ALYSON GABBARD WILSON
Curriculum Vitae
February 2021

EDUCATION
Ph.D. Statistics, Duke University, Durham, NC, May 1995
M.S. Statistics, Carnegie Mellon University, Pittsburgh, PA, August 1990
B.A. Mathematical Sciences (summa cum laude), Rice University, Houston, TX, May 1989

PROFESSIONAL EXPERIENCE
Office of Research and Innovation, North Carolina State University, Raleigh, NC
2020-	Associate Vice Chancellor for National Security and Special Research Initiatives
2020-2021	Launch Director, Data Science Academy
2014-	Principal Investigator, Laboratory for Analytic Sciences

Department of Statistics, North Carolina State University, Raleigh, NC
2015-	Professor
2015-2017	Associate Faculty, Department of Computer Science
2014-	Data-Driven Science Cluster Coordinator
2014-2019	Director (2019), Associate Director (2014-2018), Data Science Initiative
2013-2019	Chancellor's Faculty Excellence Program in Data-Driven Science
2013-2015	Associate Professor

Institute for Defense Analyses Science and Technology Policy Institute, Washington, DC
2015-2019	IDA Faculty Fellow
2013-2019	Adjunct Research Staff Member
2012-2013	Task Leader
2011-2013	Research Staff Member, STPI and Systems and Analyses Center/System Evaluation Division

Department of Statistics, Iowa State University, Ames, IA
2011-2013	Collaborating Associate Professor
2008-2011	Associate Professor

Statistical Sciences Group, Los Alamos National Laboratory, Los Alamos, NM
2008-	Guest Scientist
2003-2008	Project Leader
2000-2008	Technical Lead for DoD Programs
2000-2008	Director of Graduate and Undergraduate Student Programs
1999-2008	Technical Staff Member, Scientist 5

Cowboy Programming Resources, Inc., El Paso, TX
1997-1999	Statistician/Senior Operations Research Systems Analyst
1995-1996	Statistician/Operations Research Systems Analyst

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Laboratory of Statistical and Mathematical Methodology, Division of Computer Research and Technology, National Institutes of Health, Bethesda, MD
1991-1992   Mathematical Statistician (GS-1529-9/11)

REFEREED PUBLICATIONS
Patent
E. Chaney, D. Fritsch, S. Pizer, V. Johnson, A. Wilson (1999). U.S. Patent 5,926,568. *Image Object Matching using Core Analysis and Deformable Shape Loci*. Licensed by Accuray (2013).

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A. Wilson, N. Limnios, S. Keller-McNulty, Y. Armijo, eds (2005). *Modern Statistical and Mathematical Methods in Reliability*. World Scientific, Singapore. Chinese edition (2016).

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S. Singh, A. Paterson, L. Wendelberger, C. Fancher, B. Reich, R. Smith, A. Wilson, J. Jones. Algorithms in Profile Diffraction Analysis (2020). *Handbook on Big Data and Machine Learning in the Physical Sciences Volume 1: Big Data Methods in Experimental Materials Discovery*, eds. I. Foster and S. Kalinin, World Scientific. https://doi.org/10.1142/11389.

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J. Lee, J. Rathsam, A. Wilson (2020). Bayesian Statistical Models for Community Annoyance Survey Data. *Journal of the Acoustical Society of America* 147(4): 2222-2234. https://doi.org/10.1121/10.0001021.

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Schmidt and Brent Winter. *Harvard Data Science Review* 1(2), https://hdsr.mitpress.mit.edu/pub/qkgyckh8.

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C. S. Reese, A. Wilson, J. Guo, M. Hamada, V. Johnson (2011). A Hierarchical Model for Estimating Reliability from Weapon System Surveillance Data. *Journal of Quality Technology* 43(2): 127-141.

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A. Wilson, L. McNamara, G. Wilson (2007). Information Integration for Complex Systems. *Reliability Engineering and Systems Safety* 92(1): 121-130.

C. Anderson-Cook, T. Graves, M. Hamada, N. Hengartner, V. Johnson, C. S. Reese, A. Wilson (2007). Bayesian Stockpile Reliability Methodology for Complex Systems with Application to a Munitions Stockpile. *Journal of the Military Operations Research Society* 12(2): 25-38.

A. Wilson (2007). Hierarchical Markov Chain Monte Carlo for Bayesian System Reliability. *Encyclopedia of Statistics in Quality and Reliability*, F. Ruggeri, R. Kenett, F. Faltin, eds. Wiley, Chichester, UK, 824-828.

A. Wilson, T. Graves, M. Hamada, C. S. Reese (2006). Advances in Data Combination, Analysis, and Collection for System Reliability Assessment. *Statistical Science* 21(4): 514-531.

S. Keller-McNulty, G. Wilson, A. Wilson (2005). The Impact of Technology on the Scientific Method, with discussion. *Chance* 18(4): 4-8.

M. Hamada, H. Martz, C. S. Reese, T. Graves, V. Johnson, A. Wilson (2004). A Fully Bayesian Approach for Combining Multilevel Failure Information in Fault Tree Quantification and Corresponding Optimal Resource Allocation. *Reliability Engineering and Systems Safety* 86(3): 297-305.

A. Wilson, M. Hamada, M. Xu (2004). Assessing Production Quality with Nonstandard Measurement Errors. *Journal of Quality Technology* 36(2): 193-206.

C. S. Reese, A. Wilson, M. Hamada, H. Martz, K. Ryan (2004). Integrated Analysis of Computer and Physical Experiments. *Technometrics* 46(2): 153-164.

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S. Keller-McNulty, A. Wilson. Reliability for the 21st Century (2003). In *Mathematical and Statistical Methods in Reliability*, B. Lindqvist, K. Doksum, eds., World Scientific, 15-30.

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A. Wilson, V. Johnson. Models for Shape Deformation (1995). In *Bayesian Statistics 5*, J. Berger, J. Bernardo, A. P. Dawid, A. F. M. Smith, eds. Oxford University Press, 801-808.

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T. Graves, A. Wilson (2001). Statistical Appendix for Process Qualification Plan 141a and Process Qualification Plan 150-Rev A: Plutonium Assay by Controlled Potential Coulometry and Dissolution. LA-CP-01-0187.

T. Graves, A. Wilson (2001). Statistical Appendix for Process Qualification Plan 153-Rev A: Spectrophotometric Determination of Iron in Plutonium Materials. LA-CP-01-0186.

T. Graves, A. Wilson (2001). Statistical Appendix for Process Qualification Plan 142-Rev A: Pu Isotopic Distributions of Pu Materials by Thermal Ionization Mass Spectrometry. LA-CP-01-0185.

A. Wilson, S. Keller-McNulty (2000). Statistical Representations for Information Integration. LA-UR-00-4850.

M. McNulty, A. Wilson, S. Keller-McNulty (2000). Information Integration Technology. LA-UR-00-4849.

A. Wilson, M. Morris, J. Morrison (1999). NMD BMC2 Algorithm Analysis: Statistical Methods to Validate the National Missile Defense Battle Management Command and Control Software. LA-CP-99-0264.

Primary Author of *Draft Joint Tactical Ground Station Regression Testing System Assessment*. Prepared for U.S. Army Operational Evaluation Command, 1997.

Primary Author of *Draft Joint Tactical Ground Station Product Verification Test/First Article Test Operational Assessment*. Prepared for U.S. Army Operational Evaluation Command, 1996.

Contributing Author for *Draft Joint Tactical Ground Station Product Verification Test/First Article Test Independent Evaluation Briefing*. Prepared for U.S. Army Operational Evaluation Command, 1996.

