. Chapman, R.O., Hamilton, J.A., Jr., (10%), *Box, J.D., *Kuhr, M., *MacDonald, J. and *Hamilton, S.S., *Simulation of Army Unmanned Aerial Vehicle Communications*, ACM/INFORMS Winter Simulation Conference, Washington, D.C., 9 – 12 December 2007, pp 1324 – 1327.
54. Owor, R.S., Dajani, K., Okonkwo, Z., Hamilton, J.A., Jr., (10%), *An Elliptical Cryptographic Algorithm for RF Wireless Devices*, ACM/INFORMS Winter Simulation Conference, Washington, D.C., 9 – 12 December 2007, pp 1424 - 1429.
55. Hamilton*, S.S., Schmoyer, T., Hamilton, J.A., Jr., (40%), *Validating a Network Simulation Testbed for Army UAVs*, ACM/INFORMS Winter Simulation Conference, Washington, D.C., 9 – 12 December 2007, pp 1300 - 1305.
56. Mkpog-Ruffin*, I, Umphress, D.A., Hamilton, J.A., Jr., (15%), Gilbert, J., *Quantitative Software Security Risk Assessment Model*, ACM 3rd International Workshop on Quality of Protection, Alexandria, VA, 29 October 2007.
57. Page*, G., Soares*, C., MacDonald*, J., Dozier, G., Baskiyar, S., Hamilton, J.A., Jr. (10%), *Bowl Championship Series Vulnerability Analysis*, 2007 Richard Tapia Celebration of Diversity in Computing Conference, Orlando, Fla., 14 – 17 Oct 2007.
58. Imsand*, E.S., Hamilton, J.A., Jr. (25%), *Impact of Daily Computer Usage on GUI Usage Analysis*, 2007 Information Security Curriculum Development Conference, Kennesaw, Ga., 28 – 29 September 2007.
59. Hamilton, J.A., Jr. (75%), Hamilton*, S.S., Box*, J.D., *Wireless Network Simulation for Army UAVs*, 2007 SISO Fall Simulation Interoperability Workshop, Orlando Fla., 16 – 20 September 2007.
60. Amer*, S.H., Hamilton, J.A., Jr. (30%), *Performance Evaluation: Running DSR and TORA Routing Protocols Concurrently*, SCS/ACM Summer Computer Simulation Conference, San Diego, Calif., 16 – 18 July 2007.
61. Hamilton, J.A., Jr. (70%), Chapman, R.O., Umphress, D.A., *Modeling Unmanned Aerial Vehicle Communications at the Auburn University MISS Center*, SCS/ACM Summer Computer Simulation Conference, San Diego, Calif., 16 18 July 2007, pp 1007-1014.
62. Hamilton*, S.S., Carlisle, M.C., Hamilton, J.A., Jr. (30%), *A Global Look at*

- Authentication*, 8th IEEE Workshop on Information Assurance, US Military Academy, West Point, N.Y., 20 – 21 June 2007, pp 1– 8.
63. Imsand*, E.S., Hamilton, J.A., Jr. (30%), *GUI Usage Analysis for Masquerade Detection*, 8th IEEE Workshop on Information Assurance, US Military Academy, West Point, N.Y., 20 – 21 June 2007, pp 270 – 276.
 64. Britt*, W., Gopalaswamy*, S., Hamilton, J.A., Jr. (15%), Dozier, G., Chang, K., *Computer Defense Using Artificial Intelligence*, SCS/ACM Simulation Software Security Symposium, Spring Simulation Multiconference (SSSS'07), Norfolk, Va., 25 – 29 March, 2007, pp 378 – 386.
 65. Richardson*, K. P., Hamilton, J.A., Jr. (30%), Carlisle, M.C., *A Performance Analysis of the SPRiNG Protocol Through Simulation*, SCS/ACM Simulation Software Security Symposium, Spring Simulation Multiconference (SSSS'07), Norfolk, Va., 25 – 29 March, 2007, pp 356 – 361, Best Paper Award.
 66. Tevis*, J.E., Hamilton, J.A., Jr. (30%), *A Security-Centric Ring-Based Software Architecture*, SCS/ACM DODAF Architecture Framework Modeling, Spring Simulation Multiconference (DODAF'07), Norfolk, Va., 25 – 29 March, 2007, pp 163 – 169.
 67. Amer*, Suhair H., Hamilton, J.A., Jr. (50%), *Simulating Wireless Routing in a Healthcare Environment*, 2007 International Conference on Health Sciences Simulation. (HSS'07), San Diego, Calif., 14 – 18 January 2007, pp 65 – 72.
 68. Carlisle, M.C., Hamilton, J.A., Jr. (30%), *Integrating Ada 2005 into Visual Studio 2005*, ACM SIGAda 2006, Albuquerque, NM, 12 – 16 November 2006.
 69. Carlisle, M.C., Humphries, J.W., Hamilton, J.A., Jr. (30%), *Safely Redistributing Untrusted Code using .NET*, 7th IEEE Workshop on Information Assurance, US Military Academy, West Point, N.Y., 21 – 23 June 2006.
 70. Tevis*, J.E. and Hamilton, J.A., Jr. (30%), *Static Analysis of Anomalies and Security Vulnerabilities in Executable Files*, 43rd Annual ACM Southeast Conference, Kennesaw, Ga., 10 – 12 March 2006.
 71. Constance*, S., Umphress, D.A., Chapman, R.O., Hamilton, J.A., Jr. (15%), *Modeling Wireless Communication of UAV Ground Station Components*, 2005 Huntsville Simulation Conference, Huntsville, Ala. 26 – 27 Oct 2005.
 72. Hunt*, A.A., Hamilton, J.A., Jr. (30%), *An Evaluation of Wireless Security Issues for UAV Ground System Components*, 2005 Huntsville Simulation Conference, Huntsville, Ala. 26 – 27 Oct 2005.
 73. Amer*, Suhair H., Hamilton, J.A., Jr. (50%) *Source Initiated On-Demand Routing Protocols Performance Evaluation Using OPNET Package*, 17th European

Simulation Symposium, Marseille, France, 20 – 22 October 2005.

