

Prime Time Computing, LLC, Knoxville, TN 37934
Vice President, Innovation and Product Development
Chief Technology Officer

Director, Cybernomics Laboratory
Center for Information Assurance
FedEx Institute of Technology, University of Memphis
Memphis, TN 38152

Phone: (865) 966-7031 Cell: (865) 809-9831
E-mail abercrombier@ieee.org
Websites: <http://orcid.org/0000-0003-0949-4070>
www.linkedin.com/in/robertabercrombie
http://www.researchgate.net/profile/Robert_Abercrombie
<http://campus.acm.org/public/vcard/vcard.cfm?handle=abercrombier>
http://ieee.confidentialresume.com/Robert_K_Abercrombie_Home_Page/

Robert K. Abercrombie, Ph.D.

Background Summary

Program Manager/Principal Investigator with extensive experience in all phases of program and project life cycle management from requirements definition through retirement and closeout of system. Additional strengths include technical management of R&D multi-disciplinary complex endeavors, their supply chain management and associated cyber security related endeavors. Previously, conducted research and managed military, government and civilian projects dealing with information technology systems, large distributed data processing systems, and the characterization of vehicles and associated cargo. In recent years, research interests and endeavors include cyber security and information assurance technologies in secure environments and transitioning this research to the private sector via ORNL technology transfer process. Current research efforts deal with developing break-through approaches for analytic capabilities that work across heterogeneous data sets and addressing the necessary computational intelligence techniques to address cyber security, big data analytics, and applications dealing with theories of emergent, distributed technologies.

Summary of qualifications

1980 – Present Oak Ridge Complex (ORNL & Y-12); University of Memphis Oak Ridge/Memphis, TN
Senior Program Manager/Technical Program Manager/Principal Investigator/Joint Faculty, Affiliate Research Professor, Vice President Veteran Owned Small Business

- Led/conducted information infrastructure and information technology research projects related to general computational intelligence, modeling and simulation, cyber security and information assurance technologies, transportation, logistics and supply chain endeavors of high risk, high payoff of national importance both domestically and overseas.
- Managed multi-disciplinary professional team with multi-year, multi-million dollar budgets (~\$2-3M per year). Funding received via DOE, DOE Strategic Partnership Projects (SPP – formerly known as Work for Others [Non Department of Energy Funded Work]), competitive BAAs.
- Managing innovation and product development strategies/activities for veteran owned small business.

1975 – 1979

Pre-doctoral and Post-doctoral Fellow

- Conducted technical independent research that provided foundation for further accomplishments.

Work experience

May 2016 – Present Prime Time Computing, LLC Knoxville, TN
Vice President, Innovation and Product Development; and Chief Technology Officer, Prime Time Computing, LLC Knoxville, TN

- Veteran Owned Small Business.
- Vice President, Innovation and Product Development, responsible for developing commercialization strategies and successful execution for the following portfolios: (1) Cyber Security (U.S. Patent 8,762,188, U.S. Copyright TXu 1-901-039); (2) Forewarning of Critical Condition Changes in Monitoring Civil Structures (U.S. Patent 8,410,952); (3) Advanced Weigh-in-Motion Technologies (U.S. Patents 8,389,878, 8,304,670, 7,783,450, 7,773,773, U.S. Copyrights TXu 1-797-273, TXu 1-696-097, TXu 1-703-492, TXu 1-735-072, TXu 1-619-362); and (4) Identification of Emerging Technologies (U.S. Patent 9,177,249).
- Chief Technology Officer, S&T Manager and Principal Investigator responsible for programmatic and technical management of specialized programs for customers.

December 2015 – September 2016 University of Memphis Memphis and Knoxville, TN
Affiliate Research Professor, Department of Computer Science, University of Memphis, Center for Information Assurance, FedEx Institute of Technology, Memphis, TN

- Participated as a tester on National Security Agency (NSA) funded research concerning Multi-Factor Authentication (MFA) led by Dr. Dipankar Dasgupta. Collaboration is via Department of Computer Science and Center for Information Assurance, FedEx Institute of Technology. MFA is a current trend to genuinely identify authorized users (in multiple ways) through an authentication process via passwords, security token, biometrics, cognitive behavior metric, software/hardware sensors, etc. The goal of this project is to develop a multi-factor authentication system with adaptive selection of authentication modalities (with their features) in different operating environments making the selection strategy unpredictable to compromise.

March 2015 – Present University of Memphis Memphis and Knoxville, TN
Adjunct Professor, Department of Computer Science, University of Memphis, Memphis, TN and Center for Information Assurance, FedEx Institute of Technology, Director, Cybernomics Laboratory, Knoxville, TN

- Collaborating with the FedEx Institute of Technology, the Center for Information Assurance, the Systems Testing Excellence Program and the Cluster to Advance cyber Security & Testing (CAST) in multiple colleges and departments of the University.
- Teaching responsibilities within Department of Computer Science include participating in CAST's Innovation in Action Series, Fundamentals in Cyber Security. This foundational program in cyber security is designed to cover the fundamentals of cyber security and cyber security vulnerabilities.

March 2015 – November 2015 University of Memphis, ORNL Memphis and Oak Ridge, TN
Oak Ridge National Laboratory (ORNL) Joint Faculty Appointment (Professor) University of Memphis, The Graduate School and Department of Computer Science, Memphis, TN

- Collaborating with the Center for Information Assurance, the Center for Earthquake Research and Information and the Systems Testing Excellence Program - in multiple departments of the University.

2011 – November 2015 ORNL Oak Ridge, TN
Director, Cybernomics Laboratory, Co-Director, Computational Intelligence Behavior Modeling Laboratory, S&T Manager and Principal Investigator in CSED, ORNL

- DOE lead for unclassified and classified programmatic activities for a variety of military and civilian agencies.
- S&T Manager and Principal Investigator responsible for programmatic and technical management of specialized programs for other government agencies at ORNL via DOE SPP concerning the Computational Intelligence Behavior Modeling Laboratory at ORNL
- S&T Manager and Principal Investigator responsible for leading and conducting research in high-risk computer information infrastructure projects in DOE and other SPP sponsors.

2002 – November 2015 ORNL Oak Ridge, TN
S&T Manager, Senior Program Manager and Principal Investigator in CSED, ORNL

- DOE lead for unclassified and classified programmatic activities for a variety of military and civilian agencies.
- S&T Manager, Senior Program Manager and Principal Investigator responsible for programmatic and technical management of specialized programs for other government agencies at ORNL via DOE SPP
- S&T Manager and Principal Investigator responsible for leading and conducting research in high-risk computer information infrastructure projects in DOE and other SPP sponsors.

1994 – 2002 MMES/LMES, BWXT at Y-12 Oak Ridge, TN
Senior Program Manager and Principal Investigator in DSRD/NSPO

- DOE lead for unclassified and classified programmatic activities for a variety of military and civilian agencies in Data Systems Research & Development Division (DSRD) and National Security Program Office (NSPO) at the Y-12 National Security Complex.
- Led and conducted research in high-risk computer information infrastructure projects in DOE and via SPP Program for US Army, US Air Force, US Navy, Joint Military Commands, US Transportation Command, US European Command, DARPA, IARPA, EPA, DOT and DHS domestically and overseas.

1981 – 1982 University of Tennessee, Knoxville Knoxville, TN

Adjunct Assistant Professor, Department of Electrical Engineering & Computer Science

- Taught (1) Database Systems Design and Theory, and (2) Embedded Network Security Upper Level Undergraduate and Graduate Level Courses.

1980 – 1994 Union Carbide Nuclear Division, MMES Oak Ridge, TN

Group Leader / Section Head ('82-'94) in Technical Applications & DSRD; Staff ('80-'82) C&TD

- Managed technical groups in Europe, South-West Asia, and in US ('89-'94) for Army and Joint Military Command sponsor with multi-year budget of \$12M.
- Managed technical groups in development of complex computing inspection systems and applications at ORNL and the Y-12 National Security Complex ('80-'89), as part of the DOE Nuclear Weapons Complex.

Education

1978-79 Univ. of Missouri NIH/NLM Post-Doctoral Fellowship in Computer Science and Medical Informatics

1979 University of Missouri, Columbia, M.S., Computer Science

1978 University of Tennessee, Knoxville, Ph.D., Physiology/Biomechanics

1975-78 University of Tennessee, Knoxville, Pre-Doctoral Research Fellow (NIH & NSF Fellowships)

1976 Emory University, Pre-Doctoral Research Fellow (Alfred P. Sloan Research Fellowship)

1975 University of Washington, Friday Harbor Marine Laboratories, NSF Pre-Doctoral Research Fellow

1973 The College of William & Mary, Williamsburg, VA, B.S., Biology

**Professional
Membership and
Professional
Outreach**

Senior Member of Institute of Electrical and Electronics Engineers (IEEE), Senior Member, IEEE Computational Intelligence Society, Senior Member, IEEE Computer Society, Senior Member of Association of Computing Machinery (ACM), Founding Member of International Society for Weigh-In-Motion (ISWIM). Past membership in American Association for the Advancement of Science (AAAS), Society of Logistics Engineers (SOLE), Institute for Operations Research and the Management Sciences (INFORMS), Military Operations Research Society (MORS), and Armed Forces Communications and Electronics Association (AFCEA).

Review and program development activities:

2018, 2017, 2015, 2014, 2013 2011, 2010, 2009, 2008 Invited Reviewer, IEEE Proceedings of Annual Hawaii International Conference on System Sciences (HICSS)

2017 The 7th International Workshop on Internet on Things: Privacy, Security and Trust (IoTTPST201, (previously MobiPST) in conjunction with ICCCN 2017, Vancouver, Canada – Program Committee Member

2016, 2013, 2012 Invited Reviewer, Journal of Scientometrics

2015-2016 New Jersey Institute of Technology Secure Computing Initiative (NJIT SCI) Board of Advisors (NSF funded \$4M over four-year period) – Board Member

2015, 2014, 2013, 2012, 2011, 2010, 2009, The University of Memphis Center for Information Assurance (NSA/DHS designated National Center of Academic Excellence in Cyber Defense Research (CAE-R); National Center of Academic Excellence in Information Assurance Education (CAE/IAE), both designations cover academic years 2014-2021) – Advisory Board member

2015 IEEE Symposium Series on Computational Intelligence (SSCI'15), IEEE Symposium on Computational Intelligence in Cyber Security (IEEE CICS'15) – Symposium Co-Chair

2015, 2014, 2013, 2011, 2009 IEEE Symposium Series on Computational Intelligence (SSCI), IEEE Symposium on Computational Intelligence in Cyber Security (CICS'15, CICS'14, CICS'13, CICS'11, CICS'09) – Program Committee Member

2015, 2014, 2009 IEEE Symposium Series on Computational Intelligence (SSCI), IEEE Symposium on Computational Intelligence in Cyber Security (CICS'15, CICS'14, CICS'09) – Session Co-chair

2015, 2014, 2013, 2011, 2009 Invited Reviewer, IEEE Symposium Series on Computational Intelligence

2015, 2014, 2013, 2012, 2011 Invited Reviewer, Information Systems and e-Business Management Journal

2014, 2013, 2011, 2010, 2009, 2008 Co-Editor, Proceedings of Annual Workshops on Cyber Security and Information Intelligence Research

2014 Third ASE International Conference on Cyber Security, Stanford University – Program Committee Member

2014, 2011 World Conference on Security and Management (SAM'11) Special Track on Mission Assurance and Critical Infrastructure Protection (STMACIP'11) – Program Committee Member

2013 World Congress in Computer Science, Computer Engineering, and Applied Computing/2013 International Conference on Security and Management (SAM'13) – Special Track on “Systems Engineering and Security (STSES'13)” - Session Program Committee Member

2013, 2012 European Conference on the Applications of Evolutionary Computation 2012; evoRISK 2013 - Computational Intelligence for Risk Management, Security and Defence Applications - Program Committee Member

2012 IEEE World Congress on Computational Intelligence - Computational Intelligence in Cyber Security Program Committee Member

Publications

Authored or co-authored Patents, Technical Reports, and referred journal and conference papers concentrating on Algorithms of Project Plan Scheduling, Requirements/Functional/Systems Design, Systems and User Acceptance Testing, User Training, Security Plans, and, Configuration Management. Research publications deal with Transportation, Logistics, Enterprise Risk Management Analysis, Information Assurance, Cyberspace Analysis, Cyber Security, Big Data Analytics, Theories of Emergence, and Scientometrics.