Contributing Author for *Draft PATRIOT Advanced Capability-3, Configuration-2 Follow-on Test and Evaluation Analysis Report*. Prepared for U.S. Army Operational Evaluation Command, 1996.

Contributing Author for *Draft PATRIOT Advanced Capability-3, Configuration-2 Follow-on Test and Evaluation Test and Evaluation Report*. Prepared for U.S. Army Operational Evaluation Command, 1996.

Contributing Author for *Draft PATRIOT Advanced Capability-3, Configuration-2 Follow-on Test and Evaluation Independent Evaluation Briefing*. Prepared for U.S. Army Operational Evaluation Command, 1996.

Contributing Author for *Draft Joint Tactical Ground Station Developmental Test/Operational Test Analysis Report*. Prepared for U.S. Army Operational Evaluation Command, 1996.

Contributing Author for *Draft Joint Tactical Ground Station Developmental Test/Operational Test and Evaluation Report*. Prepared for U.S. Army Operational Evaluation Command, 1996.

Contributing Author for *Draft Joint Tactical Ground Station Developmental Test/Operational Test Independent Evaluation Briefing*. Prepared for U.S. Army Operational Evaluation Command, 1995.

EXTERNAL FUNDING
Research Funding

2020-2021   Reliability Modeling and Experimental Design for the Extended Range Cannon Artillery Increment 2, U.S. Military Academy at West Point, $20,000 (PI)

2019-2023   Laboratory for Analytic Sciences, National Security Agency and other U.S. and International Intelligence Community Partners, $70M (PI)

2019-2020   MAVEN Test and Evaluation Research, Carnegie Mellon University, $250,000 (PI)

2018-2022   Science of Test Research Consortium, Director Operational Test and Evaluation and Developmental Test and Evaluation Test Resource Management Center, $478,430 (PI)

2017-2019   Dose-Response Modeling of Existing Sonic Boom Datasets, National Institute of Aerospace for NASA, $95,000 (PI)

2016-2021   NRT-DESE: Interdisciplinary Research Traineeships in Data-Enabled Science and Engineering of Atomic Structure, $2.99M (Co-Investigator)

2014-2020   Consortium for Nonproliferation Enabling Capabilities, National Nuclear Security Administration, $24M (overall), $300,000/year (Wilson, Co-Investigator)

2014-2018   The Science of Test: Advanced Test and Evaluation in Support of the DOD Test and Evaluation Enterprise, Director Operational Test and Evaluation and Developmental Test and Evaluation Test Resource Management Center, $6.3M (overall), $100,000/year (Wilson, Co-Investigator)

2013-2018   Laboratory for Analytic Sciences, National Security Agency and other U.S. and International Intelligence Community Partners, $56M (PI)

2014-2017   North Carolina Data Sciences and Analytics Initiative, UNC-General Administration, $2.17M (overall), $721,000 (NCSU, Co-PI)

2014-2016   PARAKEET: Performance and Reliability Assessments for Knowledge of
             Electronic Emissions Technology, National Nuclear Security Administration,
             $10.5M (overall), $40,000/year (Wilson, Co-Investigator)
2014   Data Readiness Level, Laboratory for Analytic Sciences, $100,000 (PI). Technical
             Coordinator for Data Readiness Task.
2013-2015   Science of Security Lablet, National Security Agency, $2.5M (overall),
             $50,000/year (Wilson, Co-Investigator)
2013-2014   Information Content to Assess Data Readiness, Laboratory for Analytic Sciences,
             $50,000 (overall), $25,000 (Wilson, Co-PI)
2013-2014   Scalable Clustering Methods for Dynamic Health Data, Research Innovation Seed
             Funding, North Carolina State University, $26,000 (Co-PI)
2013   Data Collection Instrument to Evaluate the Scientific Impact of Logistical Support
             Provided by the United States Antarctic Program, National Science Foundation,
             $150,000 (IDA project, PI)
2013   Bibliometrics and Expert Judgment Methodology, IDA Corporate Research
             Program, $15,000 (PI)
2013   Early Detection of Reliability Growth Issues, IDA Corporate Research Program,
             $15,000 (PI)
2012-2013   Dynamic Analysis and Management of CBRNE Collection Assets, Defense Threat
             Reduction Agency, $400,000 (IDA project, PI)
2012   Formalizing Observational Studies and Expert Panels, IDA Corporate Research
             Program, $60,000 (Co-PI)
2010-2013   Statistically Significant Relational Data Mining, Sandia National Laboratories,
             $1,699,000 (overall), $265,000 (Wilson, Co-Investigator)
2008-2012   Estimative Language and Statistical Relational Learning, Sandia National
             Laboratories, $285,000 (Co-PI)
2005-2008   LANL Systems Main Technical Element, Department of Energy Enhanced
             Surveillance Campaign, $2.5M/year (LANL project, PI)
2004   Ballistic Missile Defense System On-Alert Capability Assessment, Missile Defense
             Agency, $150,000 (LANL project, PI)
2003-2008   Munitions Stockpile Reliability Assessment, Department of Defense/Department of
             Energy Joint Munitions Program, $600,000/year (LANL project, PI)
2002-2004   Space and Missile Defense Command Critical Measurements Program, Missile
             Defense Agency, $300,000/year (LANL project, PI)
2001-2002   Stores Separation Project, F-22 Program Office, $300,000/year (LANL project, PI)
2001   Software Reliability Assessment, Army Test and Evaluation Command, $100,000
             (LANL project, PI)

Teaching Funding
2016   A Department-Wide Mentoring Initiative to Encourage URM Student Success in
             Statistics, North Carolina State University Diversity Mini-Grant Program, $1600
             (Co-Investigator)
2014   Workshop on Opportunities for Modern Statistics in Materials and Chemistry
             Research, Eastman Chemical Company, $9000 (Co-PI)
2014   North Carolina State University Library Alt-Textbook Mini-Grant, $500 (PI)

2011   Mathematics and Statistics Opportunities for Undergraduates Conference, Iowa
            State University Women's Enrichment Mini-Grant, $800 (Co-PI)
2010-2011   Strengthening Quantitative Literacy Using Case-Based Learning, Iowa State
            University Miller Faculty Fellowship, $9672 (Co-PI)

HONORS
Awards
2019   North Carolina American Statistical Association Senior Statistician Award for
       outstanding contributions to the theory and practice of statistics, particularly for
       contributions to the development of the subject in North Carolina
2019   NCSU Department of Statistics D.D. Mason Award for faculty excellence
2018   American Statistical Association Section on Statistics in Defense and National Security
       Distinguished Achievement Award
2017   American Statistical Association Statistical Partnerships Among Academe, Industry, and
       Government (SPAIG) Award for the Laboratory for Analytic Sciences
2017   North Carolina State University Research Leadership Academy
2017   2016-2017 Alumni Association Outstanding Research Award
2015   Fellow of American Association for the Advancement of Science
2015   Army Wilks Award
2012   Elected Member of the International Statistical Institute
2009   Department of Energy Defense Programs Award of Excellence for significant
       contributions to the Stockpile Stewardship Program through contributions to the Joint
       Munitions Program
2008   Los Alamos National Laboratory Director's Distinguished Performance Award (Large
       Team), Detonator Powder Aging
2008   Department of Energy Defense Programs Award of Excellence for significant
       contributions to the Stockpile Stewardship Program through contributions to
       understanding high explosive detonator powder longevity
2008   Fellow of the American Statistical Association
2008   LANL Star Award, Los Alamos Women's Diversity Working Group and the Office of
       Equal Opportunity and Diversity
2007   Department of Energy Defense Programs Award of Excellence as member of the Los
       Alamos National Laboratory Core Surveillance Transformation Team
2005   Los Alamos National Laboratory Achievement Award for leadership in the quality
       initiative to transform reliability assessment for the nuclear stockpile
2003   Best Broad-Appeal Paper (with S. Keller-McNulty) for *Uncertainty Quantification for
       Complex Engineered Systems*, JANNAF 39th Combustion/27th Airbreathing
       Propulsion/21st Propulsion Systems Hazards/3rd Modeling and Simulation Joint
       Subcommittee Meeting, Colorado Springs, CO
2000   Los Alamos National Laboratory Achievement Award for leadership in DoD program
       development
1995   Savage Dissertation Award in Bayesian Statistics for *Statistical Models for Shapes and
       Deformations* (advisor V. Johnson)
1993   Honorable Mention, Gertrude Cox Scholarship, American Statistical Association's
       Committee on Women in Statistics and the Caucus for Women in Statistics
1992   Clare Boothe Luce Fellowship for Women in Science, Duke University