74. Hamilton, J.A., Jr. (100%) *Network Simulation for Executable Architectures*, International Workshop on Modeling & Applied Simulation, Bergeggi, Italy, 16 – 18 October 2005.
75. Fletcher*, H.W., Richardson*, K., Carlisle, M.C., Hamilton, J.A., Jr. (25%), *Simulation Experimentation with Secure Overlay Services*, Summer Computer Simulation Conference, Philadelphia, Pa., 24 – 28 July 2005.
76. Amer*, Suhair H., Humphries, J.W., Hamilton, J.A., Jr. (30%) *Survey: Security in the System Development Life Cycle*, 6th IEEE Workshop on Information Assurance, US Military Academy, West Point, N.Y., 15 – 17 June 2005.
77. Box*, J.D., Hathcock*, A. Hunt*, A. Humphries. J.W., and Hamilton, J.A., Jr. (25%), *Simulation Strategic Firewall Placement*, SCS Simulation Software Security Symposium, Spring Simulation Multiconference (SSSS'05), San Diego, Calif., 3 – 7 April 2005.
78. Fletcher*, H.W., Richardson*, K., Carlisle, M.C., Hamilton, J.A., Jr. (25%), *Evaluating Secure Overlay Services Through OPNET Simulation*, SCS Simulation Software Security Symposium, Spring Simulation Multiconference (SSSS'05), San Diego, Calif., 3 – 7 April 2005.
79. Eoff*, B., Hunt*, A., Evans, G. and Hamilton, J.A., Jr. (25%), *The Theory and Practice of Vulnerability Analysis of Simulation Software*, 2004 Huntsville Simulation Conference, Huntsville, Ala., 20 – 21 Oct. 2004.
80. Hamilton, J.A., Jr., (80%) Greaney, K.J., Evans, G., *Simulation Software Vulnerability Assessment for Coalition Interoperability*, SISO European Simulation Interoperability Workshop, Edinburgh, Scotland, June 28 – July 1 2004.
81. Sachitano*, A., Chapman, R.O., Hamilton, J.A., Jr. (40%), *Security in Software Architecture: A Case Study*, IEEE Workshop on Information Assurance, US Military Academy, West Point, N.Y., 7 – 9 June 2004.
82. Tevis*, J.E., Hamilton, J.A., Jr., (15%) *Methods For The Prevention, Detection And Removal of Software Security Vulnerabilities*, 42nd Annual ACM Southeast Conference, Huntsville, Ala., 2 – 3 April 2004.
83. Calagaz*, L.J., Chatam*, J.W., Eoff*, B., Hamilton, J.A., Jr. (10%), *On the Current State of Transport Layer Protocols in Mobile Ad hoc Networks*, 42nd Annual ACM Southeast Conference, Huntsville, Ala., 2 – 3 April 2004.

84. Hamilton, J.A., Jr., (75%) Yilmaz, L., *Modeling Bilateral Interoperability Through Command and Control Architecture*, Military, Government and Aerospace Simulation, ASTC, Arlington, Va. 18 – 22 April 2004.
85. Chatam*, J. W., Rice*, J. and Hamilton, J.A., Jr. (20%), *Using Simulation to Analyze Denial of Service Attacks*, Applied Telecommunications Symposium, ASTC (ATS '04), Arlington, Va. 18 – 22 April 2004.
86. Yilmaz, L., Hamilton, J.A., Jr. (15%), *Modular Compositional Validation of Protocol Conflicts for Network Interoperability*, Design, Analysis, and Simulation of Distributed Systems, ASTC (DASD '04), Arlington, Va. 18 – 22 April 2004.
87. Norris*, V.A., Hamilton, J.A., Jr., (10%) *Simulation of an Infrastructure Wireless Local Area Network*, 2003 Huntsville Simulation Conference, Huntsville, Ala. 28 – 31 Oct. 2003.
88. Hamilton, J.A., Jr. (100%), *Developing Secure Simulation Software For Multinational Use*, 2003 SISO Fall Simulation Interoperability Workshop, Orlando, Fla., 14 – 19 Sept. 2003.
89. Hamilton, J.A., Jr. (75%), Catania, G.A., *A Practical Application of Enterprise Architecture for Interoperability*, 2003 International Conference on Information Systems Engineering, SCS Summer Simulation Multiconference, Montreal, pp 183 – 188, 20 – 24 July 2003.
90. Hamilton, J.A., Jr. (100%), *Security Vulnerabilities in Command and Control Interoperability*, Proceedings of the 2003 IEEE Workshop on Information Assurance, pp 164 – 169, US Military Academy, West Point, N.Y., 18 – 20 June 2003.
91. Imsand*, E.S., Sachitano*, A.C., Hamilton, J.A., Jr. (15%), *Reverse Engineering Vulnerabilities in Simulation Software*, Advanced Simulation Technologies Conference Proceedings, Orlando Fla., 30 Mar. – 3 Apr., pp 99-104, 2003.
92. Peters*, M.P., Chatam*, W., Hamilton, J.A., Jr., (20%) *Simulation Exploitation Using Open Source Information*, Advanced Simulation Technologies Conference Proceedings, Orlando Fla., pp 105-110, 30 Mar. – 3 Apr. 2003.
93. Eoff*, B., Hamilton, J.A., Jr., (15%) *Vulnerability of Simulation Executables*, Advanced Simulation Technologies Conference Proceedings, Orlando Fla., pp 111-115, 30 Mar. – 3 Apr. 2003.
94. Hamilton, J.A., Jr. (100%), *Simulation Vulnerability Analysis*, 2002 Huntsville Simulation Conference, Huntsville, Ala., 8 – 10 Oct. 2002.
95. Hamilton, J.A., Jr. (80%), Melear, J., Endicott, G., *C2 Interoperability: Simulation*,

Architecture and Information Security, 7th International Command and Control Research and Technology Symposium, Quebec City, QC, Canada, 16 – 20 Sep 2002.