- 8 U.S. Patents; 10 Patents Pending
- 7 Copyrighted Software Packages, 10 in process or pending
- 44 UT-Battelle, LLC (ORNL) Invention Disclosures
- 1 University of Memphis Invention Disclosure
- 6 Co-Editor of Conference/Workshop Proceedings
- 3 Book Chapters
- 88 Referred Journal Articles and Conference Papers
- 77 Refereed Conference Presentations
- 113 Technical Reports
- 41 Invited Presentation/Talks

Patents Issued and Pending:

R. K. Abercrombie, B. G. Schlicher, and F. T. Sheldon, “Scientometric Methods for Identifying Emerging Technologies,” U.S. Patent 9,177,249, November 3, 2015, [DOE epatents](#), [Google Patents](#).

R. K. Abercrombie, F. T. Sheldon, and E. M. Ferragut, “Cyberspace Security System,” U.S. Patent 8,762,188, June 24, 2014, [DOE epatents](#), [Google Patents](#).

R. K. Abercrombie, F. T. Sheldon, and A. Mili, “Cyberspace Security System for Complex Systems,” U.S. Patent Application No.: 14/134,949, December 19, 2013, U.S. Patent Application Publication US 2014-0108089 A1, April 17, 2014.

R. K. Abercrombie and B. G. Schlicher, “Information Security Analysis Using Game Theory and Simulation,” U.S. Patent Application No.: 14/097,840, December 5, 2013, U.S. Patent Application Publication US 2014-0157415 A1, June 5, 2014.

R. K. Abercrombie and L. M. Hively, "Method for Forewarning of Critical Condition Changes in Monitoring Civil Structures," U.S. Patent 8,410,952, April 2, 2013, [DOE epatents](#), [Google Patents](#).

R. K. Abercrombie, G. D. Richardson, and M. B. Scudiere, "Weigh-In-Motion Scale with Foot Alignment Features," U.S. Patent 8,389,878, March 5, 2013, [DOE epatents](#), [Google Patents](#).

R. K. Abercrombie, G. D. Richardson, M. B. Scudiere, and F. T. Sheldon, "Portable Weighing System with Alignment Features," U.S. Patent 8,304,670, November 6, 2012, [DOE epatents](#), [Google Patents](#).

R. K. Abercrombie and E. M. Ferragut, "Weigh-In-Motion Estimation via Probabilistic Hidden Variable Modeling," U.S. Patent Application No. 61/641,340, US Patent Pending, May 2, 2012.

R. K. Abercrombie, E. M. Ferragut, and L. M. Hively, "Weight and Piece-Wise Analysis for Weigh-In-Motion," U.S. Patent Application No. 61/641,978, US Patent Pending, May 3, 2012.

R. K. Abercrombie, "System and Method for Normalizing Data for Analysis of Search Results," U.S. Patent Pending (February 2, 2011).

L. M. Hively and R. K. Abercrombie, "Method and System for Reducing Errors in Vehicle Weighing Systems," U.S. Patent 7,783,450, August 24, 2010, [DOE epatents](#), [Google Patents](#).

R. K. Abercrombie and B. G. Schlicher, "Method and System for Determining a Volume of an Object from Two-Dimensional Images," U.S. Patent 7,773,773, August 10, 2010, [DOE epatents](#), [Google Patents](#).

R. K. Abercrombie, G. D. Richardson, and M. B. Scudiere, "The Potential and Beneficial Use of Weigh-In-Motion (WIM) Systems Integrated with Radio Frequency Identification (RFID) Systems for Characterizing Disposal of Waste Debris to Optimize the Waste Shipping Process," U.S. Patent Pending (February 26, 2010).

L. M. Hively, R. K. Abercrombie, and Frederick T. Sheldon, "Failure Prediction of Complex Structures under Arbitrary Time-Serial Loading Condition," U.S. Patent Pending (August 26, 2009).

R. K. Abercrombie, F. T. Sheldon, and A. Mili, "System and Method for Implementing and Monitoring a Cyberspace Security Econometrics System and other Complex Systems," U.S. Patent Pending (May 12, 2008).

D. L. Beshears, S. G. Batsell, R. K. Abercrombie, M. B. Scudiere, and C. P. White, "System and Method for Identifying, Validating, and Characterizing Moving or Stationary Vehicles and Cargo," U.S. Patent 7,305,324, December 4, 2007, [DOE epatents](#), [Google Patents](#).

R. M. Walker, R. K. Abercrombie, and S. G. Batsell, "Method and System for Inspection of Load-Carrying Vehicles," U.S. Patent Pending, (February 8, 2007).

Copyrighted Software:

R. K. Abercrombie, B. G. Schlicher, F. T. Sheldon, and M. W. Lantz, "AR-CITE: Analysis of Search Results for the Clarification and Identification of Technology Emergence," U.S. Copyright TXu 2-001-700, November 13, 2015.

R. K. Abercrombie, B. G. Schlicher, F. T. Sheldon, M. W. Lantz, and K. R. Hauser, "Cyberspace Security Econometrics System (CSES)," U.S. Copyright TXu 1-901-039, February 6, 2014.

R. K. Abercrombie and F. T. Sheldon, "Automated-In-Motion Evaluation Environment (AIMVEE) User Training and Testing Materials," U.S. Copyright TXu 1-797-273, February 13, 2012.

R. K. Abercrombie, G. D. Richardson, F. T. Sheldon, D. L. Beshears, M. B. Scudiere, D. B. Smith, and C. P. White, "Automated-In-Motion Evaluation Environment (AIMVEE) User Manual," U.S. Copyright TXu 1-696-097, August 12, 2010.

R. K. Abercrombie, G. D. Richardson, M. B. Scudiere, B. G. Schlicher, and G. C. Arnold, "Static Scale Software Conversion Software for Automated-In-Motion," U.S. Copyright TXu 1-703-492, July 28, 2010.

R. K. Abercrombie and L. M. Hively, "Error Reduction in Weigh-In-Motion," U.S. Copyright TXu 1-735-072, October 31, 2008.

R. K. Abercrombie, G. D. Richardson, M. B. Scudiere, B. G. Schlicher, and G. C. Arnold, "Automated-In-Motion Evaluation Environment (AIMVEE)," U.S. Copyright TXu 1-619-362, March 17, 2008.

ORNL and University of Memphis Intellectual Property – Inventions Disclosures:

R. K. Abercrombie, and D. Dasgupta, "Adaptive Multi-Factor Authentication System (A-MFA) Synchronous and Asynchronous Processing," University of Memphis, July 27, 2016.

B. G. Schlicher and R. K. Abercrombie, ID 201503485, DOE S-138,116, "Inverse Verification and Validation (IV&V) of Complex Simulation Models - (IV²oCS)", February 20, 2015.

R. K. Abercrombie, F. T. Sheldon, A. Ben Aissa, and A. Mili, ID 201403444, DOE S-138,073, "Econometric Availability—A CSES Enhancement and Adaptation (EA/CSES)," December 4, 2014.

L. M. Hively and R. K. Abercrombie, ID 201303210, DOE S-124,801, "Forewarning of Bridge Failure without Algorithm Training," December 5, 2013.

R. K. Abercrombie, B. G. Schlicher, and F. T. Sheldon, ID 201303155, DOE S-124,743 "Game Theoretic Agent Based Models (ABMs) for Impact Matrix and Threat Vector," August 22, 2013 (<http://www.osti.gov/scitech/biblio/1091669>).

R. K. Abercrombie, and B. G. Schlicher, ID201303109, DOE S-124,694, "Further Refinements to Framework for Early Warning of Relevant Phenomena," June 28, 2013 (<http://www.osti.gov/scitech/biblio/1090543>).

R. K. Abercrombie and B. G. Schlicher, ID201303084, DOE S-124,668, "Risk Assessment Analysis Using Game Theory and Simulation (RAA-GT&S)," May 17, 2013 (<http://www.osti.gov/scitech/biblio/1090542>).

R. K. Abercrombie, B. G. Schlicher, and L. M. Hively, ID201303070, DOE S-124,654, "Framework for Early Warning of Relevant Phenomena and Big Data," May 6, 2013 (<http://www.osti.gov/scitech/biblio/1090541>).

R. K. Abercrombie and B. G. Schlicher, ID201202961, DOE S-124,539 "Information Security Analysis Using Game Theory and Simulation," October 16, 2012 (<http://www.osti.gov/scitech/biblio/1090540>).

R. K. Abercrombie, F. T. Sheldon, and A. Mili, ID 201202954, DOE S-124,531 "Cyberspace Security Econometrics Systems Enhancements for Evaluating Architectures (CSES-EA)," October 8, 2012 (<http://www.osti.gov/scitech/biblio/1090539>).

R. K. Abercrombie, F. T. Sheldon, K. R. Hauser, and A. Mili, ID 201202949, DOE S-124,526 "Cyberspace Security Econometrics Systems Enhancements for Balancing (CSES-E)," September 25, 2012, and updated October 8, 2012 (<http://www.osti.gov/scitech/biblio/1090538>).

R. K. Abercrombie and B. G. Schlicher, ID 201202821, S-124,387 "Global Identification e-Infrastructure and Data Infrastructure Serving Scientific Work," March 6, 2012.

R. K. Abercrombie, B. G. Schlicher, and R. C. Ward, ID 201202820, DOE S-124,386 "Efficient Retrieval and Presentation of Entities from Disparate Data Sources," March 6, 2012.

R. K. Abercrombie and B. G. Schlicher, Invention Disclosure Number: 201102735, DOE S-Number: S-124,295, "Role Based Management of Authentication for Access to Cloud Entities," November 14, 2011.

R. K. Abercrombie, Invention Disclosure Number: 201102734, DOE S-Number: S-124,294, "Protection of Data and processes in Virtual and Physical Environments," November 14, 2011.

R. K. Abercrombie, Bob G. Schlicher, Raphael C. Pooser, Nathanael R. Paul, Invention Disclosure Number: 201102726, DOE S-Number: S-124,286, "Two-Factor Authentication Provisioning to Secure Access to Applications Cloud," October 18, 2011.

R. K. Abercrombie and B. G. Schlicher, Invention Disclosure Number: 201102719, DOE S-Number: S-124,277, "Global Identification for Unstructured Disparate Data Artifacts," September 28, 2011.

R. K. Abercrombie, L. P. MacIntyre, and B. G. Schlicher, Invention Disclosure Number: 201102659, DOE S-Number: S-124,217, "Protection of Data in Virtual and Physical Computing Environments," July 26, 2011.

R. K. Abercrombie, B. G. Schlicher, and L. P. MacIntyre, Invention Disclosure Number: 201102625, DOE S-Number: S-124,183, "Enhanced Tracking and Location Identification with Audit Trail," June, 21, 2011.

R. K. Abercrombie and B. G. Schlicher, Invention Disclosure Number: 201102584, DOE S-Number: S-124,140, "Determination of Emergence from Transition Technology Level Indicators," March 28, 2011.

R. K. Abercrombie and F. T. Sheldon, Invention Disclosure Number: 201102583, DOE S-Number: S-124,139, "Enhanced Methods for Normalizing Data for Analysis of Search Results," March 28, 2011.

R. K. Abercrombie, G. D. Richardson, B. G. Schlicher, and F. T. Sheldon, Invention Disclosure Number: 201102545, DOE S-Number: S-124,101, "Reference Distance for Use in Determining a Volume of Object," December 3, 2010.

R. K. Abercrombie and F. T. Sheldon, Invention Disclosure Number: 201002514, DOE S-Number: 124,068, "Cyber Security Econometrics System (CSES) for Assessing/Ranking Threats," December 3, 2010.

R. K. Abercrombie and E. M. Ferragut, Invention Disclosure Number: 201002373, DOE S-115,419, "Weigh-in-Motion Estimation via Probabilistic Hidden Variable Modeling," February 15, 2010.

R. K. Abercrombie, E. M. Ferragut, and L. M. Hively, Invention Disclosure Number: 201002372, DOE S-115,418, "Weight and Piece-Wise Analysis for Weigh-In-Motion," February 9, 2010.

R. K. Abercrombie and F. T. Sheldon, Invention Disclosure Number: 201002432, DOE S-115,484, "Environment for Access Control Policy Analysis and Management of Sensors," July 20, 2010.

R. K. Abercrombie, E. M. Ferragut, L. M. Hively, L. P. MacIntyre, and S. J. Prowell, Invention Disclosure Number: 201002416, DOE S-115,464, Complex Structure Forewarning System Framework, May 21, 2010.

R. K. Abercrombie and L. M. Hively, Invention Disclosure Number: 201002369, DOE S-115,414, "Failure Forewarning in Complex Structures under Arbitrary Loading," February 3, 2010.

R. K. Abercrombie, E. M. Ferragut, B. J. Lagesse, F. T. Sheldon, C. A. Shue, and L. P. Wilder, Invention Disclosure Number: 200902353, DOE S-Number: S-115,393, "Ontology-Based Probability Modeling for Distributed Real-Time Anomaly Detection," December 11, 2009.