1992	James B. Duke Fellowship in Statistics, Duke University
1992	National Institute of Health, Division of Computer Research and Technology Employee of the Month
1989	National Science Foundation Graduate Research Fellowship
1989	Phi Beta Kappa

Recognition by Appointment to National Service

2021-	Pacific Northwest National Laboratory Chemical Dynamics Initiative Review Committee
2021-2022	National Academies of Sciences, Engineering, and Medicine's Committee on Risk Analysis for Nuclear War and Nuclear Terror
2019-2020	National Academies of Sciences, Engineering, and Medicine's Committee for Improving Defense Acquisition Workforce Capability in Data Use
2018-2021	National Institute for Statistical Sciences Board of Trustees
2018-2021	Committee on Applied and Theoretical Statistics, National Academies of Sciences, Engineering, and Medicine
2017-2021	Computational Information Systems Laboratory, National Center for Atmospheric Research Advisory Panel
2008-2018	Sandia National Laboratories' Predictive Engineering Science Panel
2017	National Academies of Sciences, Engineering, and Medicine's Steering Committee on Learning from the Science of Cognition and Perception for Decision Making: A Workshop
2013-2015	Bowling Green State University Department of Mathematics and Statistics Computational Mathematics and Statistics Advisory Board
2013	Department of Energy Applied Mathematics Program Committee of Visitors
2013	Invited Participant, Department of Energy Office of Science Advanced Scientific Computing Research Crosscutting Requirements Review
2012-2014	National Academies of Sciences, Engineering, and Medicine's Committee on Integrating Humans, Machines and Networks: A Global Review of Data-to-Decision Technologies
2011-2012	National Academies of Sciences, Engineering, and Medicine's Committee to Review the Testing of Body Armor Materials for Use by the U.S. Army, Phase 3
2010-2012	National Academies of Sciences, Engineering and Medicine's Committee on Mathematical Foundations of Validation, Verification, and Uncertainty Quantification
2010	National Academies of Sciences, Engineering, and Medicine's Committee to Review the Testing of Body Armor Materials for Use by the U.S. Army, Phase 2
2010	Invited Participant, Defense Threat Reduction Agency/Sandia National Laboratories Workshop on Challenges in Computational Social Science
2009-2011	University of Michigan Predictive Science Academic Alliance Program Review Panel, Department of Energy
2009	National Academies of Sciences, Engineering, and Medicine's Committee to Review the Testing of Body Armor Materials for Use by the U.S. Army, Phase 1
2008-2011	National Academies of Sciences, Engineering, and Medicine's Panel on Industrial Methods for the Effective Testing and Development of Defense Systems

2008	Invited Participant, Chief of Naval Operations Distinguished Fellows Workshop on Critical Infrastructure Vulnerability
2008	Organizing Committee and Invited Participant, Department of Energy Office of Science Applied Mathematics Research Program, Workshop on Mathematical Issues for Petascale Data Sets
2006-2007	National Academies of Sciences, Engineering, and Medicine's Panel on Methodological Improvement to the Department of Homeland Security's Biological Agent Risk Analysis
2006	Invited Participant, Department of Energy Office of Science Workshop on Mathematical Research Challenges in Optimization of Complex Systems
2006	Subcommittee Co-chair, Verification and Uncertainty Quantification, DOE Office of Nuclear Energy and Office of Advanced Scientific Computing Research, Simulation and Modeling for Advanced Nuclear Energy Systems Workshop
2006	Chair, American Statistical Association President's Task Force on Statistics in Defense and National Security
2002-2003	National Academies of Sciences, Engineering, and Medicine's Panel on the Operational Test Design and Evaluation of the Interim Armored Vehicle

TEACHING
University

F2015 **ST 495/CSC 495 Introduction to Data Sciences** (46 students, 3 Cr.), North Carolina State University undergraduate course. Co-taught with R. Chirkova.

F2014 **ST 495/CSC 495 Introduction to Data Sciences** (49 students, 3 Cr.), North Carolina State University undergraduate course. Co-taught with R. Chirkova.

F2013 **ST 740 Bayesian Inference and Analysis** (34 students, 3 Cr.), North Carolina State University graduate course.

F2013 **ST 515 Experimental Statistics for Engineers** I (56 students, 3 Cr.), North Carolina State University graduate course. *Thank-a-Teacher Recipient*.

F2012 **STAT 6289 Bayesian Computation** (10 students, 3 Cr.), George Washington University graduate course.

S2011 **STAT 544 Bayesian Statistics** (19 students, 3 Cr.), ISU graduate course.

S2010 **STAT 544 Bayesian Statistics** (32 students, 2 sections, 3 Cr.), ISU graduate course.

F2009 **STAT 326 Introduction to Business Statistics II** (146 students, 4 sections, 3 Cr.), ISU undergraduate course. Co-coordinated with U. Genschel (258 students, 7 sections).

S2009 **STAT 544 Bayesian Statistics** (28 students, 3 Cr.), ISU graduate course.

S2009 **LAS 290G Special Problems/Understanding Technical Risk: Culture and Analysis** (5 students, 1 Cr.), ISU undergraduate course. Co-taught with G. Wilson.

F2008 **STAT 101 Principles of Statistics** (87 students, 2 sections, 4 Cr.), ISU undergraduate course.

S1995 **STA 290 Case Studies in Applied Statistics**, Duke University graduate course. Co-taught with M. Lavine.

Short Courses

2008 A. Wilson, C. Anderson-Cook, M. Hamada, S. Vander Wiel, E. Lawrence. Statistical Methods for Core Surveillance, Los Alamos National Laboratory, Los Alamos, NM

2004	C. Anderson-Cook, A. Wilson, A. Koehler, T. Graves, C. Chiu. Integrated Reliability Assessment. U.S. Army Aviation and Missile Command, Huntsville, AL
2004	A. Wilson. Reliability Section Joint Nuclear Explosives Training Facility Surveillance Engineering Course, Los Alamos National Laboratory, Los Alamos, NM
2003	S. Keller-McNulty, A. Wilson, G. Wilson, A. Koehler. Information Integration Technologies for Complex Systems. Institute for Mathematics and Its Applications, University of Minnesota, Minneapolis, MN
2003	S. Keller-McNulty, N. Hengartner, A. Wilson, C. S. Reese. Integrated Reliability Assessment. Marine Corps Program Department, Fallbrook, CA
2002	A. Wilson, D. Leishman, C. S. Reese. Knowledge Integration for Decision Making. Army SMART Conference, Salt Lake City, UT
2000	A. Wilson, C. S. Reese, S. Keller-McNulty, M. Meyer, J. Booker, T. Bement, M. McNulty. Data, Knowledge, and Information Integration to Support Decision Making. U.S. Army Conference on Applied Statistics, Rice University, Houston, TX
1992	A. Wilson. DCRT 213: SAS Fundamentals II. National Institutes of Health, Bethesda, MD
1992	A. Wilson. DCRT 212: SAS Fundamentals I. National Institutes of Health, Bethesda, MD
1992	A. Wilson, F. Yamada. DCRT 256: Topics in S-PLUS. National Institutes of Health, Bethesda, MD