96. Hamilton, J.A., Jr. (100%), *Simulation to Support Security Issues Relating to Interoperability, Summer Computer Simulation Conference, San Diego, Calif., 14 – 19 July, 2002.*
97. Umphress, D.A. and Hamilton, J.A., Jr., (15%), *Software Process as a Foundation for Teaching, Learning, and Accrediting, Computer and Software Engineering Education and Training Conference, Cincinnati, OH, Feb. 25 – 27 February 2002.*
98. Hamilton, J.A., Jr., (100%) *Modeling a Concurrent Theory of Combat: A Parallel Processing Approach, Advanced Simulation Technologies Conference Proceedings, San Diego, CA, pp 107 – 113, April 2002.*
99. Hamilton, J.A., Jr., (70%) Ruocco, A.S. and Umphress, D.A. *Problem Solving in the Senior CS Capstone Sequence: Putting Engineering into Software Engineering, American Society of Engineering Educators (ASEE) Southeast Conference, Gainesville, Fla, 7 – 9 April 2002.*
100. Hamilton, J.A., Jr., (70%), Sanders, P., Melear, J.M. and Endicott, G., *C2 Interoperability, A Force Multiplier for Joint/ Combined Operations and Homeland Security, Command and Control Research Technology Symposium, Naval Postgraduate School, Monterey, Calif., 11 – 13 June 2002.*
101. Hamilton, J.A., Jr., (100%) *Simulation to Support Security Issues Related to System Interoperability, Summer Computer Simulation Conference, San Diego, Calif., July 14 – 18 2002.*
102. Hamilton, J.A., Jr., (60%) Murtagh, J.L., *Extending Interoperability Via Software Architecture, 2000 Command and Control Research and Technology Symposium, June 26-28, 2000, Monterey, CA.*
103. Murtagh, J.L., Hamilton, J.A., Jr. (30%), *Teaching a Real-World Software Design Approach Within an Academic Environment, 2000 American Society for Engineering Education Annual Conference, June 18 - 21, 2000, Saint Louis, Mo.*
104. Murtagh, J.L., Hamilton, J.A., Jr. (30%), *Using Modeling to Explain Parallel Programming Constructs, Advanced Simulation Technologies Conference, Washington, D.C., April 16 - 20, 2000, pp 261 - 264.*
105. Hamilton, J.A., Jr. (70%), Deal, J.C., Grobmeier, J.R., *Network Modeling and Simulation with Mixed Traffic Data Sources, Conference on Communication Networks and Distributed Systems Modeling and Simulation (CNDS '00), San Diego, Ca., 23 - 27 Jan., 2000, pp 99 - 104.*

106. Hamilton, J.A., Jr. (60%), Murtagh, J.M., Deal, J.C., *A Basis for Joint Interoperability*, Command and Control Research and Technology Symposium, Naval War College, Newport, R.I., 29 June - 1 July, 1999, pp 1067 - 1076.
107. Hamilton, J.A., Jr. (70%), Murtagh, J.M., Deal, J.C., *Simulation-Based Requirements Engineering for Army Enterprise XXI*, Advanced Simulation Technologies Conference Proceedings, San Diego, Calif., 11 - 15 April, 1999, pp 11 - 16.
108. Hamilton, J.A., Jr. (75%), Ransbottom, J.S., Davis, N.D., *An Integrated Approach to Network Simulation*, Advanced Simulation Technologies Conference Proceedings, San Diego, Calif., 11 - 15 April, 1999, pp 103 - 108.
109. Murtagh, J.L., Hamilton, J.A., Jr. (50%), *A Comparison of Ada and Pascal in an Introductory Computer Science Course*, SIGAda '98 Proceedings, Nov 8 - 12, Washington, D.C., pp 75 - 80.
110. Hamilton, J.A., Jr. (65%), Ruocco, A.S., *Implementation Issues for CS Majors and Non-Majors in a Senior CS Capstone Sequence*, Frontiers in Education '98, Nov 4 - 7, 1998, Tucson, Ariz., pp 1012 - 1015.
111. Sobiesk, E., Hamilton, J.A. (20%), Jr., Marin, J.A., Brown D.E., Gini, M., *Tracking Multiple Objects in Terrain*, 1998 IEEE Conference on Systems, Man, and Cybernetics, Oct 11 - 14, La Jolla, Calif., pp 2842-2847.
112. Hamilton, J.A., Jr. (100%), *Achieving HLA Compliance VIA the Joint Technical Architecture - Army*, Summer Computer Simulation Conference, July 19 - 22, 1998, Reno, Nev., pp 509 - 513.
113. Hamilton, J.A., Jr. (75%), Lane, W.D. *Network Simulation: Bridging CS and EE Programs*, Proceedings of OPNETWORK '98, May 25 - 30, 1997, Washington, D.C. (Electronic Proceedings: contact <http://www.opnet.com>.)
114. Hamilton, J.A., Jr., (90%), Deal, J.C., *Software Interoperability and Distributed Simulation*, 1998 Advanced Simulation Technologies Conference April 5 - 9, 1998, Boston, Mass., pp 151 - 156.
115. Hamilton, J.A., Jr. (70%), Sobiesk, E., Deal, J.C., *Multilevel Simulation of Force XXI Fire Support Operations*, (invited) 1997 IEEE International Conference on Systems, Man and Cybernetics, Oct. 12 - 15, 1997, Orlando, Fla., pp 2601 - 2606.
116. Hamilton, J.A., Jr. (100%), *Enabling Technologies for a Global Combat Support System*, Summer Computer Simulation Conference, July 13 - 17, 1997, Arlington, Va., pp 771 - 775.