R. K. Abercrombie and E. M. Ferragut, Invention Disclosure Number: 200902343, DOE S-Number: S-115,383, Cyberspace Security Econometrics System (CSES) Expansion to Address Dependent Events," November 9, 2009.

R. K. Abercrombie G. D. Richardson, M. G. Scudiere, D. Buckner, and D. R. Newton, Invention Disclosure Number: 200902336, DOE S-115,376, "Weigh-In-Motion System Integrated with Radio Frequency Identification Systems," November 6, 2009.

R. K. Abercrombie, Invention Disclosure Number: 200902280, DOE S-Number: S-115,318, "System and method for normalizing data for analysis of search results," July 3, 2009.

R. K. Abercrombie, F. T. Sheldon, and A. Mili, Invention Disclosure Number: 200902274, DOE S-Number: S-115,312, "Method of Providing Return on Investment for Cyber Security Econometrics System," May 20, 2009.

R. K. Abercrombie and F. T. Sheldon, Invention Disclosure Number: 200902254, DOE S-Number: S-115,290, "Heuristic Insider Threat Evaluation and Response (HITER)," May 7, 2009.

R. K. Abercrombie, Invention Disclosure Number: 200902252, DOE S-Number: S-115,287, "Spacers for Simultaneous Wheel Contact on Weight Pads," April 17, 2009.

R. K. Abercrombie, G. D. Richardson, M. B. Scudiere, and F. T. Sheldon, Invention Disclosure Number: 200902196, DOE S-Number: S-115,225, "Adaptation to WIM to Permanently Anchor to Pavement," November 26, 2008.

R. K. Abercrombie, G. D. Richardson, and M. B. Scudiere, Invention Disclosure Number: 200902180, DOE S-Number: S-115,209, "Enhancements to WIM for Ease of Use - Modifications and/or Elimination of Load Cell Foot Strap," November 14, 2008.

L. M. Hively and R. K. Abercrombie, Invention Disclosure Number: 05-634-2045, DOE S-Number: S-115,067, "Failure Prediction of Complex Structures under Arbitrary Time-serial Loading Conditions," February 12, 2008.

R. K. Abercrombie, F. T. Sheldon, and A. Mili, Invention Disclosure Number: 1300001980, DOE S-Number: S-111,598, "Cyber Security Econometrics System," September 5, 2007.

R. K. Abercrombie and L. M. Hively, Invention Disclosure Number: 1805, DOE S-111,407, "Novel Improvements for Weigh-In-Motion System with Respect to Error Reduction," November 7, 2006.

R. K. Abercrombie and B. G. Schlicher, Invention Disclosure Number: 1300001676, DOE S-108,679, "Geo-registration of Images/Videoframes Using Multiple Data Sources Including Telemetry, Geo-registered Elevation and Image Data, Pattern and Feature Recognition," January 6, 2006.

R. K. Abercrombie and B. G. Schlicher, Invention Disclosure Number: 1407/1588, DOE S-105,003, S-105,190, "Measurement of Three Dimensional Objects Contained in Two Dimensional Images," May 12, 2004.

R. K. Abercrombie, M. B. Scudiere, D. L. Beshears, C. P. White, and S. G. Batsell, Invention Disclosure Number: 1396, "System and Method for Identifying, Validating, Weighing, and Characterizing Moving or Stationary Vehicles and Cargo," January 6, 2004.

R. K. Abercrombie and S. G. Batsell, Invention Disclosure: 1380, DOE S-101,979, "Asset Identification and Information Infrastructure Management System (AI3M)," January 6, 2004.

R. M. Walker, R. K. Abercrombie, and S. G. Batsell, Invention Disclosure: 1210, "Performance Based 21st Century Commercial Vehicle Inspection System," December 16, 2002.

Publications:

F. T. Sheldon, R. K. Abercrombie, and X. Cui, "Introduction to Supply Chain Security and Mutual Trust Research Minitrack." *Proceedings of 50th Annual Hawaii International Conference on System Sciences (HICSS-50)*, Hilton Waikoloa Village in Waikoloa, Hawaii USA, January 4-7, 2017, (ISBN: 978-0-9981331-0-2, [DOI: 10.21203/rs.3.rs-1021541/v1](https://doi.org/10.21203/rs.3.rs-1021541/v1)).

B. G. Schlicher, L. P. MacIntyre and R. K. Abercrombie, "Reducing the Data Exfiltration Surface for the Insider Threat," *Proceedings of 49th Annual Hawaii International Conference on System Sciences (HICSS-49)*, Kauai, Hawaii, January 5-8, 2016.

M. A. H. Sadi, M. H. Ali, D. Dasgupta, R. K. Abercrombie, and S. Kher, "Co-Simulation Platform for Characterizing Cyber Attacks in Cyber Physical Systems," *Proceedings of 2015 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2015)*, Cape Town, South Africa, December 7-10, 2015, pp 1244-1251 ([DOI: 10.1109/SSCI.2015.17](https://doi.org/10.1109/SSCI.2015.17)).

R. K. Abercrombie and F. T. Sheldon, "Security Analysis of Smart Grid Cyber Physical Infrastructures Using Modeling and Game Theoretic Simulation," *Proceedings of 2015 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2015)*, Cape Town, South Africa, December 7-10, 2015, pp 455-462, ([DOI: 10.1109/SSCI.2015.74](https://doi.org/10.1109/SSCI.2015.74)).

Q. Chen, R. K. Abercrombie and F. T. Sheldon, "Risk Assessment for Industrial Control Systems Quantifying Availability Using Mean Failure Cost (MFC)," *Journal of Artificial Intelligence and Soft Computing Research*, Volume 5, Issue 3, Pages 205–220, ISSN (Online) 2083-2567, September 2015, ([DOI: 10.1515/jaiscr-2015-0029](https://doi.org/10.1515/jaiscr-2015-0029)).

B. G. Schlicher, J. J. Kulesz, R. K. Abercrombie and K. L. Kruse, "A Computing Environment to Support Repeatable Scientific Big Data Experimentation of World-Wide Scientific Literature," *Proceedings of 2015 International Conference on Scientometrics and Informetrics*, Istanbul, Turkey, June 29 – July 4, 2015.

- M. A. H. Sadi, D. Dasgupta, M. H. Ali and R. K. Abercrombie, "OPNET/Simulink Based Testbed for Disturbance Detection in the Smart Grid," *Proceedings of 2015 10th Annual Cyber and Information Security Research (CISR15) Conference*, Oak Ridge National Laboratory, Oak Ridge, TN April 7-9, 2015.
- R. K. Abercrombie, F. T. Sheldon and B. G. Schlicher, "Risk and Vulnerability Assessment Using Cybernomic Computational Models, Tailored for Industrial Control Systems," *Proceedings of 2015 10th Annual Cyber and Information Security Research (CISR15) Conference*, Oak Ridge National Laboratory, Oak Ridge, TN April 7-9, 2015.
- A. Ben Aissa, R. K. Abercrombie, F. T. Sheldon and A. Mili, "Quantifying Availability Using Mean Failure Cost in Cyber-Physical SCADA Environments," *2014 IEEE Symposium on Computational Intelligence in Cyber Security (CICS), IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2014)*, Orlando, FL, December 9-12, 2014, pp. 26-33.
- R. K. Abercrombie and A. S. Loebel, "Systems Life Cycle and Its Relation with the Triple Helix," in *Measuring Scholarly Impact – Methods and Practice*, Y. Ding, R. Rousseau, and D. Wolfram (Eds.) Book Chapter No. 5, pp 103-125, Springer, December 14, 2014 ([DOI: 10.1007/978-3-319-10377-8](https://doi.org/10.1007/978-3-319-10377-8)).
- R. K. Abercrombie and S. Peters, "Centralized Cryptographic Key Management and Critical Risk Assessment - CRADA Final Report For CRADA Number NFE-11-03562," May 28, 2014 ([DOE SciTech Connect](#); [DOI: 10.2172/1132557](https://doi.org/10.2172/1132557)).
- R. K. Abercrombie, "Cryptographic Key Management and Critical Risk Assessment," ORNL/TM-2014/131, April 2014 ([DOE SciTech Connect](#); [DOI: 10.2172/1131520](https://doi.org/10.2172/1131520)).
- R. K. Abercrombie and J. T. McDonald, (Editors), *2014 Proceedings of the Ninth Annual Cyber and Information Security Conference (CISRC-2014)*, ACM International Conference Proceeding Series, Oak Ridge, TN, April 8-10, 2014 ([DOE SciTech Connect](#); [DOI: 10.1145/260287](https://doi.org/10.1145/260287)).
- A. Ben Aissa, L. B. A. Rabai, R. K. Abercrombie, and A. Mili, "Quantifying Availability in SCADA Environments Using the Cyber Security Metric MFC," *2014 Proceedings of the Ninth Annual Cyber and Information Security Research Conference (CSIRC-2014)*, Oak Ridge, TN, April 8-10, 2014 ([DOI: 10.1145/2602087.2602103](https://doi.org/10.1145/2602087.2602103)).
- R. K. Abercrombie, B. G. Schlicher, and F. T. Sheldon, "Security Analysis of Selected AMI Failure Scenarios Using Agent Based Game Theoretic Simulation," *Proceedings of 2014 47th Hawaii International Conference on System Sciences (HICSS-47)*, Waikoloa, Big Island, Hawaii, January 6-9, 2014, Computer Society Press, 2014, pp. 2015-2024 ([DOI: 10.1109/HICSS.2014.255](https://doi.org/10.1109/HICSS.2014.255)).
- R. K. Abercrombie, B. G. Schlicher, and F. T. Sheldon, "Analysis of Search Results for the Clarification and Identification of Technology Emergence (AR-CITE)," *Proceedings of 14th International Society of Scientometrics and Informetrics Conference (ISSI 2013)*, ed.: J. Gorraiz, E. Schiebel, C. Gumpenberger, M. Hörlesberger, and H. Moed, Facultas Verlags und Buchhandels AG, Vienna, Austria, July 15-19, 2013, pp. 1854-1856.
- B. G. Schlicher, R. K. Abercrombie, and L. M. Hively, "Conceptual Framework to Enable Early Warning of Relevant Phenomena (Emerging Phenomena and Big Data)," *Proceedings of 2013 IEEE International Conference on Intelligence and Security Informatics (ISI)*, Seattle, WA, June 4-7, 2013, pp. 227-229 ([DOI: 10.1109/ISI.2013.6578824](https://doi.org/10.1109/ISI.2013.6578824)).
- R. K. Abercrombie, F. T. Sheldon, K. R. Hauser, M. W. Lantz, and A. Mili, "Failure Impact Analysis of Key Management in AMI Using Cybernomic Situational Assessment (CSA)," *Proceedings of the 8th Annual Cyber Security and Information Intelligence Research Workshop (CSIRW-2012)*, Oak Ridge, TN, January 8-10, 2013 ([DOI: 10.1145/2459976.2459998](https://doi.org/10.1145/2459976.2459998)).
- M. Duren, H. Aldridge, R. K. Abercrombie, and F. T. Sheldon, "Designing and Operating Through Compromise: Architectural Analysis of CKMS for the Advanced Metering Infrastructure," *Proceedings of the 8th Annual Cyber Security and Information Intelligence Research Workshop (CSIRW-2012)*, Oak Ridge, TN, January 8-10, 2013 ([DOI: 10.1145/2459976.2460031](https://doi.org/10.1145/2459976.2460031)).
- R. K. Abercrombie, F. T. Sheldon, K. R. Hauser, M. W. Lantz, and A. Mili, "Risk Assessment Methodology Based on the NISTIR 7628 Guidelines," *Proceedings of 46th Hawaii International Conference on System*

Sciences (HICSS-46), Wailea, Maui, Hawaii, January 7-10, 2013, Computer Society Press, 2012, pp. 1802-1811, ([DOI: 10.1109/HICSS.2013.466](https://doi.org/10.1109/HICSS.2013.466)). Nominated best paper and received Runner-Up Acknowledgment.

A. Ben Aissa, R. K. Abercrombie, F. T. Sheldon, and A. Mili, "Defining and Computing a Value Based Cyber-Security Measure," *Information Systems and E-Business Management*, Volume 10, Issue 4, pp 433-453, Springer London: December 1, 2012, ([DOI: 10.1007/s10257-011-0177-1](https://doi.org/10.1007/s10257-011-0177-1)).

R. K. Abercrombie and F. T. Sheldon, "ORNL CRADA - Status Briefing Update (Oct. 2012) on CEDS Portion of Project - Topic 2 Cryptographic Key Management System (CKMS)," ORNL/LTR-2012/538, Purdue University, West Lafayette, IN, October 4, 2012 (Distributed October 2012).

B. G. Schlicher and R. K. Abercrombie, "Information Security Analysis Using Game Theory and Simulation," *Proceedings of the 2012 International Conference on Security and Management (SAM '12), 2012 World Congress in Computer Science, Computer Engineering, and Applied Computing (WORLDCOMP '12)*, Las Vegas, NV, July 16-19, 2012, pp 540-546.