Educational Outreach

2003-	National Youth Science Camp, Bartow, WV (www.nysc.org)
2018-	Professional Strategies Working Group, Department of Statistics, NC State University, Raleigh, NC
2020	Teamwork, Developing Business and Professional Skills for Graduate Students and Postdocs Virtual Event, Duke University, Durham, NC
2020	Harnessing Data for Decision Making, Office of Undergraduate Research Connect Power Hour, NC State University, Raleigh, NC
2020	Data Science, Discussion for Faculty and Students from Nagoya University, NC State University, Raleigh, NC
2018	Statistics and Big Science, Keynote, NC Science Olympiad, Raleigh, NC
2018	Women in Data Science Panel Discussion, WiDS Raleigh @ NC State, Raleigh, NC
2014	Interdisciplinary Collaborations between Government, Industry, and Academia. Korean-American Scientist and Engineering Association, North Carolina Chapter.
2011	EDGE@ISU presents Mathematics and Statistics Opportunities for Undergraduates. Iowa State University, Ames, IA
2010	Preparing Future Faculty: Returning to Academia. Iowa State University, Ames, IA.
2010	Statistics in Defense and Security. Iowa Alliance Mathematics/ Statistics Research Experience for Undergraduates, Iowa State University, Ames, IA
2008	National Alliance for Doctoral Studies in the Mathematical Sciences, Second Annual Iowa Mathematical Field of Dreams Conference. Iowa State University, Ames, IA
2006	Statistics and Big Science. StatFest 2006, University of Texas, El Paso

ADVISING AND MENTORING
2016-   NCSU Cluster Faculty External Mentor
2014-   NCSU Department Faculty Research and Teaching Mentor
2016   NCSU Mentor-Ring Mentor

Postdoctoral Fellows
2019-2020   Christine Brugh
2017-2019   Eli Typhina
2016-2018   Héctor Rendón
2015-2017   Karl Pazdernik

Ph.D. Students
2018   Milo Page, North Carolina State University, Department of Statistics, "Automated Data Imputation: Extending Low Rank Matrix Imputation Techniques For Statistical Prediction Modeling" (co-mentored by C. Gotwalt)
2017   Jordan Bakerman, North Carolina State University, Department of Statistics, "Twitter Analytics: Geotag Imputation, Forecasting, and Dynamic Variable Selection" (co-mentored by K. Pazdernik)
2017   Yiqing Tian, North Carolina State University, Department of Statistics, "Variable Selection in Logistic Regression with Applications" (co-advisor with H. Bondell)
2016   Xiang Zhang, North Carolina State University, Department of Statistics, "Contributions to Statistical Methods for High-Dimensional and Dependent Data" (co-advisor with L. Li)
2016   Zhen Han, North Carolina State University, Department of Statistics, "Statistical Methods for Relational Data: Visualization, Classification, and Topic Modeling on Networks"
2012   Roger Zoh, Iowa State University, Department of Statistics, "Using the Negative Log-Gamma Distribution for Bayesian System Reliability Assessment"
2011   Jiqiang Guo, Iowa State University, Department of Statistics, "Bayesian Methods for System Reliability and Community Detection"
2008   Kari Sentz, Binghamton University, Department of Systems Science and Industrial Engineering, "Methods of Probability and Imprecise Probability for Uncertainty Quantification in Applied Problems" (co-major professor with G. Klir)

In progress
    Conor Artman, North Carolina State University, Department of Statistics
    Andrew Hollis, North Carolina State University, Department of Statistics (co-advisor with R. Smith)
    Laura Wendelberger, North Carolina State University, Department of Statistics (co-advisor with B. Reich)

M.S. Students
2019   Jasme Lee, North Carolina State University, Department of Statistics, "Dose-Response Modeling of Quiet Sonic Boom Community Response Survey Data" (co-mentored by J. Rathsam)

2015   Hillary Graham, North Carolina State University, Department of Statistics, "Incorporating Concomitant Medications into Linear Models for Genome-Wide Association Studies" (co-mentored by D. Rotroff)

2011   Susan Vander Plas, Iowa State University, Department of Statistics, "Statistical Analysis of Atom Probe Mass Spectra"

2011   Matt Simpson, Iowa State University, Department of Statistics, "A Bayesian Analysis of an Exchange and Specialization Experiment"

2011   Erin Buchanan, Iowa State University, Department of Statistics, "Credible Intervals: Practical Applications in Energy Efficiency Impact Evaluation"

2011   Jing Li, Iowa State University, Department of Statistics, "Test Plans for Weibull Bayesian Assurance Testing in Reliability"

2010   Ralph Culver, Iowa State University, Department of Statistics, "Bayesian Analysis of Gauge R&R Data"

2010   Robert Foster, Iowa State University, Department of Statistics, "Simulation Analysis of a Bayesian Test Plan for Sequential Data from a Homogeneous Poisson Process"

2010   Randy Griffiths, Iowa State University, Department of Statistics, "Using Hierarchical Models to Find Test Plans for Binary Data"

2009   Roger Zoh, Iowa State University, Department of Statistics, "Comparison of Various Methods for Constructing Confidence Intervals for Two Multivariate Capability Indices in a Gauge R&R Study"

Ph.D. Committee Member

2020   Katherine Allen Moyer, North Carolina State University, Department of Statistics

2020   Joyce Cahoon, North Carolina State University, Department of Statistics

2019   Arnab Chakraborty, North Carolina State University, Department of Statistics

2019   Bharat Balagopal, North Carolina State University, Department of Electrical and Computer Engineering

2019   Isaac Michaud, North Carolina State University, Department of Statistics

2018   Adam Amos-Binks, North Carolina State University, Department of Computer Science

2018   Jami Jackson Mulgrave, North Carolina State University, Department of Statistics

2018   Siddharth Rastogi, North Carolina State University, Textile Technology Management

2018   Joshua Day, North Carolina State University, Department of Statistics

2017   Brian Naughton, North Carolina State University, Department of Statistics

2016   Kelsey Gaisor, North Carolina State University, Biomathematics Graduate Program

2016   Priyam Das, North Carolina State University, Department of Statistics

2016   Yuan Zhang, North Carolina State University, Department of Electrical and Computer Engineering

2016   Sam Morris, North Carolina State University, Department of Statistics

2016   Reka Howard, Iowa State University, Department of Statistics

2016   Yan Dora Zhang, North Carolina State University, Department of Statistics

2015   Ryan Parker, North Carolina State University, Department of Statistics

2015   Bradley Turnbull, North Carolina State University, Department of Statistics

2015   Prithwish Bhaumik, North Carolina State University, Department of Statistics

2014   Emily Casleton, Iowa State University, Department of Statistics

2013   Jia Liu, Iowa State University, Department of Statistics

2013   Shiyao Liu, Iowa State University, Department of Statistics

2013   Amy Hoeksema, Iowa State University, Department of Statistics
2012   Karl Pazdernik, Iowa State University, Department of Statistics
2011   Cherie Alf Kientoff, Iowa State University, Department of Statistics
2011   Brian Weaver, Iowa State University, Department of Statistics
2010   Adam Pintar, Iowa State University, Department of Statistics