117. Deal, J.C., Hamilton, J.A., Jr. (25%), Caudle, J., *Unknown Lands and Uncharted Waters, The Army Enterprise Architecture*, 3rd International Symposium on Command and Control Research and Technology, June 17 - 20, 1997, National Defense University, Fort McNair, Washington, D.C., pp 426 - 449.
118. Hamilton, J.A., Jr. (100%), *Representing Network Traffic with Mixed Resolution Simulation*, Proceedings OPNETWORK '97, May 28 - 30, 1997, Washington, D.C., pp 588 - 592.
119. Hamilton, J.A., Jr. (70%), Marti, W.F., Pooch, U.W., *Multilevel Multiresolution Simulation of Local Area Networks*, Ninth Annual Software Technology Conference, April 27 - May 2, 1997, Salt Lake City, Utah.
120. Jansen, B.J., Zoller, R. and Hamilton, J.A., Jr. (30%), *Integrating User-Centered Design into an Introductory Engineering Course*, ASEE Zone 1 Engineering Education: Evolution and Revolution, April 25 - 26, 1997, West Point, N.Y., pp 7B1-1 - 7B1-4.
121. Hamilton, J.A., Jr. (70%), Deal, J.C., Jansen, B.J., *Tactical Network Simulation in the US Army*, 1997 Simulation Multiconference Proceedings, April 6 - 10, 1997, Atlanta, Ga., pp 51 - 55.
122. Jansen, B.J., Hamilton, J.A., Jr. (30%), Pooch, U.W. *Modeling & Simulating an Army Information Support Structure*, 1997 Simulation Multiconference Proceedings, April 6 - 10, 1997, Atlanta, Ga., pp 59 - 65.
123. Hamilton, J.A., Jr. (60%), Ruocco, A.S., *Distributed Simulation Techniques using Conventional Simulation Languages*, 1997 Simulation Multiconference Proceedings, April 6 - 10, 1997, Atlanta, Ga., pp 66- 71.
124. Brutch, P.B., Hamilton, J.A., Jr. (30%), Nash, D.A., Marti, W.F., Pooch, U.W., *A Formal Approach for the Simulation of Local Area Networks*, Conference on Communication Networks and Distributed Systems Modeling and Simulation, Jan 12 - 15, 1997, Phoenix, Az., pp 3 - 8.
125. Hamilton, J.A., Jr. (60%), Cook, D.A., *Ada Training and Education in the US Army and US Air Force*, Tri-Ada 96 Proceedings, Dec 3 - 7 1996, Philadelphia, Pa., pp 151 - 155.
126. Marti, W.F., Hamilton, J.A., Jr. (30%), Pooch, U.W., *Packet Tracing: A New Paradigm for Teaching Computer Network Courses*, SIGCSE/SIGCUE Joint Conference on Integrating Technology into Computer Science, June 2- 6 1996, Barcelona, Spain, published in *SIGCSE Bulletin*, vol. 28, pp 162 - 164.
127. Hamilton, J.A., Jr. (65%), Marti, W.F., Pooch, U.W., *Building Distributed Systems*, Eighth Annual Software Technology Conference, April 21 - 26, 1996, Salt Lake

City, Utah.

128. Marti, W.F., Hamilton, J.A., Jr. (30%), Workshop: *Packet Tracing: A Paradigm for Teaching and Understanding Computer Networks*, Proceedings, ACM Special Interest Group in Computer Science Education Conference, Feb. 15 - 17, 1996, Philadelphia, Pa.
129. Hamilton, J.A., Jr. (75%), Bachus, B.D., Pooch, U.W., *Integrating Distributed Simulation into Force XXI Training*, 1996 SCS Simulation Multiconference Proceedings, April 8 - 11, 1996, New Orleans, La., pp 8 - 13.
130. Hamilton, J.A., Jr. (90%), Pooch, U.W., *An Open Simulation Architecture for Force XXI*, 1995 Winter Simulation Conference Proceedings, Dec 3 - 6, 1995, Arlington, Va., pp 1296 – 1303.
131. Hamilton, J.A., Jr. (80%), Cook, D.A., Pooch, U.W., *Distributed Simulation in Ada 95*, Tri-Ada '95 Proceedings, Nov 5 -10, 1995, Anaheim, Calif., pp 105 - 112.
132. Hamilton, J.A., Jr. (90%), Pooch, U.W., *A Survey of Object-Oriented Methodologies*, Tri-Ada '95 Proceedings, Nov 5 -10, 1995, Anaheim, Calif., pp 226 - 233.

5. Graduate Students

a. Major Professor (Completed)

Summary:

Ph.D. Computer Science: 15
Ph.D. Industrial & Systems Engineering: 1
M.S. Computer Science (Thesis): 6
M.S. Industrial & Systems Engineering: 1
M. Software Engineering: 27
M.S. Security and Cyber Operations: 2

| Degree | Name | Research Title |
|---------------------|--|--|
| M.S. CYSO- CO | LT Jason Carroll, USN Fall 2017 | Research Summary: Advanced Persistent Threats |
| M.S. CYSO- CO | LCDR Michael Pawluk, USN Fall 2017 | Research Summary: Cyber Operations in the US Navy |
| Ph.D. | Jon Hood Summer 2016 | Dissertation: Trusted, Third-Party Authenticated, Quantum Key Distribution |
| Ph.D. | Patrick Pape Spring 2015 | Dissertation: Efficient Reliability Verification Testing in Open Source Software Using Priority Prediction |