R. K. Abercrombie, E. M. Ferragut and S. D. Boone, "Hidden Markov Modeling for Weigh-In-Motion Estimation," *Proceedings of the International Conference on Weigh-In-Motion (ICWIM6 and NATMEC 2012)*, Dallas, TX, June 4-7, 2012.

R. K. Abercrombie and B. G. Schlicher, "Application of Scientometric Methods to Identify Emerging Technologies," *Proceedings of Quantitative Methods in Defense and National Security 2012*, George Mason University, Fairfax, VA, April 30 - May 1, 2012.

R. K. Abercrombie and F. T. Sheldon, "ORNL CRADA - Phase I Deliverable Report (March 2012) on CEDS Project - Topic 2 Cryptographic Key Management System (CKMS)," ORNL/LTR-2012/256, March 2012.

R. K. Abercrombie, A. W. Udoeyop, and B. G. Schlicher, "A Study of Scientometric Methods to Identify Emerging Technologies Via Modeling of Milestones," *Journal of Scientometrics*, Volume 91, Number 2, Pages 327-342, May 2012, ([DOI: 10.1077/s11192-011-0614-4](https://doi.org/10.1077/s11192-011-0614-4)).

J. A. Bubacz, H. T. Chmielewski, A. J. Depersio, A. E. Pape, L. M. Hively, R. K. Abercrombie, and S. D. Boone, "Phase Space Dissimilarity Measures for Structural Health Monitoring," ORNL/TM-2011/260, August 2011 (Distributed November 2011).

F. T. Sheldon, R. K. Abercrombie and A. Krings (Eds), *Proceedings of 7th Annual Cyber Security and Information Intelligence Research (CSIRW'11) Workshop, Energy Infrastructure and Cyber Protection ACM International Conference Proceedings Series*, Association of Computing Machinery (ACM), New York, New York, October 2011, , ([DOI: 10.1145/2179298](https://doi.org/10.1145/2179298)).

R. K. Abercrombie, F. T. Sheldon, H. Aldridge, M. Duren, E. Bertino, A. Kulatunga, and U. S. Navaratne, "Secure Cryptographic Key Management System (CKMS) Considerations for Smart Grid Devices," *Proceedings of 7th Annual Cyber Security and Information Intelligence Research Workshop (CSIRW-2011), ACM International Conference Proceeding Series*, Oak Ridge, TN October 12-14, 2011, ([DOI: 10.1145/2179298.2179364](https://doi.org/10.1145/2179298.2179364)).

D. Dasgupta, M. H. Ali, R. K. Abercrombie, B. G. Schlicher, F. T. Sheldon, and M. Carvalho, "Secure VM for Monitoring Industrial Process Controllers," *Proceedings of 7th Annual Cyber Security and Information Intelligence Research Workshop (CSIRW-2011), ACM International Conference Proceeding Series*, Oak Ridge, TN October 12-14, 2011, ([DOI: 10.1145/2179298.2179341](https://doi.org/10.1145/2179298.2179341)).

A. Ben Aissa, R. K. Abercrombie, F. T. Sheldon, and A. Mili, "Defining and Computing a Value Based Cyber-Security Measure," *Proceedings of 2nd Kuwait Conference on e-Services and e-Systems (KCESS 2011), ACM International Conference Proceeding Series*, Kuwait University, Kuwait, April 5-7, 2011, ([DOI: 10.1145/2107556.2107561](https://doi.org/10.1145/2107556.2107561)).

F. T. Sheldon, H. Aldridge, M. Duren, L. M. Hively, D. Dasgupta, and R. K. Abercrombie, "Adaptive Bio-Inspired Resilient Cyber-Physical Systems: R&D Prospective," *International Symposium on Resilient Control Systems, Cyber Awareness*, Boise, ID, August 9-11, 2011.

- R. K. Abercrombie and A. W. Udoeyop, "A Study of Scientometric Methods to Identify Emerging Technologies," *13th International Society of Scientometrics and Informetrics Conference 2011 (ISSI 2011)*, Durban, South Africa, July 4-8, 2011.
- R. K. Abercrombie, L. M. Hively, S. J. Prowell, B. G. Schlicher, and F. T. Sheldon, "Complex Structure Failure Forewarning System - Catastrophes & Complex Systems, Transportation," *Journal of Homeland Security*, (June 23, 2011).
- R. K. Abercrombie, E. M. Ferragut, F. T. Sheldon, and M. R. Grimaila, "Addressing the Need for Independence in the CSE Model," *Proceedings of 2011 IEEE Symposium on Computational Intelligence in Cyber Security (CICS 2011) - Symposium Series on Computational Intelligence (IEEE SSCI 2011)*, Paris, France, April 11-15, 2011.
- A. Ben Aissa, R. K. Abercrombie, F. T. Sheldon, and A. Mili, "Defining and Computing a Value Based Cyber-Security Measure," *Proceedings of 2nd Kuwait Conference on e-Services and e-Systems (KCESS 2011)*, *ACM International Conference Proceeding Series*, Kuwait University, Kuwait, April 5-7, 2011 ([DOI: 10.1145/2107556.2107561](https://doi.org/10.1145/2107556.2107561)).
- R. K. Abercrombie, "Complex Structure Failure Forewarning System," *2011 Department of Homeland Security (DHS) Science Conference – 5th Annual DHS University Network Summit*, Washington, D.C., March 31, 2011.
- R. K. Abercrombie, F. T. Sheldon, and A. Mili, "Validating Cyber Security Requirements: A Case Study," *IEEE Proceedings of the 44th Annual Hawaii International Conference on System Sciences (HICSS-44)*, Koloa, Kauai, Hawaii, January 4-7, 2011, Computer Society Press, 2011 (10 pages).
- A. Ben Aissa, R. K. Abercrombie, F. T. Sheldon, and A. Mili, "Quantifying Security Threats and Their Impact: Theory and Practice," *Innovations in Systems and Software Engineering*, Volume 6, Number 4, pp. 269-281, Springer London: December 2010 ([DOI 10.1007/s11334-010-0123-2](https://doi.org/10.1007/s11334-010-0123-2)).
- R. K. Abercrombie, F. T. Sheldon, and M. R. Grimaila, "A Systematic Comprehensive Computational Model for Stake Estimation in Mission Assurance," *Proceedings of International Workshop on Mission Assurance: Tools, Techniques, and Methodologies (MATTM 2010)*, *2nd IEEE International Conference on Social Computing (SocialCom 2010) / 2nd IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT 2010)*, Minneapolis, MN, August 20-22, 2010, Computer Society Press, pp. 1153-1158.
- R. K. Abercrombie, "Performance Measure of Monitoring and Improving Weigh-In-Motion (WIM) Devices," *Proceedings of Proceedings of North American Travel Monitoring Exhibition & Conference (NATMEC 2010) - Improving Traffic Data Collection, Analysis, and Use*, Seattle, WA, June 21-24, 2010.
- R. K. Abercrombie, "Identification and Monitoring of Critical Success Factors for Effective e-Commerce, e-Learning, e-Training, and e-Democracy," *Proceedings of 1st International Conference on Electronic Management*, Tripoli, Libya, June 1-3, 2010.
- A. Ben Aissa, A. Mili, R. K. Abercrombie, and F. T. Sheldon, "Modeling Stakeholder/Value Dependency through Mean Failure Cost," *Proceedings of 6th Annual Cyber Security and Information Intelligence Research Workshop (CSIIRW-2010)*, *ACM International Conference Proceeding Series*, Oak Ridge, TN April 21-23, 2010.
- A. Ben Aissa, A. Mili, F. T. Sheldon, and R. K. Abercrombie, "Software Requirements for a System to Compute Mean Failure Cost," *Proceedings of 6th Annual Cyber Security and Information Intelligence Research Workshop (CSIIRW-2010)*, *ACM International Conference Proceedings Series*, Oak Ridge, TN April 21-23, 2010.
- R. K. Abercrombie, D. H. Buckner, and D. R. Newton, "The Potential and Beneficial Use of Weigh-In-Motion (WIM) Systems Integrated with Radio Frequency Identification (RFID) Systems for Characterizing Disposal of Waste Debris to Optimize the Waste Shipping Process," *Waste Management Conference (WM2010)*, Phoenix, AZ, March 7-11, 2010.
- R. K. Abercrombie, "Mathematical Techniques for Reduction of Errors in Dynamic Weighing," *Proceedings of 6th Brazilian Congress on Highways and Concessions (CBR&C 2009) and 6th International Exhibition of Products for Highways (BRASVIAS 2009)*, Florianópolis, Brazil, September 21-23, 2009.

F. T. Sheldon, R. K. Abercrombie, and A. Mili, "Evaluating Security Controls Based on Key Performance Indicators and Stakeholder Mission," *IEEE Intelligence and Security Informatics 2009 (ISI 2009)*, Keynote presentation, presented by F. T. Sheldon, Dallas, TX, June 11, 2009 ([ISI 2009 Program](#), [Keynote Presentation slides](#), [Keynote Presentation - mirrored copy](#)).

F. T. Sheldon, G. D. Peterson, A. W. Krings, R. K. Abercrombie, and A. Mili (Editors), *Proceedings of 5th Annual Cyber Security and Information Intelligence Research Workshop (CSIRW09) - Theme: Cyber Security and Information Intelligence Challenges and Strategies*, ACM International Conference Proceeding Series, Oak Ridge, TN, April 13-15, 2009 ([ACM Digital Library](#)).

A. Ben Aissa, R. K. Abercrombie, F. T. Sheldon, and A. Mili, "Quantifying Security Threats and Their Impact," *Proceedings of 5th Annual Cyber Security and Information Intelligence Research Workshop (CSIRW09) - Theme: Cyber Security and Information Intelligence Challenges and Strategies*, ACM International Conference Proceeding Series, Oak Ridge, TN April 13, 2009 ([ACM Digital Library](#), [DOI Link](#)).

R. K. Abercrombie, F. T. Sheldon, and A. Mili, "Managing Complex IT Security Processes with Value Based Measures," Proceedings of 2009 IEEE Symposium on Computational Intelligence in Cyber Security (CICS '09), Nashville, TN, April 1, 2009 ([IEEE Xplore](#), [DOI Link](#)).

F. T. Sheldon, R. K. Abercrombie, and A. Mili, "Methodology for Evaluating Security Controls Based on Key Performance Indicators and Stakeholder Mission," *IEEE Proceedings of the 42nd Annual Hawaii International Conference on System Sciences (HICSS-42)*, (CD-ROM), Waikoloa, Big Island, Hawaii, January 5-8, 2009, Computer Society Press, 2009 (10 pages, [DOI Link](#)).

R. K. Abercrombie, F. T. Sheldon, and A. Mili, "Synopsis of Evaluating Security Controls Based on Key Performance Indicators and Stakeholder Mission Value," *Proceedings of 11th IEEE High Assurance Systems Engineering Symposium (HASE'08)*, Nanjing, China, December 3-5, 2008 ([DOI Link](#)).

R. K. Abercrombie, F. T. Sheldon, and R. M. Walker, "Oak Ridge National Laboratory's Experiences with Multiple Uses of Weigh-In-Motion (WIM) Data", *Proceedings of North American Travel Monitoring Exhibition & Conference (2008 NATMEC)*, Washington, D.C., August 6-8, 2006.

L. M. Hively, R. K. Abercrombie, M. B. Scudiere, and F. T. Sheldon, "Error Reduction in Portable, Low-Speed Weigh-In-Motion (WIM)", ORNL/TM-2008/004, July 2008.

R. K. Abercrombie, L. M. Hively, M. B. Scudiere, and F. T. Sheldon, "Sub-0.1 Percent Error in Portable, Low-Speed Weigh-In-Motion ", *Proceedings of the International Conference on Heavy Vehicles (5th International Conference on Weigh-in-Motion (ICWIM5) of Heavy Vehicles and 10th International Conference on Heavy Vehicle Transport Technology (HVTT 10)*, eds. B. Jacob, E. O'Brien, ISTE, Ltd. and John Wiley and Sons, Inc., Paris, France, pp. 447-458, May, 2008.

R. K. Abercrombie, L. M. Hively, M. B. Scudiere, and F. T. Sheldon, "Breakthrough Error Reduction in Portable, Low-Speed Weigh-In-Motion (Sub-0.1 Percent Error)", Poster presented at *International Conference on Heavy Vehicles (5th International Conference on Weigh-in-Motion (ICWIM5) and 10th International Conference on Heavy Vehicle Transport Technology (HVTT 10)*, Paris, France, May 19-22, 2008.