In progress
        Kasia Dobrzycka, North Carolina State University, Department of Statistics
        Khuzaima Hameed, North Carolina State University, Department of Statistics
        Bowen Liu, North Carolina State University, Department of Statistics
        Matthew Miller, North Carolina State University, Department of Statistics
        Jirapat Samranvedhya, North Carolina State University, Department of Statistics

M. S. Committee Member
2015   Kaaviya Palanivel Kathirvel, North Carolina State University, Integrated Manufacturing
        and Systems Engineering Institute
2014   Andrea Kaplan, Iowa State University, Department of Statistics
2010   Luke Fostvedt, Iowa State University, Department of Statistics
2010   Shiyao Liu, Iowa State University, Department of Statistics
2010   Amy Borgen, Iowa State University, Department of Statistics
2008   Brian Weaver, Iowa State University, Department of Statistics

Graduate Research Assistants
2020-2021   Andrew Hollis, Kate Sanborn, Khuzaima Hameed
2019-2020   Andrew Hollis, Joyce Cahoon, Chris Edwards
2018-2019   Katherine Allen Moyer, Andrew Hollis, Jasme Lee, Todd Wilson, Caleb Weaver,
             Joyce Cahoon
2017-2018   Katherine Allen Moyer, Jordan Bakerman, James Gilman, Nick Johnson, Jasme
             Lee, Susheela Singh, Laura Wendelberger
2016-2017   Jordan Bakerman, James Gilman, Susheela Singh
2015-2016   Jordan Bakerman, Caleb Browning, James Gilman, Hillary Graham, Zhen Han,
             Nick Meyer, Xiang Zhang
2014-2015   Caleb Browning, Nick Meyer, Merve Tekbudak
2013-2014   Andrea Kostura

Undergraduate Research Assistants
2019-2020   Kate Sanborn
2014-2015   James Gilman

NCSU Park Scholar Mentor
2019-2023   Katelyn McInerney
2018-2022   Shannon Pinnell

NCSU Department Independent Study
2021   Manali Shireskar

NCSU Consulting Project Mentor
2016   Candice Park and Tian Guo, Survival Analysis of Faculty Retention
2014   Jennifer Ran Wei and Qianwen Tan, NC 4-H Evaluation Learning Circle

LANL Summer Students
2007   Brian Weaver, Iowa State University
2006   Brian Weaver, University of New Mexico
2003   Kristi O'Grady, North Carolina State University
2003   Morgan Harris, Virginia Military Institute
2001   Meng Xu, University of Idaho
2001   Andrew Swift, George Washington University

SERVICE
Editorial
2018-2021   Associate Editor, *Harvard Data Science Review*
2018   Guest editor for *Chance* special issue (April 2018) on defense and national security (with D. Banks)
2012-2014   Associate Editor, *Journal of Uncertainty Quantification*
2011-2013   Reviews Editor of the *Journal of the American Statistical Association* and *The American Statistician*
2010-2012   Managing Editor, *Bayesian Analysis*
2008-2010   Associate Editor for Reviews, *Journal of the American Statistical Association* and *American Statistician*
2006   Guest editor for *Statistical Science* special issue on reliability (with S. Keller-McNulty and C. Anderson-Cook)

Review and Referee
National Science Foundation, Department of Energy Office of Science, National Academies of Sciences, Engineering, and Medicine, Army Research Office, American Association for the Advancement of Science, John Wiley & Sons, Taylor & Francis, Springer, *Applied Stochastic Models in Business and Industry, Bayesian Analysis, Chinese Journal of Aeronautics, CRC Press, Harvard Data Science Review, IEEE Transactions on Engineering Management, IEEE Transactions on Fuzzy Systems, IEEE Transactions on Medical Imaging, International Journal of Approximate Reasoning, International Journal of General Systems, Journal of the American Statistical Association, Journal of Statistics Education, Mathematical Geology, Naval Research Logistics, Quality Engineering, Quality and Reliability Engineering International, Reliability Engineering and System Safety, Risk Analysis, South African Statistical Journal, Springer, Stat, Statistical Science, Statistics in Medicine, Technometrics*

American Association for the Advancement of Science
2016-2020   Secretary, Section U (Statistics)

American Statistical Association
2019-2021   Vice Chair, Council of Sections
2013-2018   Council of Sections Representative, Section on Statistics in Defense and National Security

2010-2012	Nomination Committee, Section on Bayesian Statistical Sciences
2009-2011	*Techometrics* Management Committee
2009-2011	Program Chair-Elect, Program Chair, Past Program Chair, Section on Bayesian Statistical Sciences (2010 JSM Program Committee)
2009-2010	American Statistical Association Working Group on Strategic Plan Focus: Visibility and Impact in Policy Making
2008-2010	Speakers Committee Chair, Section on Statistics in Defense and National Security
2006-2008	Chair-Elect, Chair, Past Chair, Section on Statistics in Defense and National Security
2004-2005	Secretary/Treasurer/Webmaster, Section on Statistics in Defense and National Security
2002-2003	President, Albuquerque Chapter
2001-2002	Vice-President, Albuquerque Chapter
2000-2005	Member, Committee on Statisticians in Defense and National Security

Institutional Service
North Carolina State University
2021-	Analytics Hub Steering Team
2021	Search Committee Chair, Data Science Academy Executive Director
2021	Search Committee Chair, Data Science Academy Teaching Postdoctoral Fellows
2020-	Research Data Security Compliance Steering Group
2020	Research Computing and Data Service Team
2019-2020	Search Committee Chair, Data-Driven Science Cluster
2019-2022	University Standing Committee on Commencement
2016	Task Force for Interdisciplinary and Joint Faculty Review
2014-2017	University Standing Committee on Commencement
2014-2017	University Diversity Advisory Committee
2013-2016	Search Committee, Data-Driven Science Cluster

North Carolina State University, Department of Statistics
2019	Qualifying Exam Committee
2018-2019	Faculty Search Committee
2017-2018	Seminar Committee
2016-2017	Department Head Search Commitee
2014-2015	Big Data Committee
2014-2015	Faculty Search Committee
2013-2015	Preliminary Exam Committee (Chair, 2014-2015)

Institute for Defense Analyses
2012	Baccalaureate Fellows Hiring Committee
2012	Research Associate Hiring Committee
2012	Research Staff Hiring Committee

Iowa State University, College of Liberal Arts and Sciences
| 2009-2011 | College Diversity Committee |

2010-2011   Senior Mentor, EDGE@ISU Mentoring Cluster (Enhancing Diversity in Graduate
            Education, Departments of Mathematics and Statistics)

Iowa State University, Department of Statistics
2010-2011   Graduate Committee
S2011   Seminar Chair
2010-2011   Department Diversity Representative
2009-2010   Curriculum Committee
2009-2010   PhD/MS Exam Committee
2008-2011   Iowa STAT-ers Advisor
2008-2010   Faculty Search Committee
2008-2009   Information Technology/System Administrator Search Committee
2008-2009   Computation Advisory Committee

Los Alamos National Laboratory
2007   Los Alamos National Laboratory Laboratory-Directed Research and Development
            Exploratory Research in Computing and Information Sciences Peer-Review and
            Funding Committee
2005   Statistical Sciences Group Leader Search Committee
2003   Los Alamos National Laboratory Fellows Selection Committee
2003   Nuclear Design and Risk Analysis Group Leader Search Committee
2000-2002   Los Alamos National Laboratory Laboratory-Directed Research and Development
            Exploratory Research in Mathematics, Simulation, and Modeling Peer-Review and
            Funding Committee