| | | |
|----------|-------------------------------------|---|
| Ph.D. | Devin Cook Spring 2015 | Dissertation: Augmenting Traditional Static Analysis With Commonly Available Metadata |
| Ph.D. | Christopher Perr Summer 2014 | Dissertation: Improving Usable Security and System Safety |
| Ph.D. | Christopher Harrison Summer 2014 | Dissertation: Odinn: An In-Vivo Hypervisor-based Intrusion Mitigation System for the Cloud |
| Ph.D. | Robert Leithiser Spring 2014 | Dissertation: A Framework for Universal Problem Resolution with Continuous Improvement |
| M.Swe. | Adam Payne Fall 2013 | Project: Extract Local Variable: A method for Maintenance Refactoring |
| M.Swe. | Chase Rushing Fall 2013 | Project: Procedural Terrain Generation with Automated Objective Insertion |
| M.Swe. | Richard Alverson Summer 2013 | Project: Vulnerability Testing of Outsourced Software Systems used by Auburn University |
| M.S. | Patrick Pape Spring 2013 | Thesis: A Methodology for Increasing the Dependability of Open Source Software Components |
| M.S. ISE | Greg Bew Spring 2013 | Thesis: Iterative and Incremental System Lifecycle Development |
| M.Swe. | Charles Carter Summer 2012 | Project: Planning, Implementation, and Enhancement of a Turn-Based, Multi-Player, Randomized Board Game with an Artificially Intelligent Player |
| M.Swe. | James Thompson Spring 2012 | Project: Cars on Droids |
| M.Swe. | Steven A. Hanna Fall 2011 | Project: An Intel x86 CPU, IBM BIOS and Hardware Emulator |
| M.Swe. | Jonathan Hood Fall 2011 | Project: Intercepting and Blocking Insecure Requests |
| M.Swe. | Steven Payne Summer 2011 | Project: AI Stock Advisor |
| M.Swe. | Sriharsha Banavara Spring 2011 | Project: Software Architecture for Delta 3D and id Tech 3 Game Engine using DoDAF |
| M.Swe. | Radha Kuskuntla Fall 2010 | Project: Modern Browsers Losing Security: Browser History is not Really Private |
| M.Swe. | C.W. Perr Fall 2010 | Project: Department of Defense Architecture Framework (DoDAF) Generation from Strongly Formed Programming Language Source Code |
| M.Swe. | Mathew Beaubouef Fall 2010 | Project: Certification & Accreditation of the Delta 3D Gaming Engine |
| Ph.D. | George Trawick Summer 2010 | Dissertation: Digital Forensics Detection of JPEG Steganography |
| M.S. | Ryan O'Farrell Fall 2009 | Thesis: Development of a Software Architecture Method for Software Product Families and its Application to the Aubiesat Satellite Program |
| Ph.D. | Winard Britt Summer | (co-chair w/ Dr. Bevly) |

| | | |
|--------|---------------------------------------|---|
| | 2009 | Dissertation: Autonomous Control and Navigation of a Trained Canine |
| Ph.D. | Derek Sanders Summer 2009 | Dissertation: A Single-Hop Medium Access Control Layer For Noisy Channels |
| Ph.D. | Mark Kuhr Spring 2009 | Dissertation: An Adaptive Jam-Resistant Cross-Layer Protocol for Mobile Ad-Hoc Networks In Noisy Environments |
| M.Swe. | Tiffanie Jones Spring 2009 | Project: The Albany Police Department Mobile Data Unit (AMDU) "Enforcing the law in an Efficient and Secure Manner" |
| M.Swe. | William Conkling Spring 2009 | Project: Applet Based Visualizer for NS3 Simulations |
| Ph.D. | Idongesit Mkpog-Ruffin Spring 2009 | (co-chair w/ Dr. Umphress) Dissertation: Quantitative Software Risk Assessment Model in the Design Phase of Software Development |
| Ph.D. | Stephen Torri Spring 2009 | Dissertation: Generic Reverse Engineering Architecture with Compiler and Compression Classification Components |
| Ph.D. | Suhair Amer Spring 2008 | Dissertation: Host-Based Intrusion Detection System Enhanced with Danger Theory of Artificial Immune Systems |
| Ph.D. | Eric Imsand Spring 2008 | Dissertation: Applications of GUI Usage Analysis |
| M.Swe. | Gerry Hicks Spring 2008 | Project: Cyber Analysis Tool: Collecting Sensitive/Confidential Information Through an Automated Search |
| M.Swe. | Daniel Box Spring 2008 | Project: Anti-Terrorism Profiling Using Data Mining |
| M.Swe. | Jonathan MacDonald Spring 2008 | Project: Fraud-ARC: An Investigative Data Mining Engine For Identity Fraud Analysis |
| M.Swe. | Bob Leithiser Spring 2008 | Project: Enabling Collaboration in Artifact Modeling Through the Use of Relational State Tracking |
| M.Swe. | Derek Sanders Spring 2008 | Project: Investigating a Cryptographic Coprocessor |
| M.Swe. | Stephen Hamilton Spring 2008 | Project: Secure Jam Resistant Key Transfer |
| M.Swe. | Mark Kuhr Spring 2008 | Project: Virtual Privacy Appliance with Geo-Perspective Access |
| M.Swe. | Adam Sachitano Spring 2008 | Project: Detecting Abnormal Usage of a Software Version Control Repository |
| Ph.D. | Xuan Yu Spring 2007 | Dissertation: A Defense System on DDOS Attacks in Mobile Ad Hoc Networks |
| M.Swe. | Kevin Richardson Spring 2007 | Project: Safely Redistributing Untrusted Code using .NET |
| M.Swe. | Alan Hunt | Project: Synclink Connectivity |

| | | |
|--------|-------------------------------|---|
| | Fall 2005 | |
| M.Swe. | Adam Hathcock Fall 2005 | Project: Implementation of Secure Overlay Services in Java |
| M.S. | Brian Eoff Fall 2005 | Thesis: Using Genetic Programming to Quantify the Effectiveness of Similar User Cluster History as a Personalized Search Metric |
| Ph.D. | Jay-Evan Tevis Summer 2005 | Dissertation: Automatic Detection of Software Security Vulnerabilities in Executable Program Files |
| M.Swe. | Pamela Sanders Fall 2004 | Project: Computer-Assisted Therapy: A Personal Digital Assistant Application for Generalized Anxiety Disorder |
| M.S. | Wade Chatam Summer 2004 | Thesis: Strategic Firewall Placement |
| M.Swe. | Van Norris Spring 2004 | Project: Open Source Parameter Search |
| M.S. | Eric Imsand Fall 2003 | Thesis: Using Genetic Algorithms to Aid in a Vulnerability Analysis of National Missile Defense Simulation Software |
| M.S. | Mark Peters Summer 2003 | Thesis: Vulnerability of Wireless Position Location Systems to Spoofing |

b. In-Progress: Serving as Major Professor / Committee Member

Serving as Major Professor: Ph.D. in Computer Science

DeMarcus Thomas

Chris Lanclos (co-chair with Chris Archibald)