F. T. Sheldon, R. K. Abercrombie, and A. Mili, "Evaluating Security Controls Based on Key Performance Indicators and Stakeholder Mission", in *Proceedings of 4th Annual Workshop on Cyber Security and Information Intelligence Research Workshop - Theme: Developing Strategies to Meet the Cyber Security and Information Intelligence Challenges Ahead*, ACM International Conference Proceeding Series, Vol. 288, Oak Ridge, TN, May 14, 2008.

F. T. Sheldon, A. Krings, R. K. Abercrombie, and A. Mili (Editors), "Proceedings of 4th Annual Workshop on Cyber Security and Information Intelligence Research Workshop - Theme: Developing Strategies to Meet the Cyber Security and Information Intelligence Challenges Ahead", *ACM International Conference Proceeding Series*, Vol. 288, Oak Ridge, TN, May 12-14, 2008 ([ACM Digital Library](#)).

J. P. Trien, R. K. Abercrombie, and F. T. Sheldon, "Track: Intrusion Detection/Insider Threat: Cyber Security and Information Intelligence" in *Proceedings of 4th Annual Workshop on Cyber Security and Information Intelligence Research Workshop - Theme: Developing Strategies to Meet the Cyber Security and Information*

Intelligence Challenges Ahead, ACM International Conference Proceeding Series, Vol. 288, Oak Ridge, TN, May 12, 2008 ([ACM Digital Library, DOI link](#)).

R. M. Walker, R. K. Abercrombie, O. A. Omitaomu, A. R. Ganguly, and F. T. Sheldon, "Multi-Modal Integrated Safety, Security & Environmental Program Strategy", *The National Academies Transportation Research Board (TRB) 87th Annual Meeting*, January 13-17, 2008.

R. M. Walker, D. A. Kopsick, T. A. Warren, R. K. Abercrombie, F. T. Sheldon, D. E. Hill, I. G. Gross, and C. M. Smith, "Tracking and Monitoring of Radioactive Materials in the Commercial Hazardous Materials Supply Chain", *Proceedings of the 15th International Symposium on the Packaging and Transportation of Radioactive Materials, PATRAM 2007*, Miami, Florida, October 21-26, 2007.

R. K. Abercrombie, "ORNL, Delivering 21st Century Science and Technology: Bridging the Gap Between the Warfighter and Science & Technology (S&T)", *II Marine Expeditionary Force (II MEF) Science & Technology (S&T) Conference*, Camp Lejeune, NC, September 11, 2007.

C. Lin, K. M. Kavi, F. T. Sheldon, and R. K. Abercrombie, "A Methodology to Evaluate Agent Oriented Software Engineering Techniques", *Proceedings of the 40th Annual Hawaii International Conference on System Sciences (HICSS-40)*, (CD-ROM) Big Island HI, (Software Agents and Semantic Web Technologies Mini-track [nominated best paper]), January 3-6 2007, Computer Society Press, 2007 (10 pages, ([DOI: 10.1109/HICSS.2007.20](#), [PDF](#))).

R. K. Abercrombie, D. L. Beshears, L. M. Hively, M. B. Scudiere, F. T. Sheldon, J. L. Schmidhammer, J. Vanvactor, "Prototype Weigh-In-Motion Performance", ORNL/TM-2007/039 (ORNL/TM-2005/164: revision update from June 2005), October 2006.

R. K. Abercrombie, F. T. Sheldon, and R. G. Schlicher, "Oak Ridge National Laboratory's (ORNL) Weigh-In-Motion Configuration and Data Management Activities" *North American Travel Monitoring Exhibition & Conference (NATMEC), Improving Traffic Monitoring Data for Transportation Decision-Making, NATMEC 2006 Conference Proceedings*, June 7, 2006, with addendum update of data collected October 3-4, 2006.

J. R. Koch, "Weigh in Motion adds up," *Military News*, January 19, 2006 (http://militarynews.com/wheel/wheel_arc/wheel_01_19_06.htm#news04).

Technologies for the Troops, Getting There Faster" *ORNL Review* 39 (1), 2006 Editor: Carolyn Krause, (http://www.ornl.gov/info/ornlreview/v39_1_06/article08.shtml).

"Weigh-In-Motion (WIM) Generation II New Equipment Training," *U.S. Army Deployment Process Modernization Office (DPMO) Quarterly Army Division Transportation Officer (DTO) & Mobility Officer (MO) Newsletter* 1 (4), 4, 2006.

A. Brand, "Seabees Use New WIMS System for Weighing Equipment," *Seabee Courier*, Vol. 43, No 8, June 2, 2006.

"Weigh-In-Motion Generation II," *U.S. Army Deployment Process Modernization Office (DPMO) Quarterly Army Division Transportation Officer (DTO) & Mobility Officer (MO) Newsletter* 1 (1), 5, 2005.

R. K. Abercrombie, F. T. Sheldon, B. G. Schlicher, and K. M. Daley, "Development of the Joint Weigh-In-Motion and Measurement Reach Back Capability - The Configuration and Data Management Tool for Validation, Verification, Testing and Certification Activities," *Logistics Spectrum* 38 (4), 4-9, 2004 (released in 2005).

R. K. Abercrombie, F. T. Sheldon, B. G. Schlicher and K. M. Daley, "Weigh-In-Motion (WIM) and Measurement Reach Back Capability (WIM-RBC) - The Configuration and Data Management Tool for Validation, Verification, Testing and Certification Activities", *40th Annual International Logistics Conference 2005, Logistics: Product and Process for Capacity*, Orlando, FL, August 16, 2005.

R. K. Abercrombie, "Next Generation Weigh-In-Motion: Enhancing Weighing and Measuring of Military Vehicles/Cargo," *Institute for Defense and Government Advancement (IDGA) 3rd Annual Meeting*, Arlington, VA USA, March 1, 2005.

- R. K. Abercrombie, D. L. Beshears, M. B. Scudiere, J. E. Coats, Jr., F. T. Sheldon, C. Brumbaugh, E. Hart, and R. McKay, "Weigh-in-Motion Research and Development Activities at ORNL," *4th International Conference on Weigh-in-Motion (ICWM4)*, Taipei, Taiwan, February 21, 2005.
- R. K. Abercrombie, D. L. Beshears, M. B. Scudiere, J. E. Coats, Jr., F. T. Sheldon, C. Brumbaugh, E. Hart, and R. McKay, "Weigh-In-Motion Research and Development Activities at the Oak Ridge National Laboratory," pp.139–49 in *Proceeding of the Fourth International Conference On Weigh-In-Motion (ICWM4)*, Taipei, Taiwan, National Science Council, National Taiwan University Publications (ISBN 986-00-0417-X), 2005.
- J. E. Coats, Jr., R. K. Abercrombie, D. L. Beshears, and R. B. Honea, "Weigh-In-Motion Technology for Military Operations: Developing a Portable, Safe, and Accurate System," *TR News—Transportation Research Board of the National Academies* 231, 16–18, March-April 2004.
- J. E. Coats, Jr., R. K. Abercrombie, D. L. Beshears, and R. B. Honea, "Weigh-In-Motion Technology for In-Theater Applications," *83rd Annual Meeting of Transportation Research Board*, Washington, DC, January 14, 2004.
- S. A. Phillips, and R. K. Abercrombie, "Weigh-In-Motion With Rational Rose," Used for fulfillment of Research Alliance in Math and Science (RAMS) Requirement, Oak Ridge, TN USA, August 8, 2003.
- R. M. Walker, I. G. Harrison, R. I. Crutcher, R. R. Whitus, M. A. Buckner, S. F. Smith, M. R. Moore, P. D. Ewing, T. A. Rose, R. K. Abercrombie, J. D. Porter, and R. E. Billo "Advanced HAZMAT Rapid Identification, Sorting, and Tracking (AHRIST) Phase II Functional and Technical Requirements," Y/NSP-555, May 29, 2001.
- R. M. Walker, I. G. Harrison, R. I. Crutcher, R. R. Whitus, M. A. Buckner, P. D. Ewing, T. A. Rose, and R. K. Abercrombie, J. D. Porter, "Advanced HAZMAT Rapid Identification, Sorting, and Tracking (AHRIST) Phase II Test Plan," Y/NSP-564, May 29, 2001.
- R. K. Abercrombie and R. M. Walker, "Department of Defense Hazardous Materials (HAZMAT) Emergency Response Hotline Assessment," Y/NSP-475, December 7, 2000.
- R. K. Abercrombie, "Technical Information and Exchange System Feasibility and Evaluation Study," submitted to Department of Energy, Headquarters, Office of Policy, Y/NSP-198, August 30, 1999.
- R. K. Abercrombie, Officially Activated U. S. Department of Energy's Policy and International Affairs Office Energy and Environmental Security Initiative (EESI) Home Page as a link to Department of Defense Partnership for Peace (PfP) Information System (PIMS) on the PIMS Website, March 1, 1999.
- R. K. Abercrombie, Activated U. S. Department of Energy's Policy and International Affairs Office Energy and Environmental Security Initiative (EESI) Website, Y/NSP/WEB, February 3, 1999.
- R. K. Abercrombie and M. R. Leek, Re-hosted Cross-Walk of Oak Ridge Capabilities to PIMS Areas of Interested DOE Technologies Interchange System (TIES), and its reference as a subset to Partnership for Peace (PfP) Information Management System (PIMS) on new WindowsNT Server with DOE-ORO Advanced Information System Technologies Website Update and Oak Site Reservation Search Engine and Search Engine Web Server Statistics, K/DSRD/WEB-3051/R3, October 1998.
- R. K. Abercrombie, "Computer-Based Instruction, presented at Composite Group VII, Methodologies and Technologies, Working Group 32 - Advanced Analysis, Technologies, and Applications, *63rd Military Operations Research Society Symposium*, U.S. Naval Academy, Annapolis, MD, K/DSRD/OP-2004, June 8, 1995.
- R. K. Abercrombie, "Maintenance Modernization System (MMS)", presented at Composite Group VII, Methodologies and Technologies, Working Group 32 - Advanced Analysis, Technologies, and Applications, *63rd Military Operations Research Society Symposium*, U.S. Naval Academy, Annapolis, MD, K/DSRD/OP-2003, June 7, 1995.
- R. K. Abercrombie, "Army War Reserve - Decision Support System (AWRDSS)," presented at Composite Group VI, Resources and Readiness, Working Group 26 - Logistics, *63rd Military Operations Research Society Symposium*, U.S. Naval Academy, Annapolis, MD, K/DSRD/OP-2002, June 7, 1995.

R. K. Abercrombie, "Army War Reserve - Decision Support System (AWRDSS)," presented at Composite Group VI, Resources and Readiness, Working Group 29 - Readiness, *63rd Military Operations Research Society Symposium*, U.S. Naval Academy, Annapolis, MD, K/DSRD/OP-2001, June 7, 1995.

R. K. Abercrombie, "Maintenance Modernization System (MMS)," presented at Composite Group VI, Resources and Readiness, Working Group 26 - Logistics, *63rd Military Operations Research Society Symposium*, U.S. Naval Academy, Annapolis, MD, K/DSRD/OP-2000, June 7, 1995.

R. K. Abercrombie, "Army War Reserve - Decision Support System (AWRDSS)," presented at Composite Group VII, Methodologies and Technologies, Working Group 30 - Decision Analysis, *63rd Military Operations Research Society Symposium*, U.S. Naval Academy, Annapolis, MD, K/DSRD/OP-1999, June 6, 1995.

R. K. Abercrombie, R. E. Bell, G. K. Bush, R. L. Sensabaugh, A. L. Servies, and M. J. Stewart, "Maintenance Modernization System (MMS) Computer Based Instruction (CBI) Module, Version 3.00.3 Executable Software," K/DSRD/MM-1812/R1, October 18, 1994.

R. K. Abercrombie and G. Carter, "Department of the Army Movements Management - Redesign (DAMMS-R) Core Computer Based Instruction (CBI) Module Proof of Concept, Version 1.0," K/DSRD/MM-1811, October 18, 1994.

R. K. Abercrombie, R. E. Bell, G. K. Bush, and M. J. Stewart, "Maintenance Modernization System (MMS) Headquarters/Battalion, Site and Communications Module, Version 3.00.2 Software Installation Set," K/DSRD/MM-1813, August 15, 1994.

R. K. Abercrombie, R. E. Bell, R. L. Sensabaugh, and M. J. Stewart, "Maintenance Modernization System, Site Module, User Handbook," K/DSRD-1764, August 15, 1994.

R. K. Abercrombie, R. E. Bell, R. L. Sensabaugh, and M. J. Stewart, "Maintenance Modernization System, Headquarters/Battalion Module, End User Manual," K/DSRD-1763, August 15, 1994.

R. K. Abercrombie, R. E. Bell, R. L. Sensabaugh, and M. J. Stewart, "Maintenance Modernization System, Headquarters/Battalion Module, System Administrator Manual," K/DSRD-1762, August 15, 1994.