Conference
2018-2020   Defense and Aerospace Test and Analysis Workshop (DATAWorks)
            2020 Technical Program Committee
            2019 Co-Chair Committee
            2018 ASA/SDNS General Chair
2019   Organizer, Data Science and Big Data Workshop, University and Global
            Partnership Network, Raleigh, NC
2017   Advisory Committee, Science of Test Workshop
2000-2016   Army Conference Applied Statistics/Conference on Applied Statistics in Defense
            2000-2016 Executive Committee
            2016 Chair, Organizing Committee
            2014 Program Chair
            2001 Local Organizer, Santa Fe, NM
2016   Organizer, Invited Panel, Public-Private Partnerships to Accelerate Innovation in
            Intelligence Analysis, American Association for the Advancement of Science
            Meeting, Washington, DC
2015   Organizing Committee, Institute for Computational and Experimental Research in
            Mathematics (ICERM) Workshop on Data Science
2014   Organizing Committee, Department of Energy Conference on Data Analysis, Santa
            Fe, NM
2014   Organizing Committee, Women in Statistics Conference, Cary, NC

2012	Organizer, Invited Session, "Reliability for Complex Systems" for Quality and Productivity Research Conference, Long Beach, CA
2010	Program Committee, Joint Statistical Meetings, Vancouver, BC
2010	Program Committee, Eastern North American Region/International Biometric Society
2010	Organizer, Invited Session, "Bayesian Analysis Invited Session" for Joint Statistical Meetings, Vancouver, BC
2009	Program Committee, Sixth International Symposium on Imprecise Probabilities and Their Applications
2009	Organizer, Invited Session, "Quantitative Methods for Combating Bioterrorism" for Joint Statistical Meetings, Washington, DC
2007	Organizer, Invited Session, "Advances in System Reliability" for Joint Statistical Meetings, Salt Lake City, UT
2005	Organizer, Invited Session, "Experiment Planning Issues in System Reliability" for Design and Analysis of Experiments Conference, Santa Fe, NM
2005	Organizer, Invited Session, "Statistical Methods for Defense Applications" for Spring Research Conference on Statistics in Industry and Technology, Park City, UT
2004	Co-Organizer, Mathematical Methods in Reliability Conference, Santa Fe, NM
2002	Organizer, Invited Session, "Minimizing the Magic: Transforming Knowledge Representations into Statistical Models" for Spring Research Conference on Statistics in Industry and Technology, Ann Arbor, MI

UNREFEREED PUBLICATIONS
Book Reviews

A. Wilson (2013). Web Development with SAS by Example, 3rd ed. *The American Statistician* 67(2): 113.

A. Wilson (2010). Review of Bayesian Evaluation of Informative Hypotheses edited by H. Hoijtink, I. Klugkist, P. Boelen. *Journal of the American Statistical Association* 105(489): 438.

A. Wilson (2009). Review of Bayesian Networks and Decision Graphs, 2nd Edition by F. Jensen and T. Nielsen. *Journal of the American Statistical Association* 104(485): 410.

Conference Proceedings

N. Spruill, A. Wilson, E. Seglie (2008). Statistics in Defense and National Security: The Present—You Need More Than Statistics—You Need the Right Statistics. *Proceedings of the Section on Statistics in Defense and National Security*, American Statistical Association, Denver, CO

A. Wilson, C. Anderson-Cook (2007). Analysis and Data Collection Strategies for Multilevel Complex Systems. *Proceedings of the 2007 Mathematical Methods in Reliability Conference*, Glasgow, UK

K. Sentz, A. Wilson (2005). Fault Tree Uncertainty Quantification Using Probabilities and Belief Structures on Basic and Non-Basic Events. *Proceedings of the North American Fuzzy Information Processing Society*, Ann Arbor, MI

N. Hengartner, A. Wilson (2004). Stockpile Reliability Assessment. *Proceedings of the 2004 Mathematical Methods in Reliability Conference*, Santa Fe, NM

C. S. Reese V. Johnson, M. Hamada, A. Wilson (2004). A Hierarchical Model for System Reliability Based on Lifetime Data. *Proceedings of the 2004 Mathematical Methods in Reliability Conference*, Santa Fe, NM

A. Wilson, S. Keller-McNulty (2003). Uncertainty Quantification for Complex Engineered Systems. *Proceedings of JANNAF 39th Combustion/27th Airbreathing Propulsion/21st Propulsion Systems Hazards/3rd Modeling and Simulation Joint Subcommittee Meeting*, Colorado Springs, CO

A. Wilson (2002). Integrating Information Using Belief Functions. *Proceedings of Mathematical Methods in Reliability 2002*, Trondheim, Norway

H. Martz, M. Hamada, C. S. Reese, A. Wilson (2002). Using Genetic Algorithms to Design Bayesian Reliability Experiments. *Proceedings of Mathematical Methods in Reliability 2002*, Trondheim, Norway

J. Booker, S. Keller-McNulty, M. Meyer, C. S. Reese, A. Wilson (2001). Probabilistic Information Integration Technology. *Proceedings of the 6th Annual Conference on Turbine Engine High Cycle Fatigue*, Jacksonville, FL

A. Wilson. Discussion of Practical Inferences for Decision Making in Industrial Applications (1997). *Proceedings of the Section on Statistical Education*, American Statistical Association, Anaheim, CA

C. McCulloch, J. Laading, A. Wilson, V. Johnson (1996). A Shape-Based Framework for Automated Image Segmentation. *Proceedings of the Section on Bayesian Statistical Science*, American Statistical Association, Chicago, IL

A. Wilson, V. Johnson, S. Pizer, D. Fritsch, L. Yu, E. Chaney (1996). Towards a Framework for Automated Image Analysis. *Proceedings of the Leeds Annual Statistical Workshop: Image Fusion and Shape Variability Techniques*, Leeds, UK

A. Wilson, V. Johnson, L. Yu, S. Pizer (1995). Scale-Space Image Models for Shape Deformation. *Proceedings of the 27th Symposium on the Interface: Computing Science and Statistics*, Interface Foundation of North America, Pittsburgh, PA

A. Wilson, V. Johnson (1994). Priors on Scale-Space Templates. *Proceedings of Mathematical Methods in Medical Imaging III, International Society for Optical Engineering (SPIE)*, Bellingham, WA

A. Wilson, V. Johnson (1994). Using Features to Model Prior Structural Information. *Proceedings of the Section on Statistics in the Physical and Engineering Sciences*, American Statistical Association, Toronto, CA

A. Wilson, J. Malley, J. Pfeifer, A. Petelin (1992). Remarks on the Gibbs Sampler and its Implementation on a Parallel Machine. *Proceedings of the Statistical Computing Section*, American Statistical Association, Boston, MA

Discussion Papers

A. Wilson, M. Morris (1999). Statistical Methods to Validate the National Missile Defense Battle Management Command and Control Software: Summary of Presentation at U.S. Army Conference on Applied Statistics. LA-UR-99-5793.

C. McCulloch, J. Laading, A. Wilson, V. Johnson (1996). A Shape-Based Framework for Automated Image Segmentation. Duke University ISDS Discussion Paper 96-31.

A. Wilson, V. Johnson (1994). Priors on Scale-Space Templates. Duke University ISDS Discussion Paper 94-12.

A. Wilson (1994). Cognitive Factors Affecting Subjective Probability Assessment. Duke University ISDS Discussion Paper 94-02.