Serving as Major Professor: M.S. in Cyber Security and Operations

LT Rachel Sims, USN Research Summary: “RFID” (expected May 2018)

LCDR Teddy Tan, USN “Internet-based Crowd-sourced (Social Media) Information (expected May 2018)

LCDR Alec Thomas, USN “A Security Evaluation of AIS Automated Identification System,”(expected May 2018)

Jonathan Davis Research Summary: “Blockchain” (expected 2018)

Serving as Committee Member

Melissa Hannis

• **Summary: Committee member (graduated students)**

- Ph.D. Computer Science: 6
- Ph.D. Software Engineering: 1 (Naval Postgraduate School)
- Ph.D. Electrical and Computer Engineering: 1
- M.S. Computer Science: 16
- M.S. Software Engineering: 10

- Ph.D. Management Information Systems: 2 (2 as Outside Reader)
- Ph.D. Industrial & Systems Engineering: 2 (1 as Outside Reader)

6. Scholarly Contributions

a. Courses and Curricula Developed

At Auburn University:

- COMP 3500 *Operating Systems*. Renovated Course. Objective: Provide upper division undergraduates with a thorough understanding of operating systems. Lecture notes, exams, projects developed and posted on the web.
- COMP 5340 (first taught as COMP 4970) *Network Quality Assurance and Simulation*. New Course. Objective: Provide an undergraduate learning experience in designing network simulations. Lecture notes, exams, projects developed and posted on the web. Paperwork completed to add course (COMP 5340) to university course catalog.
- COMP 5370/6370 *Computer and Network Security*. New Course. Objective: Practical experience in the areas of software and network security. Lecture notes, exams, projects developed and posted on the web. Paperwork completed to add course (COMP 5370/6370) to university course catalog.
- COMP 5350/6350 *Digital Forensics*. New Course. Objective: This course will introduce the topics of computer compromises and computer forensics. Students will be required to learn different aspects of computer crime and ways in which to uncover, protect and exploit digital evidence. Paperwork completed to add course (COMP 5350/6350) to university course catalog. Concurrent course ISMN 5350/6350 to be offered to MIS majors.
- COMP 7370-Advanced *Computer and Network Security*. New Course. Objective: Graduate research in the areas of software and network security. Lecture notes, exams, projects developed and posted on the web. Paperwork completed to add course (COMP 7370) to university course catalog.
- COMP 7440 *Simulations of Computer Networks*. New Course. Objective: Graduate research experience in designing network simulations. Lecture notes, exams, projects developed and posted on the web. Paperwork completed to add course (COMP 7440) to university course catalog.
- COMP 7700 *Software Architecture* (COMP 7706 distance learning version). Course listed in the catalog, but not previously offered. Objective: Gain practical experience in several software architecture methodologies, processes and description languages. Gain familiarity in current research trends in software architecture. Learn the capabilities and limitations of current software architecture techniques.

- COMP 4970/7970 *Special Topics in Computer Forensics* (COMP 7976 distance learning version). Objective: A course open to non-CS major seniors and graduate students focusing on the technical, analytical and law enforcement issues associated with conducting forensic analysis of computer systems and networks.

At United States Military Academy:

- CS 403 *Advanced Programming in Ada*. Renovated Course. Objective: Implementation of object-oriented designs developed to complement the two-semester capstone software engineering design sequence. Lecture notes, exams, projects developed and posted on the web.
- CS 393 *Database Systems*. Renovated Course. Objective: Implementation of web-based database front-ends and design of database back-ends. Lecture notes, exams, projects developed and posted on the web.

b. Grants Received Related to Teaching (not counted elsewhere)

- \$250,000.00 Grant from the US Army Office of the Director, Information Systems for Command, Control, Communications and Computers (DISC4) to incorporate network simulation into the USMA Electrical Engineering and Computer Science curriculum. (1998)
- \$50,000.00 Research Grant from the Defense Information Systems Agency for Faculty Development. (1997)

c. Other Contributions to Teaching

- Instructor/mentor 1997 Faculty Development Workshop, US Military Academy.
- Instructor, Ada Refresher Course, Naval Postgraduate School 2000

7. Other Creative Work

a. Video

- Hamilton, J.A., Jr., 2000 *Joint Technical Architecture*, Air Force Institute of Technology, Wright-Patterson AFB, OH, 30 minutes.

b. Papers or Lectures

- Poster: Compton*, D., Hamilton, J.A., Jr. (30%), *An Examination of the Techniques and Implications of Crowd-sourced Collection of Forensic Data*, 2011 3rd IEEE International Conference on Social Computing, Boston, Mass. 9 – 11 October 2011.
- Amer*, S. H., Hamilton, J.A., Jr., (20%), “Intrusion Detection Systems, (IDS) Taxonomy – A Short Review,” *DOD Software Tech News*, vol. 13, no. 2, June 2010,

DOD Data & Analysis Center for Software, Air Force Research Laboratory, Rome, N.Y., pp 23 - 30.

c. Professional Meetings / Invited Lectures

1. Hamilton, J.A., Jr., Invited Lecture: “Navigating the Digital Divide,” New Mexico Tech, Socorro, N.M. 1 March 2017.
2. Hamilton, J.A., Jr., Invited Lecture: “What if a Simulation is too Good?,” University of Memphis, Memphis, Tenn., 17 February 2017 and University of South Alabama, Mobile, Al., 28 April, 2016.
3. Hamilton, J.A., Jr., Invited Testimony: “An SCS Perspective on Modeling and Simulation,” presented to the National Research Council Committee on Modeling, Simulation and Games, 12 January 2009.
4. Hamilton, J.A., Jr., O’Connell, L.H., “The Impact of JCIDS on Software-Intensive Acquisitions, 2008 Systems & Software Technology Conference, Las Vegas, Nev., 2 May 2008.
5. Hamilton, J.A., Jr., Invited Lecture: “Security and Missile Defense Software,” Mississippi State University, Starkville, Miss., 20 February 2006.
6. Hamilton, J.A., Jr., “The Information Non-War of 2015,” Space and Missile Defense Conference, Huntsville, AL, 15 – 18 August 2005.