R. K. Abercrombie, K. G. Briggs, Jr., N. L. Prince, S. T. Hunt, W. A. Seagraves, and M. J. Vasko, "Combat Equipment Group, Europe (CEGE) Long-Term Modernization of Prepositioning of Materiel Configured to Unit Sets (POMCUS) Operations - CEGE Accountability, Planning, and Execution System (CAPES) Database Administrators Reference Manual," K/DSRD-1631, November 19, 1993.

R. K. Abercrombie, K. G. Briggs, Jr., N. L. Prince, S. T. Hunt, W. A. Seagraves, and M. J. Vasko, "Combat Equipment Group, Europe (CEGE) Long-Term Modernization of Prepositioning of Materiel Configured to Unit Sets (POMCUS) Operations - Overview of CEGE Accountability, Planning, and Execution System (CAPES) Functionality," K/DSRD-1630, November 22, 1993.

R. K. Abercrombie, K. G. Briggs, Jr., N. L. Prince, S. T. Hunt, W. A. Seagraves, and M. J. Vasko, "Combat Equipment Group, Europe (CEGE) Long-Term Modernization of Prepositioning of Materiel Configured to Unit Sets (POMCUS) Operations - CEGE Accountability, Planning, and Execution System (CAPES) Systems/Program Maintenance Manual," K/DSRD-1629, November 22, 1993.

R.K. Abercrombie, "Department of the Army Movements Management System - Redesign," presented at US Army Combat Service Support Technologies Review Workshop, K/DSRD/OP 1603, Oak Ridge, TN, November 2-4, 1993.

R. K. Abercrombie, "Department of the Army Movements Management System/37th Transportation Command (DAMMS/37th TRANSCOM) Modernization Initiative for Microcircuit Technology in Logistics Applications (MITLA)," presented at US Army Combat Service Support Technologies Review Workshop, K/DSRD/OP 1602, Oak Ridge, TN, November 2-4, 1993.

R. K. Abercrombie, "Modernization of Prepositioned Materiel Configured to Unit Sets (POMCUS) Operations Program for Combat Equipment Group, Europe," presented at US Army Combat Service Support Technologies Review Workshop, K/DSRD/OP 1601, Oak Ridge, TN, November 2-4, 1993.

R. K. Abercrombie, "37th Transportation Command (37th TRANSCOM) Maintenance Modernization Prototype," presented at US Army Combat Service Support Technologies Review Workshop, K/DSRD/OP 1600, Oak Ridge, TN, November 2-4, 1993.

R. K. Abercrombie, "21st Theater Army Area Command (21st TAACOM) Integrated/Network Corporate Data Base Command Data Base," presented at US Army Combat Service Support Technologies Review Workshop, Oak Ridge, TN, K/DSRD/OP 1599, November 2-4, 1993.

R. K. Abercrombie, J. B. Henson, F. A. Santos, L. E. Underwood, N. L. Prince, S. T. Brown, S. G. Lennon, J. M. Noey, and B. T. Rule, "Department of the Army Movements Management System - Redesign (DAMMS R) Local Area Network (LAN) System Manager Training Student Guide," Revision 1.0, 3 of 3 WordPerfect Format 3.50 Diskettes, K/DSRD 1439, October 1993.

R. K. Abercrombie, J. B. Henson, F. A. Santos, L. E. Underwood, N. L. Prince, S. T. Brown, S. G. Lennon, J. M. Noey, and B. T. Rule, "Department of the Army Movements Management System - Redesign (DAMMS R) Local Area Network (LAN) System Manager Training Program of Instruction and Lesson Plans," Revision 1.0, 3 of 3 WordPerfect Format 3.50 Diskettes, K/DSRD-1438, October 1993.

R. K. Abercrombie, W. P. Kegley, B. Blizzard, B. Crennan, R. Crawford, R. L. Day, A. Jeffery, R. Jones, D. La Rosa, E. Rearick, and S. Samuels, III, "Draft Department of the Army Movements Management System - Redesign (Phase 2) System Developers Manual for the Core Capability of the Department of the Army Movements Management System-Redesign (Phase 2)," K/DSRD-1244/D2, December 1992.

R. K. Abercrombie, E. F. Abercrombie, and M. P. Muir, "37th TRANSCOM TRANSMAC Banyan Vines Wide Area Network Benchmark Results," K/DSRD-919, November 1992.

R. K. Abercrombie, E. F. Abercrombie, and M. P. Muir, "37th TRANSCOM TRANSMAC Check Revision (CHKREV) Automated Software Utility for the 37th TRANSCOM Banyan VINES Operating System/37th TRANSCOM Wide Area Network User Manual," K/DSRD-918, November 1992.

R. K. Abercrombie, W. P. Kegley, B. Blizzard, B. Crennan, R. Crawford, R.L. Day, A. Jeffery, R. Jones, D. La Rosa, E. Rearick, and S. Samuels, III, "Draft Department of the Army Movements Management System-Redesign (Phase 2) System Developers Manual for the Core Capability of the Department of the Army Movements Management System-Redesign (Phase 2)," K/DSRD-1244/D, October 1992.

R. K. Abercrombie, W. P. Kegley, B. Blizzard, B. Crennan, R. L. Day, E. Rearick, S. Samuels, III, and G. Watson, "Draft Department of the Army Movements Management System-Redesign (Phase 2) Software Development Test Plan For the Core Capability of the Department of the Army Movements Management System - Redesign (Phase 2)," K/DSRD-1200/D, October 1992.

R. K. Abercrombie, K. G. Briggs, Jr., N. L. Prince, C. Benjamins, J. D. Choulas, L. Carr, J. Cella, J. Hopson, M. Fielder, T. M. Weisz, D. A. Mook, and E. M. Horsfall, "Draft Department of the Army Movements Management System-Redesign 2 (DAMMS-R2) MODE Operations (MODE) User Manual," K/DSRD-1199/D, October 1, 1992.

R. K. Abercrombie, K. G. Briggs, Jr., N. L. Prince, J. Cella, and J. Hopson, "Draft Department of the Army Movements Management System-Redesign 2 (DAMMS-R2) Commander/Managers Guide," K/DSRD-1198/D, October 1, 1992.

R. K. Abercrombie, K. G. Briggs, Jr., N. L. Prince, L. Carr, J. Cella, J. Hopson, D. Hurdle, D. M. Lowry, J. E. Ramsey, M. Fielder, T. M. Weisz, D. A. Mook, and E. M. Hosrfall, "Draft Department of the Army Movements Management System-Redesign 2 (DAMMS-R2) Movement Control Team (MCT) User Manual," K/DSRD-1197/D, October 1, 1992.

R. K. Abercrombie, K. G. Briggs, Jr., N. L. Prince, L. Carr, J. Cella, J. Hopson, W. A. Mitchell, M. Fielder, T. M. Weisz, D. A. Mook, and E. M. Hosrfall, "Draft Department of the Army Movements Management System-Redesign 2 (DAMMS-R2) System Administrators User Manual," K/DSRD-1196/D, October 1, 1992.

R. K. Abercrombie, B. Blizzard, W. Crennan, B. Day, W. Gray, E. Rearick, K. Roher, S. Samuels, S. Thompson, and S. Tran, "Draft Department of the Army Movements Management System-Redesign 2 (DAMMS-R2) Test Condition Requirements for the Core Capability of DAMMS-R2," K/DSRD-1186/D, October 1992.

R. K. Abercrombie, K. G. Briggs, Jr., N. L. Prince, S. T. Hunt, D. P. Middendorf, M. J. Vasko, and J. D. Hopson, "Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations, Phase II Stage III Workbook," K/DSRD-791, September 1991.

R. K. Abercrombie, D. L. O'Dell, and N. L. Prince, "United States Army Europe (USAREUR) Military Community (MILCOM) Inventory Management System Prototype End User's Manual," K/DSRD-751, September 16, 1991.

E. F. Abercrombie, R. K. Abercrombie, K. G. Briggs, Jr., and C. D. Doty, "21ST TAACOM Battle Support Simulation Center Post Implementation Review," K/DSRD-505-Addm., August 29, 1991.

R. K. Abercrombie, K. G. Briggs, Jr., G. C. Hinkel, N. L. Prince, S. T. Hunt, D. P. Middendorf, W. A. Seagraves, P. C. Shipe, M. J. Vasko, J. D. Hopson, and M. J. Stewart, "Draft Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations, CECE Accountability, Planning, and Execution System (CAPES) End User Manual," K/DSRD-701/R1, July 19, 1991.

R. K. Abercrombie, M. J. Stewart, and W. K. Riddle, "Integrated Database/Network Command Database System Consolidated Functional Applications Module System Design Specifications," K/DSRD-738, June 18, 1991.

R. K. Abercrombie, M. J. Stewart, and W. K. Riddle, "Integrated Database/Network Command Database System Intelligent Query Interface Module System Design Specifications," K/DSRD-737, June 18, 1991.

R. K. Abercrombie, M. J. Stewart, and W. K. Riddle, "Integrated Database/Network Command Database System Menu Access Module System Design Specifications," K/DSRD-337/R2, June 18, 1991.

R. K. Abercrombie, K. G. Briggs, Jr., G. C. Hinkel, N. L. Prince, S. T. Hunt, D. P. Middendorf, W. A. Seagraves, P. C. Shipe, M. J. Vasko, J. D. Hopson, and M. J. Stewart, "Draft Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations, CECE Accountability, Planning, and Execution System (CAPES) End User Manual," K/DSRD-701, May 20, 1991.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, N. L. Prince, S. T. Hunt, D. P. Middendorf, P. C. Shipe, M. J. Vasko, and J. D. Hopson, "Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations, Phase II Stage II Workbook," K/DSRD-691, March 1991.

R. K. Abercrombie, K. G. Briggs, Jr., R. M. French, F. A. Santos, L. Jung, and N. L. Prince, "HQ European Command (HQ EUCOM) Building 700 Briefing Display System Local Area Network Information Management Requirements," K/DSRD-631, January 17, 1991.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, N. L. Prince, and R. L. Day, "37th Transportation Command System Modernization Economic Analysis," K/DSRD-620, January 11, 1991.

R. K. Abercrombie, K. G. Briggs, Jr., N. L. Prince, R. L. Day, J. F. Dowling, J. D. Hopson, C. M. Kounk, and G. A. White, "Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations Economic Analysis," K/DSRD-582, November 7, 1990.

R. K. Abercrombie and M. J. Stewart, "Draft Integrated Database/Network Command Database System Adjutant General Personnel Module System Design Specifications," K/DSRD-580, November 1, 1990.

R. K. Abercrombie and M. J. Stewart, "Draft Integrated Database/Network Command Database System Adjutant General Key Personnel Roster Module System Design Specifications," K/DSRD-579, November 1, 1990.

R. K. Abercrombie and M. J. Stewart, "Draft Integrated Database/Network Command Database System Adjutant General Awards Module System Design Specifications," K/DSRD-578, November 1, 1990.

R. K. Abercrombie and M. J. Stewart, "Draft Integrated Database/Network Command Database System Menu Access Module System Design Specifications," K/DSRD-337/R1, November 1, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., S. T. Hunt, D. P. Middendorf, P. C. Shipe, M. J. Vasko, and J. D. Hopson, "Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations, Phase II Stage I Workbook," K/DSRD-576, October 31, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., C. D. Doty, L. Jung, N. L. Prince, W. J. Crennan, R. L. Day, G. K. Fritz, and G. A. White, "37th Transportation Command System Modernization Business Methods Study," K/DSRD-514, October 5, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, N. L. Prince, S. T. Hunt, and D. P. Middendorf, "37th Transportation Command System Modernization Information Engineering Supplement," K/DSRD-456, August 28, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, N. L. Prince, R. L. Day, J. F. Dowling, G. D. Fritz, C. M. Kounk, G. A. White S. T. Hunt, and D. P. Middendorf, "37th Transportation Command System Modernization Functional Description," K/DSRD-344/R1, August 28, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, N. L. Prince, S. T. Hunt, P. C. Shipe, and M. J. Vasko, "Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations Information Engineering Supplement," K/DSRD-455/R1, August 17, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, S. T. Hunt, P. C. Shipe, M. J. Vasko, J. D. Hopson, C. M. Kounk, S. Samuels, and G. A. White, "Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations Functional Description," K/DSRD-350/R1, August 17, 1990.

R. K. Abercrombie, R. M. French, and M. J. Stewart, "Integrated Database/Network Command Database Concept Development Plan," K/DSRD-298/R1 August 10, 1990.