PRESENTATIONS
Invited/Seminar
2020   What is Big Data and What Does it Mean? Big Data and Artificial Intelligence in Toxicology, Genetics and Environmental Mutagenesis Society of North Carolina Fall Meeting

2020   Big Data: What is It? And What Does it Mean to Me? Webinar for the Scientific Liaison Coalition (https://www.toxicology.org/slc.asp), with Aric LaBarr

2020   Data Science Primer, Webinar for National Academies of Sciences, Engineering, and Medicine's Committee for Improving Defense Acquisition Workforce Capability in Data Use

2019   Demystifying Data Science, North Carolina Women in Machine Learning and Data Science, Research Triangle Park, NC

2019   Laboratory for Analytic Sciences Overview, Intelligence Community Academic Research Symposium, Washington, DC, with Jen Banwart

2019   Data Science and Analytics: What is It? Environmental Protection Agency, Raleigh, NC, with Aric LaBarr

2019   Combining Information to Assess the Reliability of Complex Systems, Joint Statistical Meetings, Denver, CO

2019   Data Science in Defense and National Security, Emerging Data Science Methods for Complex Biomedical and Cyber Data, Augusta, GA

2018   SPAIG Award Collaboration: Laboratory for Analytic Sciences, Joint Statistical Meetings, Vancouver, BC

2018   Partnering for Data Science: The Laboratory for Analytic Sciences, 2018 Symposium on Data Science and Statistics, Reston, VA

2018   Demystifying Data Science, Defense and Aerospace Test and Analysis Workshop (DATAWorks 2018), Springfield, VA

2017   Data Science at the Laboratory for Analytic Sciences, RTI Data Science Lunch and Learn, Research Triangle Park, NC

2017   Data Science at NC State, ORIED Thought Leaders Program on Data Science, Raleigh, NC

2017   Bayesian Methods for Defense and Security, NASA-Langley, Hampton, VA

2017   Data Analytics and National Security, National Nuclear Security Administration, Department of Energy, Washington, DC

2017   Panel on How to Introduce Management to Bayesian Reliability, Joint Statistical Meetings, Baltimore, MD

2017   Statistics and Data Science in Defense and Security, Smith College, Northampton, MA

2017   Introduction to Bayesian Statistics Tutorial, Science of Test Workshop, Springfield, VA

2017   Bayesian Analyis, Statistical Engineering Leadership Webinar

2016   Assurance Testing or Reliability, Quality and Productivity Research Conference, Phoenix, AZ

2016   Leading a Data Analytics Workforce, Panel Discussion, Cisco Data Science for Leaders, Video-Telepresence from Raleigh, NC

2016   Combining Information for Reliability Assessment, Rigorous Test and Evaluation for Defense, Aerospace, and National Security, Alexandria, VA

2016   Developing a Data-Driven Organization, Keynote Panel, Data 4 Decisions Conference and Exposition, Raleigh, NC

2016   Bayesian Reliability: Combining Information, Plenary Talk at Stu Hunter Research Conference, Waterloo, Ontario, CA

2016   Combining Information to Assess System Reliability, Sandia Statistical Sciences Colloquium Series, Albuquerque, NM

2016   Data Science Initiatives at North Carolina State University, Cisco Analytics Speaker Series, Video-Telepresence from Raleigh, NC

2015   Introduction to Data Science: An Interdisciplinary Course for Undergraduates, Joint Statistical Meetings, Seattle, WA

2015   Infusing Bayesian Thinking in Collaborative Projects, Roundtable Breakfast, Section on Physical and Engineering Sciences, Joint Statistical Meetings, Seattle, WA

2015   Combining Information for Uncertainty Quantification, INFORMS Roundtable, Jackson Hole, WY

2015   Estimating System Reliability from Heterogeneous Data, Mathematical Methods in Reliability, Tokyo, Japan

2015   Combining Information to Assess System Reliability, Department of Statistics, University of South Carolina, Columbia, SC

2014   Research at the Laboratory for Analytic Sciences, Virginia Bioinformatics Institute at Virginia Tech Arlington, VA

2014   Combining Information to Assess the Reliability of DoD Systems, Joint Research Conference on Statistics in Quality, Industry, and Technology, Seattle, WA

2014   Combining Information to Assess System Reliability, Data Mining in Business in Industry, International Symposium on Business and Industrial Statistics/Conference of the ASA Section on Statistical Learning and Data Mining, Durham, NC

2014   Panel on Working in Interdisciplinary Teams, Conference on Women in Statistics, Cary, NC

2014   Panel on Career Flexibility, Conference on Women in Statistics, Cary, NC

2014   Panel on Big Data: When More is Too Much, Chancellors Faculty Excellence Program Symposium, North Carolina State University, Raleigh, NC

2014   Combining Information in Engineering Statistics. College of Textiles, North Carolina State University, Raleigh, NC

2014   Bayesian Approaches to Combining Information for Reliability Assessment. IEEE Eastern North Carolina Section Seminar, Raleigh, NC

2013   Bayesian Methods in Defense and Security. Duke University, Durham, NC.

2013   Bayesian Reliability Applications in the Department of Defense. Quality and Productivity Research Conference, Niskayuna, NY

2013   Bayesian Models for Community Detection. Brown Bag Lunches at IDA Science and Technology Policy Institute and System Evaluation Division, Washington, DC and Alexandria, VA

2012   Bayesian Methods for Estimating System Reliability Using Heterogeneous Multilevel Information. Conference on Data Analysis, Santa Fe, NM (with Jiqiang Guo)

2011   Bayesian Reliability. Roundtable Luncheon, Section on Quality and Productivity, Joint Statistical Meetings, Miami, FL

2011   Collaborations Between Iowa State University and Los Alamos and Sandia National Laboratories. Joint Statistical Meetings, Miami, FL.

2011   Bayesian Methods for Complex Systems. Marketing Colloquium Distinguished Speaker Series, Iowa State University, Ames, IA

2010   Strengthening Quantitatve Literacy Using Case-Based Learning. Problem-Solving Faculty Learning Community, Iowa State University, Ames, IA

2010   Statistical Challenges from Science-Based Stockpile Stewardship. Institute for Defense Analysis Center for Communications Research, La Jolla, CA

2010   Introduction to Bayesian Reliability. Fall Technical Conference, Birmingham, AL

2010   Bayesian Methods for Estimating the Reliability of Complex Systems using Heterogeneous Multilevel Data. University of Minnesota, Minneapolis, MN

2010   Assessing the Methodology for Testing Body Armor. Joint Statistical Meetings, Vancouver, BC

2010   Statistics Methods Used in Defense and Non-Defense Applications. Invited Panel, Joint Statistical Meetings, Vancouver, BC

2010   Bayesian Methods for Estimating the Reliability of Complex Systems using Heterogeneous Multilevel Data. Simon Fraser University, Vancouver, BC

2009   Planning Surveillance for a Stockpile that Might Degrade. Invited Poster, Joint Statistical Meetings, Washington, DC

2009   Terrorist Risk Assessment. Joint Statistical Meetings, Washington, DC

2009   Statistical Challenges from Science-Based Stockpile Stewardship. University of Iowa, Iowa City, IA

2009   Statistical Challenges from Science-Based Stockpile Stewardship. Texas A&M University, College Station, TX

2008   Bayesian Reliability Analysis. Interface 2008 Risk: Reality. Durham, NC

2008   Reliability Case Study. U. S. Military Academy Department of Mathematical Sciences 2008 Statistics Workshop: Real Data and the Art of Statistical Analysis, West Point, NY

2007   How DHS Currently Manages Risk. RISK: Policy, Perception, and Practice Workshop, Statistical and Mathematical Sciences Institute, Research Triangle Park, NC

2007   Joint Munitions Program Munitions Stockpile Reliability Assessment Project. Los Alamos National Laboratory Joint Munitions Program Seminar Series, Los Alamos, NM