d. Keynote Addresses

1. *Critical Mass in Modeling & Simulation: the Alabama Example*, 2008 Huntsville Simulation Conference, keynote address, 22 – 23 October 2008, Huntsville, Ala.
2. *Advances in DODAF-Based Information Assurance Architectures*, 2008 Systems & Software Technology Conference, keynote address, 1 May 2008, Las Vegas, Nev.
3. *Critical Mass: SCS-SISO Cooperative Enterprises*, plenary address, 2007 SISO Fall Simulation Interoperability Workshop, 16-20 September 2007, Orlando Fla.
4. *A Brief History of Simulation & an SCS Update*, keynote address, SCS Summer Simulation Multiconference, Aug 15 – 18 2007, San Diego, Calif.
5. *Simulation Security: Securing the Future of Simulation*, keynote address, 17th European Simulation Symposium, Oct 20 - 23 2005, Marseille, France.
6. *Defense Interoperability: Software Engineering Comes of Age in the DoD*, interoperability keynote address, Software Technology Conference, April 29 - May 4,

2001, Salt Lake City, Utah.

7. *Programming Languages Do Make a Difference*, keynote address, ACM Tri-Ada '97 Conference, Nov 9 - 13 1997, St. Louis, Mo.
8. *Beyond the Mandate: Ada in the 21st Century*, keynote address, 14th Washington Ada Symposium, June 25 - 26, 1997, Washington, D.C.
9. *Implications of the NRC Report for the Department of Defense*, keynote address, 11th Annual Ada Software Engineering Education Symposium, Monmouth University, N.J., June 12 - 13 1997.

- **Other Research/Creative Contributions**

- Grant-in-Kind: Thirty OPNET software licenses renewed semiannually. Estimated value: OPNET Modeler: \$30,000.00 each + Wireless Module: \$10,000.00 each + Terrain Module \$10,000.00 each + Application Characterization Environment \$10,000.00 + Flow Analysis Module \$10,000.00 each x 30 licenses equals \$2,100,000.00 worth of industrial software for Auburn students and faculty to use. Software is hosted on ENS servers and available to all users in the College of Engineering.
- Invited short paper: Hamilton, J.A., Jr., (100%), *SCS: Securing the Future of Simulation*, Simulation, Vol. 84, No. 12, Dec. 2008, pp 575-576.

8. Outreach

a. Commentary

I have been very active in outreach activities in three major areas: student competitions, information assurance certifications of federal employees and teaching at neighboring HBCUs. I served as coach of Auburn programming contest teams from 2003 – 2006 and coached two digital combat exercise teams in 2004 and 2005. Under the auspices of the National Security Agency, I conducted Information Assurance certification courses at Redstone Arsenal from 2005 - 2007. The success of this program can be seen by the increasing number of civil servants and uniformed military personnel participating: 9 in 2005, 25 in 2006 and 53 in 2007. I have gained extensive experience in working with HBCUs and HSIs. What makes our partnerships significant is the time I spend on the HBCU/HSI campuses instructing and interacting with the students. I have taught semester courses in information assurance at Alabama State University in spring 2006, at both Tuskegee University and Albany State University in spring 2007 and again at Albany State in spring 2008 and at Western NM University in 2009 and 2014. As this outreach program continued to expand, Auburn colleagues (Xiao Qin and Jeff Ku) joined with me to teach IA courses at Alabama State and Tuskegee in Spring 2008. Using funding received from the National Security Agency, I routinely lectured and conducted lab exercises at Maxwell AFB. Currently, with support from the NSA, I am assisting the

National Guard in meeting personnel cyber security certification requirements of DoD Manual 8570.01M.

b. Specific outreach examples:

- Taught CMPS 480/580 Information Assurance Risk Analysis during Summer Semester 2009 at Western New Mexico University (HSI). Thirteen students took or audited the course and ten were certified.
- Team-Taught with an ASU colleague CSCI 4911 Information Assurance Management during Spring Semester 2008 on-site at Albany State University (HBCU). Thirteen students took the course and seven were certified.
- Taught CSCI 4911 Information Assurance Management during Spring Semester 2007 on-site at Albany State University (HBCU). Twenty-four students took the course and seven were certified.
- Taught CSCI 0421 Information Assurance Management during Spring Semester 2007 on-site at Tuskegee University (HBCU). Four students took the course and two were certified.
- Taught CS 490 Special Topics: INFOSEC Professional Certification Course during Spring Semester 2006 on-site at Alabama State University (HBCU). Eleven students took the course and eight were certified.
- Conducted 1 week NSA Senior System Manager Qualification Course in Huntsville, Ala., Jul. 2006 and Jul. 2007.
- Conducted 1 week NSA Information Security (INFOSEC) Qualification Course in Huntsville, Ala., Feb. 2005.
- Chairman, 2004 and 2005 Ph.D. Seminar, Southeast Software Engineering Conference, Huntsville, Ala.
- Coach/Judge, 2004 and 2005 Auburn Digital Combat Exercise Competitive Team, Southeast Software Engineering Conference, Huntsville, Ala. (2004, placed second, 2005, placed second and third.)
- Coach, 2003, 2004, 2005 and 2006 Auburn ACM programming contest team. (2003 placed twenty-third out of more than ninety teams at the Southeast Regional Competition, 2004 placed eleventh out of more than eighty-five teams at the South Central Regional Competition, 2005 placed thirty-first out of more than eighty-eight teams at the South Central Regional Competition.)
- Program Committee, Huntsville Simulation Conference, 2002 – 2010.