E. F. Abercrombie, R. K. Abercrombie, R. M. French, and M. S. Pung, "Draft 21st TAACOM Battle Support Simulation Center Installation Test Plan Results and Preliminary Recommendations," K/DSRD-505, August 2, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, N. L. Prince, S. T. Hunt, and D. P. Middendorf, "DRAFT 37th Transportation Command System Modernization Information Engineering Supplement," K/DSRD-456, June 19, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, N. L. Prince, R. L. Day, J. F. Dowling, G. D. Fritz, C. M. Kounk, G. A. White S. T. Hunt, and D. P. Middendorf, "DRAFT 37th Transportation Command System Modernization Functional Description," K/DSRD-344, June 19, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, N. L. Prince, S. T. Hunt, P. C. Shipe, and M. J. Vasko, "DRAFT Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations Information Engineering Supplement," K/DSRD-455, June 15, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., L. Jung, N. L. Prince, S. T. Hunt, P. C. Shipe, M. J. Vasko, J. D. Hopson, C. M. Kounk, S. Samuels, and G. A. White, "DRAFT Combat Equipment Group, Europe Long-Term Modernization of POMCUS Operations Functional Description," K/DSRD-350, June 15, 1990.

E. F. Abercrombie, R. K. Abercrombie, R. M. French, and M. S. Pung, "21st TAACOM Battle Support Simulation Center Installation Test Plan," K/DSRD-416, May 9, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., C. D. Doty, R. C. Driver, R. M. French, R. L. Day, and C. M. Kounk, "Combat Equipment Group, Europe Long Term Modernization of POMCUS Operations Capability Request (CAPR)," K/DSRD-349, April 20, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., C. D. Doty, R. C. Driver, R. M. French, R. L. Day, L. M. Desimone, J. F. Dowling, J. D. Hopson, and C. M. Kounk, "Draft Combat Equipment Group, Europe Long Term Modernization of POMCUS Operations Economic Analysis Report," K/DSRD-348/R1, April 20, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., C. D. Doty, R. C. Driver, R. L. Day, L. M. Desimone, J. D. Hopson, C. M. Kounk, and J. H. Strain, "Combat Equipment Group, Europe Long Term Modernization of POMCUS Operations Management Plan," K/DSRD-347, April 20, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., C. D. Doty, R. C. Driver, R. M. French, R. L. Day, L. M. Desimone, J. F. Dowling, J. D. Hopson, and C. M. Kounk, "Combat Equipment Group, Europe Long Term Modernization of POMCUS Operations Modernization Plan," K/DSRD-346, April 20, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., C. D. Doty, R. M. French, L. Jung, R. L. Day, L. M. Desimone, C. M. Kounk, and G. A. White, "37th Transportation Command System Modernization Plan," K/DSRD-343, April 17, 1990.

R. K. Abercrombie, K. G. Briggs, Jr., C. D. Doty, R. M. French, L. Jung, R. L. Day, L. M. Desimone, C. M. Kounk, and G. A. White, "37th Transportation Command System Modernization Management Plan," K/DSRD-342, April 17, 1990.

R. K. Abercrombie and M. J. Stewart, "Integrated Database/Network Command Database Menu System Design Specifications," K/DSRD-337, February 8 1990.

R. K. Abercrombie, R. M. French, and M. J. Stewart, "Integrated Database/Network Command Database Concept Development Plan," K/DSRD-298, December 15, 1989.

R. K. Abercrombie, R. M. French, R. L. Day, K. G. Briggs, Jr., L. M. DeSimone, and G. A. White, "37th Transportation Group Modernization Concept Plan," K/DSRD-233/R2, October 31, 1989.

R. K. Abercrombie, R. M. French, R. L. Day, K. G. Briggs, Jr., L. M. DeSimone, and G. A. White, "37th Transportation Group Modernization Site Survey Plan," K/DSRD-232, October 31, 1989.

R. K. Abercrombie, R. M. French, and M. J. Stewart, "21st Theater Army Area Command (21st TAACOM) Integrated Database/Network Validation of Command Database Concept and Migration Path for Future Systems," K/DSRD-253, September 22, 1989.

R. K. Abercrombie, R. M. French, R. L. Day, R. C. Lowe, and S. Samuels, "Combat Equipment Group - Europe, Long Term Modernization of POMCUS Operations," K/DSRD-209/R2, September 21, 1989.

R. K. Abercrombie, R. M. French, R. L. Day, C. M. Kounk, and S. Samuels, "Final Site Survey Plan Combat Equipment Group - Europe, Long Term Modernization of POMCUS Operations," K/DSRD-210, October 25, 1989.

R. K. Abercrombie, R. M. French, K. G. Briggs, Jr., and C. M. Kounk, "Info Centrum Development Plan," K/DSRD/214/R1, September 29, 1989.

F. A. Santos, R. K. Abercrombie, S. E. Hicks, B. A. Westaway, J. M. Heaney, V. K. Harris, B. S. Rutherford, L. D. Charron, B. G. Key, M. H. Sutton, W. B. Webb, and R. A. Jakes, "AWIS 'Lights-Out' Prototype Project Test Plan," K/DSRD-122/R5/R4/R3/R2, September 5, 1989, August 9, 1989, July 10, 1989, June 14, 1989.

R. K. Abercrombie, "Introduction to the Oak Ridge Establishment and the Data Systems Research and Development (DSRD) Program," presented to COL Jonathan E. Frederick, Commander, Combat Equipment Group, Europe, Mannheim, West Germany, K/DSRD-197, August 7, 1989.

F. A. Santos, R. K. Abercrombie, R. M. French, L. E. Underwood, and G. L. Breeden, "Pilot Node Transfer Plan and Schedule," K/DSRD-195, August 4, 1989.

F. A. Santos, R. K. Abercrombie, and R. M. French, "Pilot Node Equipment Requirement List," K/DSRD-193, August 4, 1989.

F. A. Santos, J. E. Rutenber, R. K. Abercrombie, R. M. French, L. E. Underwood, and G. L. Breeden, "Pilot Node Implementation Plan for the PD40 Management Information System Space and Sensor Systems Directorate (PD40)," K/DSRD-190, August 4, 1989.

F. A. Santos, R. K. Abercrombie, R. M. French, D. W. Haney, G. L. Breeden, D. McClanahan, and B. S. Rutherford, "PD40 MIS Pilot Node Maintenance and Materials Support Plan," K/DSRD-184, August 4, 1989.

R. K. Abercrombie, F. A. Santos, H. M. Porter, M. H. Sutton, and R. A. Jakes, "AWIS/CCS Lights Out Prototype Project Report to the 1989 AWIS Site Commanders' Conference," K/DSRD-187, July 25, 1989.

R. K. Abercrombie, F. A. Santos, H. M. Porter, M. H. Sutton, and R. A. Jakes, "AWIS/CCS Lights Out Prototype Video Report to the 1989 AWIS Site Commanders' Conference," K/DSRD-186, July 25, 1989.

- F. A. Santos, R. K. Abercrombie, R. M. French, and L. E. Underwood, "PD40 Pilot Node Security Plan," K/DSRD-191, July 20, 1989.
- F. A. Santos, R. K. Abercrombie, R. M. French, and G. L. Breeden, "PD40 Pilot Node Workstation, LAN and Network Server Configuration Files," K/DSRD-185, July 19, 1989.
- R. K. Abercrombie, R. M. French, B. S. Rutherford, and F. A. Santos, "Introduction to TCP/IP VMS Software," K/DSRD-133, May 22, 1989.
- F. A. Santos, R. K. Abercrombie, R. W. Taylor, and M. H. Sutton, "White Paper: AWIS 'Lights-Out' Prototype Project (LOPP) Assessment," K/DSRD-124, May 12, 1989.
- F. A. Santos, R. K. Abercrombie, J. M. Heaney, V. K. Harris, and M. H. Sutton, "AWIS 'Lights-Out' Prototype Project Test Plan," K/DSRD-122, May 5, 1989.
- F. A. Santos, R. K. Abercrombie, R. M. French, L. E. Underwood, G. L. Breeden, and D. McClanahan, "PD40 Pilot Node Workstation Setup," K/DSRD-136, April 13, 1989.
- R. K. Abercrombie, G. L. Breeden, R. M. French, B. S. Rutherford, and F. A. Santos, "PD40 Pilot Node Introduction to Using the MICOM PC/TCP Mail System," K/DSRD-134, April 13, 1989.
- R. K. Abercrombie, G. L. Breeden, R. M. French, and F. A. Santos, "Description of Workstations," K/DSRD-131, March 22, 1989.
- R. K. Abercrombie, G. L. Breeden, R. M. French, D. W. Haney, and F. A. Santos, "Introduction to the Workstation User Interface (Watchdog PC Data Security)," K/DSRD-128, March 22, 1989.
- R. K. Abercrombie, G. L. Breeden, D. W. Haney, R. M. French, and F. A. Santos, "Description of COTS Software for Workstations," K/DSRD-127, March 22, 1989.
- R. K. Abercrombie, P. J. Holzhauser, R. K. House, C. H. Malarkey, J. D. McClanahan, and J. L. Pugh, "EFM Overview Presentation and CERCOMS/ACOMS Presentation and Demo", Y/CSC/IN-87/18, July 22, 1987.
- R. K. Abercrombie, et al, "Production Planning & Control Project Proposal," Y/CSD/IN-87/No#, July 2, 1987.
- R. K. Abercrombie, "Callable Interface from DEC Environment to IBM Environment," Y/CSD/INF-86/15, June 4, 1987.
- R. K. Abercrombie, J. R. Drake, T. L. Futrell, K. P. Hearn, J. G. Jones, E. J. Nall, R. K. Osborn, W. R. Reagan, J. S. Shipp, R. L. Shipp, "Data Strategy Implementation Plan," Y/CSD/INF-86/2 Appendix B, April 1987.
- R. K. Abercrombie, R. K. House, J. G. Jones, P. A. MacIntyre, J. D. McClanahan, W. R. Reagan, T. S. Short, S. D. Stewart, "Functional System Design of the Electronic File Manager (EFM) of the Electron Document Manager System," Y/CSD/INF-85/10-Revision, March 25, 1987.
- R. K. Abercrombie, C. H. Malarkey, W. K. McElmurray, J. M. Smith, "Requirements for Manager Manufacturing Procedures (MMP)," Y/CM-0051-P2, December 19, 1986.
- R. K. Abercrombie, J. G. Jones, P. A. MacIntyre, W. R. Reagan, T. S. Short, S. D. Stewart, "Functional System Design of the Electronic File Manager (EFM) of the Electron Document Manager System," Y/CSD/INF-85/10, October 2, 1986.
- R. K. Abercrombie and R. M. Bagby, "An Explanation for the Folding Fibers in Proboscis Retractor Muscles of *Phascolopsis* (= *Golfingia*) *gouldi* - II. Structural Evidence from SEM of Teased, Glycerinated Muscles and Light-Microscopy of KOH-Isolated Fibers," *Comparative Biochemistry and Physiology, Part A-Physiology*, vol. 77A, pp. 31-38, 1984.
- R. K. Abercrombie, R. M. Bagby, and Y. Matsumoto, "An Explanation for the Folding Fibers in Proboscis Retractor Muscles of *Phascolopsis* (= *Golfingia*) *gouldi* - I. Correlation between Length-Tension Data and Structure in Living Muscle," *Comparative Biochemistry and Physiology, Part A-Physiology*, vol. 77A, pp. 23-29, 1984.

R. M. Bagby and R. K. Abercrombie, "Observations on the 3-Dimensional Organization of Myofibrils in Vertebrate Smooth Muscle." In: *The John M. Marshall Symposium in Cell Biology, Motility and Cell Function*. 1st Edition. ed. F. A. Pepe, Academic Press, New York, pp. 427-431, 1979.

R. K. Abercrombie and R. M. Bagby, "Mechanism of Contraction of Folding Fibers in a Non-Striated Muscle," *Federation Proceedings*, vol. 37, pp. 785-785, 1978.

R. K. Abercrombie, Y. Matsumoto, and R. M. Bagby, "Evidence for Folding Fibers in a Non-Striated Muscle," *Biophysical Journal*, vol. 17, pp. A267-A267, 1977.

R. K. Abercrombie and R. M. Bagby, "Contraction of Cells from Proboscis Retractor and Spindle Muscles of *Golfingia-gouldii* (Motion-Picture)," *American Zoologist*, vol. 15, pp. 789-789, 1975.

Invited Talks/Presentations:

R. K. Abercrombie, *2016 Mid-South Cyber Security Summit: New Cyber Threats and Counterintelligence*, The University of Memphis Center for Information Assurance, FedEx Institute of Technology, Memphis, TN, October 14, 2016, Panel, Internet of Things (IoT): Risk Mitigation and Management, Invited Co-Moderator.

R. K. Abercrombie, *Innovation in Action Series, Fundamentals in Cybersecurity - Cybersecurity Certificate Course*, University of Memphis, Cluster to Advance cyber Security & Testing (CAST) FedEx Institute of Technology, Memphis, TN, February 1-5, 2016, Invited Speaker.