2007   Increasing Understanding of the Need for Statistics in Defense and Security. Roundtable Luncheon, Section on Statistics in Defense and National Security, Joint Statistical Meetings, Salt Lake City, UT

2007   Risk Analysis at Los Alamos National Laboratory. Joint Statistical Meetings, Salt Lake City, UT

2006   Bayesian Reliability. Roundtable Luncheon, Joint Statistical Meetings, Seattle, WA

2006   Systems Reliability and Experiment Planning. Interface 2006, Pasadena, CA.

2006   Next Generation Stockpile Reliability Methods. National Nuclear Security Administration Technical Seminar, Washington, DC

2006   Next Generation Stockpile Reliability Assessment. National Nuclear Security Administration Surveillance Policy Integrated Requirements Council, Albuquerque, NM

2005   System Reliability and Experiment Planning. U.S. Army Conference on Applied Statistics, Monterey, CA

2005   Experiment Planning Issues in System Reliability. Design and Analysis of Experiments Conference 2005, Santa Fe, NM

2005	Bayesian Reliability Analysis for Complex Systems. Joint Statistical Meetings, Minneapolis, MN
2005	Reliability Reporting. W88 Annual Assessment Director's Briefing, Los Alamos National Laboratory
2005	Reliability Initiatives. W76 Annual Assessment Director's Briefing, Los Alamos National Laboratory
2004	Techniques for Test Design in the Context of Staged Acquisition. National Research Council Workshop on Spiral Acquisition, Washington, DC
2004	An Overview of Uncertainty in the V&V Context. Foundations 2004: A V&V Workshop, Phoenix, AZ
2004	Predicting Operational Reliability with Quantified Confidence from Limited System Data. Putting the "E" in T&E, International Test and Evaluation Association, Baltimore, MD
2004	Stockpile Reliability Assessment. ISBA World Meeting, Viña del Mar, Chile
2004	Munitions Stockpile Reliability Assessment. Los Alamos National Laboratory High Explosives Working Group, Los Alamos, NM
2004	Statistics in Defense and National Security at Los Alamos National Laboratory. Chesapeake Bay Chapter, American Statistical Association, Aberdeen, MD
2004	Statistics in Defense and National Security at Los Alamos National Laboratory. Virginia Military Institute, Lexington, VA
2003	Opportunities at Los Alamos National Laboratory. Virginia Military Institute, Lexington, VA
2003	Assessing Risks for Complex Systems: A Case Study in Missile Defense. Joint Statistical Meetings, San Francisco, CA
2002	Combining Information. National Research Council Panel on the Operational Evaluation of the Interim Armored Vehicle
2002	Integrating Information Using Belief Functions. Mathematical Methods in Reliability 2002, Trondheim, Norway
2002	Statistical Methods for Information Integration. Spring Research Conference on Statistics in Industry and Technology, Ann Arbor, MI
2002	Statistics in Defense and National Security. Brigham Young University, Provo, UT
2002	Discussion of Information Integration using Belief Functions. Los Alamos Workshop on Novel Approaches to Uncertainty Quantification, Los Alamos, NM
2001	Data, Information, and Knowledge Integration for Department of Defense Problems. Joint Statistical Meetings, Atlanta, GA
2001	Integrated Analysis of Computer and Physical Experiments. Spring Research Conference on Statistics in Industry and Technology, Roanoke, VA
2001	Information Integration Technology. Risk-Based Design Seminar Series, NASA-Langley, Hampton, VA
2001	Information Integration Technology. Uncertainty Quantification Working Group, Sandia National Laboratories, Albuquerque, NM
2001	Information Integration Technologies. Basic and Applied Simulation Sciences Group, Los Alamos National Laboratory, Los Alamos, NM
2001	Quantifying Uncertainty Using Information Integration Technology. Workshop on Uncertainty in Design, Analysis, and Certification of Engineering Systems, Albuquerque, NM

2000   Data and Information Integration. Roundtable Luncheon at the Joint Statistical Meetings, Indianapolis, IN

2000   Statistical Approaches to DoD Problems at Los Alamos National Laboratory. RAND, Santa Monica, CA

2000   Statistical Methods to Validate Command and Control Software. Joint Research Conference on Statistics in Quality, Industry, and Technology, Seattle, WA

2000   Data, Knowledge, and Information Integration to Support Decision Making. Military Operations Research Society Education Symposium, McLean, VA

1996   A Bayesian Image Model for Automated Feature Identification. Joint Statistical Meetings, Chicago, IL

1994   Using Features to Model Prior Structural Information. Spring Research Conference on Statistics in Industry and Technology, Chapel Hill, NC

Contributed

2015   Estimating Mission Reliability from Heterogeneous Data. Conference on Applied Statistics in Defense, George Mason University, Fairfax, VA

2003   Uncertainty Quantification for Complex Engineered Systems. JANNAF 39th Combustion/27th Airbreathing Propulsion/21st Propulsion Systems Hazards/3rd Modeling and Simulation Joint Subcommittee Meeting, Colorado Springs, CO

2003   Information Integration for Stockpile Surveillance. U.S. Army Conference on Applied Statistics, Napa, CA

2002   Munitions Stockpile Reliability Assessment. U.S. Army Conference on Applied Statistics, Raleigh, NC

2001   Information Integration Technology for Reliability Assessment. 69th MORS Symposium, Annapolis, MD

2000   Information Integration: An Integration of Computer and Experimental Data with Expert Opinions. Poster at Threat Reduction Science and Technology Showcase at Los Alamos, Los Alamos, NM

2000   Information Integration: An Integration of Computer and Experimental Data with Expert Opinions. Poster at Celebrating Scientific Excellence Through Diversity At LANL, Los Alamos, NM

1999   Validating Control System Software. Poster at the Third Annual DOE/MICS Workshop, Los Alamos, NM

1999   Statistical Methods to Validate the National Missile Defense Battle Management Command and Control Software. U.S. Army Conference on Applied Statistics, West Point, NY

1998   Modeling Error in Probability-of-Kill Tables. U.S. Army Conference on Applied Statistics, Las Cruces, NM

1997   Discussion of Practical Inferences for Decision Making in Industrial Applications. Joint Statistical Meetings, Anaheim, CA

1996   Statistical Models for Shapes and Deformations. Special contributed paper for Savage Award session. Joint Statistical Meetings, Chicago, IL

1995   Models for Shape Deformation. Poster at the Fifth Valencia International Meeting on Bayesian Statistics, Alicante, Spain

1994   Priors on Scale-Space Templates. International Symposium on Optics, Imaging, and Instrumentation, San Diego, CA

1992   Remarks on the Gibbs Sampler and its Implementation on a Parallel Machine. Joint
        Statistical Meetings, Boston, MA

LEADERSHIP AND MANAGEMENT TRAINING
2019   Cultural Competence and Inclusivity Certificate, North Carolina State University
2018   Project Management Professional Certification Training
2014   Leadership for a Diverse Campus, North Carolina State University
2012   Task Leader Training, Institute for Defense Analyses
2006   Los Alamos National Laboratory Management Institute: Situational Leadership,
        Coaching Skills for Managers, Strategic Project Thinking, Managing Change, Managing
        Technical Professionals in Organizations
2006   Project Management Toolkit, Los Alamos National Laboratory

CERTIFICATION
2018-   Project Management Professional (PMP)
2010-   Accredited Professional Statistician (PStat)

MEMBERSHIPS
American Association for the Advancement of Science (Fellow)
American Statistical Association (Fellow)
International Society for Bayesian Analysis
International Statistical Institute (Elected Member)
Institute for Mathematical Statistics
International Statistical Engineering Association