9. Service

University Service (Mississippi State University)

| Name | Position | Level | Period |
|---|-----------------|--------------|------------------|
| Cyber Operations Certificate | Director | University | Sep 17 – present |
| Information Assurance Certificate | Director | University | Aug 17 – present |
| Information Technology Committee | Member | University | Aug 13 – present |
| Southeastern Conference (SEC) Academic Conference Committee | Member | University | Aug 15 – present |
| Undergraduate Research Committee | Member | University | Aug 13 – Dec 14 |
| Master Development & Planning Committee | Member | University | Jan 14 – Jan 16 |

University Service (Auburn University)

| Name | Position | Level | Period |
|----------------------------|-----------------|--------------|------------------------------------|
| Auburn Cyber Task Force | Chair | University | Mar 12 – Dec 12 |
| College Promotion & Tenure | Member | College | Aug 10 – Aug 13 |
| Computer Security Team | Coach | Department | Mar 04 – Jan 06 |
| ACM Programming Team | Coach | Department | Sept 03 – Jan 06 |
| ACM/IEEE CS | Sponsor | Department | Dec 02 – Jan 07 |
| E-Day Committee | Member | Department | Aug 01 – Aug 13 |
| Promotion Committee | Member | Department | Aug 01 – Aug 13 |
| Hiring Committee | Member | Department | Aug 03 – Aug 04 Aug 06 – Aug 13 |
| Recruitment Committee | Member | Department | Aug 06 – Aug 13 |

University Service (US Military Academy)

| Name | Position | Level | Period |
|--------------------|-------------------|--------------|-----------------|
| Research Committee | Director | Department | Jun 97 - Sep 98 |
| Cadet Chapel Choir | Officer in Charge | University | Jun 97 - Sep 98 |

10. Professional Service

a. Professional Associations

- Society for Modeling & Computer Simulation International (Fellow)
 - Society Immediate Past President 2009 - 2011
 - Society President 2006 - 2009
 - Society Senior Vice President 2004 - 2006
 - Society Secretary 2002 – 2004
- Institute of Electrical and Electronics Engineers (Senior Member)

- IEEE Computer Society
- Association for Computing Machinery (Senior Member)
 - Elected Chair, 2017 – 2019, Special Interest Group Ada (SIGAda)
 - Elected Chair, 2010 – 2012, Special Interest Group Simulation (SIGSIM)
 - Elected Vice-Chair, 2008 – 2010, Special Interest Group Simulation (SIGSIM)
 - Secretary-Treasurer, 2004 – 2008, Special Interest Group Simulation (SIGSIM)
- Conference Committee, Simulation Interoperability Standards Organization (SISO) 2004 – 2006.
- Vice Chair, Professional Development Committee, Alabama Modeling and Simulation Council 2004 – 2006.
- Chairman, Auburn University Council of the Modeling and Simulation Network 2003 – 2013.
- Elected, Board of Directors, Alabama Modeling and Simulation Council 2006 – 2010.
- American Society for Engineering Education (Senior Member)
 - Member, Military and Veterans Division Constituent Committee 2013 – present.

b. Editor/Reviewer

- Associate Editor, *Simulation: Transactions of the Society for Modeling and Simulation*, 2008 – present.
- Associate Editor, *Journal of Defense Modeling and Simulation*, 2006 – present.
- Consulting Editor, *Journal of Defense Modeling and Simulation*, 2003 – 2005.
- Member, Editorial Board, *Crosstalk: The Journal of Defense Software Engineering*, 2006 – 2013.
- Referee, *Simulation Journal*, 1999 – 2001.
- Reviewer, Software Technology Conference, 1994-2000.
- Referee, Special Interest Group on Computer Science Education, 1993-1996.

c. Conference Leadership

- Conference Chair – 2014 ACM-SIGSIM Principles of Advanced Discrete Simulation Conference.
- Chair Elect – 2013 ACM-SIGSIM Principles of Advanced Discrete Simulation Conference.
- Program Committee, SECRIPT 2009 – International Conference on Security and Cryptography.
- Program Committee, IEEE Symposium on Computational Intelligence in Cyber Security, 2008 – 2013
- Program Committee, IEEE Rapid Systems Prototyping Workshop, 2000 – 2014.
- Program Committee, IEEE Information Assurance Workshop, 2006 – 2007.

- Program Committee, International Conference on Information Warfare, 2006 – present.
- Conference Chairman, 2006 Spring Simulation Multiconference, Huntsville, Ala.
- Conference Chairman, 2005 Spring Simulation Multiconference, San Diego, Calif.
- Conference Chairman, 2004 Advanced Simulation Technologies Conference, Washington, D.C.
- Conference Vice-Chairman, 2003 Advanced Simulation Technologies Conference, Orlando, Fla.
- Vice-Chair 2003 SE Section (Software Engineering) American Society for Engineering Education, Macon, Ga.
- Conference Committee, 2001 Conference on Software Engineering and Training Symposium, Charlotte, N.C.
- Conference Chairman, 1999 Ada Software Engineering Education Team Conference, US Air Force Academy.
- Conference Chairman, 1998 Ada Software Engineering Education Team Conference, US Naval Postgraduate School.
- Conference Committee, 1997 Tri-Ada Conference, St. Louis, Mo.

d. Miscellaneous

- Member, FBI Jackson Field Office Joint Terrorism Task Force
- Member, Federal Bureau of Investigation InfraGard
- Life Member, Auburn University Alumni Association
- Life Member, Disabled American Veterans
- Life Member, Phi Kappa Phi (National Honor Society)
- Life Member, New Mexico Military Institute Alumni Association
- Member, Upsilon Pi Epsilon (National Honor Computer Science Fraternity)
- Member, Phi Rho Pi (National Honor Speech Fraternity)
- Alumni, National Society of Scabbard & Blade (ROTC Honor Society)

11. Selected Federal Program Management and Contracting Course Completions

DHS Contracting Officer Workshop, December 2015.

Defense Acquisition University

- Adv. Systems Planning, Research, Development & Engineering (Level III) May 1999
- Software Acquisition Management (Level III) March 1999

Army Logistics Management College

- Information Mission Area Acquisition Strategy Course, September 1992
- Logistics Executive Development, November 1985
- Management of Defense Acquisition Contracts, November 1982