R. K. Abercrombie, "Impact of Big Data on Computational Intelligence Aspects of Cyber Security and the Computing Environment to Support Repeatable Scientific Experimentation," *2015 IEEE Symposium on Computational Intelligence in Cyber Security (CICS 2015), 2015 IEEE Symposium Series on Computational Intelligence (SSCI 2015)*, Cape Town, South Africa, December 8-10, 2015 Keynote Speaker, ([DOI: 10.13140/RG.2.1.3218.1840](https://doi.org/10.13140/RG.2.1.3218.1840)).

R. K. Abercrombie, *9th International Research Workshop on Advances and Innovations in Software Testing, Panel 1: Testing in the "Internet of Things" Era*, The University of Memphis Systems Testing Excellence Program, FedEx Institute of Technology, Memphis, TN, October 19-20, 2015, Invited Panelist.

R. K. Abercrombie, *2015 Mid-South Cyber Security Summit*, The University of Memphis Center for Information Assurance, FedEx Institute of Technology, Memphis, TN, October 16, 2015, Keynote Speakers' Panel, Invited Moderator.

A. Ben Aissa, R. K. Abercrombie, F. T. Sheldon, and A. Mili, "Quantifying the Impact of Unavailability in Cyber-Physical Environments," Keynote Speaker F. T. Sheldon at *3rd International Symposium on Resilient Cyber Systems, Resilience Week 2015, Transforming Resilience of Cognitive, Cyber-physical Systems*, Philadelphia, PA, August 18-20, 2015.

R. K. Abercrombie, "VR Mission Rehearsal and Surrounding Infrastructures - Infrastructure - Situational Awareness through Computational Mixed Reality," *Cummins Science and Technology Council Meeting on Virtual & Augmented Reality Technologies, and Autonomous Vehicles*, Columbus, IN, August 18-19, 2015, Keynote Speaker.

R. K. Abercrombie, "Cyber Infrastructure Security," *Workshop on Cyber Security*, Arkansas State University, Jonesboro, AR, August 14, 2015, Invited Speaker.

R. K. Abercrombie and B. G. Schlicher, "Risk Assessment Methodology - All Hazards Econometrics System (AHES, pronounced Oz)," *DOE Microgrid R&D Program Quarterly Meeting*, Oak Ridge National Laboratory, Oak Ridge, TN, November 18, 2013.

R. K. Abercrombie and B. G. Schlicher, "Big Data, Social Networks, and Analytics (Big Data Science at ORNL)," *University of Memphis Center for Information Assurance Cyber Security Expo*, Invited Keynote Speaker, October 19, 2012.

R. K. Abercrombie, "SCADA Security: Workshop/Tutorial on Automation and Control Device/SCADA," Invited Guest Panelist, *Pre-Cyber Expo Workshop - University of Memphis Center for Information Assurance Cyber Security Expo* FedEx Institute of Technology, University of Memphis, Memphis, TN, October 18, 2012. .

R. K. Abercrombie, F. T. Sheldon, and B. G. Schlicher, "Information Security Analysis for CKMS Using Game Theory and Simulation," Invited Talk authored by R. K. Abercrombie, presented by F. T. Sheldon at *1st International Symposium on Resilient Cyber Systems*, San Francisco, California, August 13-15, 2013.

R. K. Abercrombie, "Infrastructure Health Monitoring - Earning Warning System for Failing Bridges," *ORNL Capability Presentation to Global Security Directorate Strategic Advisory Group Meeting*, April 18, 2012.

R. K. Abercrombie, "Recent Findings and Impressions with Respect to ORNL Key Roles in DOE Cyber Security for Energy Effort," *Seminar on Cyber and Physical Security of Critical Infrastructure*, Keynote Speaker, Herff College of Engineering and The Center for Information Assurance, University of Memphis, Memphis, TN October 7, 2011.

R. K. Abercrombie, "Complex Structure Failure Forewarning System," Invited Panelist, Panel: *Infrastructure Analysis, 2011 DHS Science Conference - Fifth Annual DHS University Network Summit*, Washington, D.C., March 31, 2011.

R.K. Abercrombie and L.M. Hively, "Recent Endeavors in Performance Measure of Monitoring and Improving Weigh-In-Motion (WIM) Devices," Presentation to Aging Infrastructure Systems Center of Excellence, University of Alabama, July 29, 2010.

R. K. Abercrombie, "Identification and Monitoring of Critical Success Factors for Effective e-Commerce, e-Learning, e-Training, and e-Democracy," Keynote Speaker, *1st International Conference on Electronic Management*, Tripoli, Libya, June 1-3, 2010.

R. K. Abercrombie, "Mathematical Techniques for Reduction of Errors in Dynamic Weighing," presented at *Plenary Session, 6th Brazilian Congress on Highways and Concessions (CBR&C 2009) and 6th International Exhibition of Products for Highways (BRASVIAS 2009)*, Florianópolis, Brazil, September 21-23, 2009.

R. K. Abercrombie, Round Table Speaker, *6th Brazilian Congress on Highways and Concessions (CBR&C 2009) and 6th International Exhibition of Products for Highways (BRASVIAS 2009)*, Florianópolis, Brazil, September 21-23, 2009.

F. T. Sheldon, R. K. Abercrombie, and A. Mili, "Evaluating Security Controls Based on Key Performance Indicators and Stakeholder Mission," *IEEE Intelligence and Security Informatics 2009 (ISI 2009)*, Keynote presentation, presented by F. T. Sheldon, Dallas, TX, June 11, 2009.

R. K. Abercrombie, Invited Participant, *IARPA Mile Wide, Mile Depth (M²) Workshop*, Chicago, IL, October 28-29, 2008.

R. K. Abercrombie, Invited Participant, *National Cyber Leap Year Summit*, Arlington, VA, August 17-19, 2009 ([Web Site](#)).

R. K. Abercrombie, "ORNL, Delivering 21st Century Science and Technology: Bridging the Gap Between the Warfighter and Science & Technology (S&T)", *II Marine Expeditionary Force (II MEF) Science & Technology (S&T) Conference*, Camp Lejeune, NC, September 11, 2007.

R. K. Abercrombie, Keynote Address: Future Logistics for Joint Logistics Warfighting Initiative (JLWI) (Keynote Address), presented to *JLWI Conference*, Tampa, FL, January 31, 2000.

Requested Briefing: Transportation/Logistics Crisis Action Support Tools Briefing, requested by Mr. Joe Sredl, Director of Logistics, Operations Support Directorate, Federal Emergency Management Agency, May 22, 2000.

R. K. Abercrombie, Keynote Address: "Oak Ridge Complex Automated Identification Technology (AIT) Capabilities" presented to *Navy AIT Steering Group Meeting*, Virginia Beach, VA, June 7, 2000.

Invited Brief: *Armed Forces Journal, International* – "Department of Energy Capabilities," authored by R.K. Abercrombie, presented by D.E. Vinson, Oak Ridge, TN July 18, 2000.

Invited Brief: "Advanced Diagnostics and Condition-Based Maintenance," *MARFORPAC Predictive Readiness Conference*, Camp Smith, Honolulu, HI, R. K. Abercrombie, D. E. Vinson, August 18, 2000.

Invited Brief: “Advanced Integrated Information Management System,” *MARFORPAC Predictive Readiness Conference*, Camp Smith, Honolulu, HI, R.K. Abercrombie, D.E. Vinson, August 18, 2000.

SIGNIFICANT MTG [ORNL]: “Transformation in Defense Logistics - A Priority Focus for ORNL and LMES,” Briefing for Gary Coxon by Ad Hoc Working Group on Defense Logistics, R. K. Abercrombie, R. Brittain, M. Bronzini, M. Hilliard, T. Reuther, December 3, 1998.

Security clearance

DOE “Q” clearance; SCI; active as of October 26, 2015, currently inactive.

Awards received

2016, Elected to the grade of Senior Member, ACM (Association of Computing Machinery) in recognition of professional standing and demonstrated performance by the President and Awards Committee of the ACM.

2013, Best Paper Nomination and Runner-Up Acknowledgment, R. K. Abercrombie, F. T. Sheldon, K. R. Hauser, M. W. Lantz, and A. Mili, “Risk Assessment Methodology Based on the NISTIR 7628 Guidelines,” *Proceedings of 46th Hawaii International Conference on System Sciences (HICSS-46)*, Maui, Hawaii, January 7-10, 2013, Computer Society Press, 2012, pp. 1802-1811, ([DOI: 10.1109/HICSS.2013.466](https://doi.org/10.1109/HICSS.2013.466)).

2011, ORNL Significant Event Award in Recognition and Significant Contribution to the “Design and Implementation of the Virtual Computing Environment for Scientific Experimentation”.

2011, ORNL Certificate in Recognition and Significant Contribution to the “ORNL Response to the April Advance Persistent Threat Cyber Attack”.

2009-2010, 2010-2011, 2012-2013, The University of Memphis Center for Information Assurance Advisory Board Certificate of Appreciation, Academic Years: 2009, 2010, 2011, 2012, and 2013.

2009, UT-Battelle, LLC (ORNL) 2009 Key Contributor Award.

2009, Recognized for Exceptional Mentorship in the Research Alliance in Math and Science 2009 Summer Internship at ORNL, DOE Office of Science.

2008, Southeast Region Federal Laboratory Consortium Technology Transfer Award for Automated In-Motion Vehicle Evaluation Environment (AIMVEE): Honorable Mention, January 2009.

2008, UT-Battelle, LLC (ORNL) Awards Night, Excellence in Technology Transfer of Automated In-Motion Vehicle Evaluation Environment (AIMVEE) and Weigh-In-Motion (WIM).

2007, Best Paper Nomination, C. Lin, K.M. Kavi, F. T. Sheldon, and R.K. Abercrombie, “A Methodology to Evaluate Agent Oriented Software Engineering Techniques”, *Proceedings of the 40th Annual Hawaii International Conference on System Sciences (HICSS-40)*, (CD-ROM) Big Island HI, (Software Agents and Semantic Web Technologies Mini-track [nominated best paper]), January 3-6 2007, Computer Society Press, 2007 (10 pages, ([DOI: 10.1109/HICSS.2007.20](https://doi.org/10.1109/HICSS.2007.20), [PDF](#)).

2006, Elected to the grade of Senior Member, IEEE and IEEE Computer Society in recognition of professional standing by the Officers and Board of Directors of the IEEE.

2005, Recognized for Mentorship in the Research Alliance in Math and Science 2005 Summer Internship at ORNL, DOE Office of Science.

2004, 2005, Cited during performance review with monetary award for outstanding and successful leadership of ORNL Weigh-In-Motion (WIM) Program.

2000, Received a commander’s coin from Rear Admiral Raymond A. Archer, Deputy Commander, Defense Logistics Agency for contributions to the Joint Logistics Warfighting Initiative (JLWI) General Officer Steering Committee (GOSC).

2000, Letter of appreciation from Navy Automated Identification Technology (AIT) Project Office for presenting keynote briefing at Navy AIT Steering Group meeting.

1995, 1993, 1992, Recognized as “Super Manager” in DOE WFO Program.

1993, President's Award for Continuous Improvement and President's Luncheon.

1992, MMES, Inc. Awards Night Operations and Support Team Award.

1991, Supplemental Incentive Compensation Award for Significant Event for Technical Leadership of the U.S. Army's modernization and automation of overseas in-theater transportation systems. Portion of Citation reads as follows: ... Your contributions and support of the Army have been projected by them to save more than \$85 million in theater operations over the next 6 years.

1986, Supplemental Incentive Compensation Award for Significant Event-Product Certification and Assembly Division Communications System software for the electronic generation, approval, revision, storage and distribution of inspection procedures that included a mixture of text and graphics and the collection, error correction and storage of certification data.

1985, Letter of Commendation for the implementation/specifications plans, and evaluation model for Y-12's Computer Aided Design/Manufacturing (CAD/CAM) System/Network acquisition.

1984, U.S. Department of Energy Award of Excellence for Significant Contribution to the U.S. Nuclear Weapons Program, for Statistical Quality Control of Part Machining for the Fabrication Division and Product Certification Division.

1978-1979, NIH Post-doctoral Fellowship in Computer Science and Medical Informatics, University of Missouri, Columbia.

1976-1978, NIH Pre-doctoral Research Assistantship, University of Tennessee, Knoxville.

1976, Conducted Independent Research as Guest Pre-doctoral Research Fellow via Alfred P. Sloan Research Fellowship, Emory University, Atlanta, Georgia.

1975-1976, NSF Pre-doctoral Research Assistantship, University of Tennessee, Knoxville.

1975, Guest Pre-doctoral Research Fellow, The University of Washington, Friday Harbor Marine Laboratories, Friday Harbor, Washington.