

## C. Shane Reese

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### EDUCATION

- Aug. 1999 **Doctor of Philosophy: Statistics.** Texas A&M University.
- Aug. 1995 **Master of Science: Statistics.** Brigham Young University.
- Aug. 1994 **Bachelor of Science: Statistics.** Brigham Young University.

### EXPERIENCE

- 2005-present **Associate Professor.** Department of Statistics, Brigham Young University.
- 2001-present **Statistical Scientist.** Berry Consultants, LLC.
- 2001-2004 **Assistant Professor.** Department of Statistics, Brigham Young University.
- 2000-2001 **Adjunct Professor.** Department of Statistics, Iowa State University.
- 1999-present **Technical Staff Member.** Statistical Sciences, Los Alamos National Laboratory.
- 1998-1999 **Teaching Assistant.** Department of Statistics, Texas A&M University.
- 1996-1999 **Independent Consultant.** College Station, TX.
- 1997-1998 **Tutor.** Food Safety Education Program. Texas A&M University.
- 1995-1998 **Research Assistant.** Department of Statistics, Texas A&M University.
- 1994-1995 **Research Assistant.** Department of Statistics, Brigham Young University.
- 1994-1995 **Statistical Consultant.** Department of Statistics, Brigham Young University.
- 1994 **Teaching Assistant.** Department of Statistics, Brigham Young University.
- 1993-1995 **Research Assistant.** Department of Economics, Brigham Young University.

### PROFESSIONAL ACTIVITIES

#### Awards

- 2007 H.O. Hartley Award (Distinguished Alumnus, TAMU)
- 2005 Department Chair's Outstanding Paper Award
- 2004-2007 Brigham Young University Young Scholar Award
- 2004 Department Chair's Outstanding Paper Award
- 2002 Strategic Management Society Best Conference Paper Award
- 2002 BYU Department of Statistics Honored Faculty Member
- 2001 *Journal of the American Statistical Association* Applications and Case Studies Invited Paper Award
- 1999 Connor Award (Outstanding statistics graduate student), Texas A&M University
- 1999 University Distinguished Graduate Student, Texas A&M University
- 1999 *Journal of the American Statistical Association* Applications and Case Studies Invited Paper Award
- 1998 ASA Council of Chapters Service Recognition Award
- 1998 Academic Excellence Award, Texas A&M University
- 1998 R. L. Anderson Student Paper Award, SRCOS/ASA Research Conference

#### Affiliations

American Statistical Association, Biometric Society (WNAS), IMS

## Service to the Profession

2007-2009	IMS SRC Management Committee
2007	Member, National Academy of Sciences Committee on Biological Standoff Detection Systems
2006-2007	President, <i>Utah Chapter of ASA</i>
2006-present	Associate Editor, <i>Journal of the American Statistical Association</i>
2006-2008	Vice-chair, <i>ASA Committee on Federally Funded Research</i>
2006-2007	Member, <i>ASA Committee on Science and Public Affairs</i>
2005	Organizer, Spring Research Conference on Stat. in Industry, Park City, UT
2004-present	Associate Editor, <i>Technometrics</i>
2004	Student Paper Competition Chairman, <i>WNAR, Biometric Society</i>
2003-present	Regional Advisory Board, <i>WNAR, Biometric Society</i>
2001-present	Associate Editor, <i>Communications in Statistics</i>
2001	ASA Joint Statistical Meetings Invited Poster Chair
2000-2002	Continuing Education Chair - Section on Physical and Engineering Sciences, ASA
2000-2001	President - Albuquerque Chapter of American Statistical Association
1997-present	Referee - <i>JASA, JBES, Technometrics, JABES, SAPL and Biometrics</i>
1997-1999	Treasurer - Southeast Texas Chapter of American Statistical Association
1994-1995	President - Mu Sigma Rho (Honor Society), BYU

## Service to Sponsoring Institution

2007-present	Teaching and Learning Committee Chair, BYU
2007-present	Search Committee Member, BYU
2007	College of Physical and Mathematical Sciences Deans Search Committee, BYU
2006-2008	University Awards Committee, BYU
2005-2007	Search Committee Chair, BYU
2005-2007	Computer Committee Chair, BYU
2002-2005	Five Year Planning Committee, BYU
2002-2005	Project and Thesis Committee Member, BYU
2002	Awards Committee Member, BYU
2000	Statistical Sciences Group Recruiting Committee Member, LANL
2000	Division Junior Staff Research Group Coordinator, LANL

## PUBLICATIONS AND TECHNICAL REPORTS

### Refereed

**Reese, C.S.**, Deininger, P., Hamada, M.S. and Krabill, R. (2008). "Exploring the Statistical Advantages of Nondestructive Evaluation Over Destructive Testing". to appear *Journal of Quality Technology*.

Lingwall, J., Christensen, and **Reese, C.S.** (2007). "Dirichlet based Bayesian multivariate receptor modeling". to appear *Environmetrics*.

Coyle, P., **Reese, C.S.**, et al. (2008). *Test and Evaluation of Biological Standoff Detection Systems*, National Academy of Science Report, Washington, D.C.

Paige, G., Fellingham, G.W, and **Reese, C.S.** (2007). "Using Box-Scores to Determine a Position's Contribution to Winning Basketball Games," to appear *Journal of Quantitative Analysis in Sports*.

Anderson-Cook, C.M., Graves, T., Hamada, M., Hengartner, N., Johnson, V.E., **Reese, C.S.**, and Wilson, A.G. (2007). "Bayesian Stockpile Reliability Methodology for Complex Systems". *Military Operations Research*, **12**, No.2, 25–37.

Christensen, W.F, Shauer, J., Dillner, A. and **Reese, C.S.** (2007). "Clustering composition vectors using

uncertainty information”. to appear *Environmetrics*.

Wilson, A.G., Graves, T.L., Hamada, M.S. and **Reese, C.S.** (2006). “Advances in Data Combination, Analysis and Collection for System Reliability Assessment”. *Statistical Science*, **21**, No.4.

Curtis, C.S., Fellingham, M.S., and **Reese, C.S.** (2006). “The Fair Triathlon: Equating Standard Deviations Using Bayesian Nonlinear Models” *Journal of Quantitative Analysis in Sports*.

**Reese, C.S.**, Hamada, M.S., and Robinson, D. (2005). “Assessing System Reliability by Combining Multilevel Data from Different Test Modalities” *Quality Technology & Quantitative Management* .

Hansen, M.H., Perry, L.T., and **Reese, C.S.**(2005). “A Bayesian Application of the Resource-based View: Narrowing the Gap between Theory and Practice,” in *Restructuring Strategy*, eds Cool, KO, Henderson, JE, and Abate, R, *Blackwell Publishing*, 207–235.

Hamada, M., Martz, H.F., **Reese, C.S.**, Graves, T.L., Johnson, V.E., and Wilson, A.G. (2004). “A Fully Bayesian Approach for Combining Multilevel Failure Information in Fault Tree Quantification and Corresponding Optimal Resource Allocation”. *Reliability Engineering and System Safety*, **86**, 297–305.

Hansen, M.H., Perry, L.T., and **Reese, C.S.** (2004). “A Bayesian Operationalization of the Resource-Based View”. *Strategic Management Journal*, **25**, 1279–1295.

**Reese, C.S.**, Wilson, A.G., Hamada, M.S., Martz, H.F., and Ryan, K.J. (2004). “Integrated Analysis of Computer and Physical Experiments”, *Technometrics*, **46**, 153–164.

Graves, T.L., **Reese, C.S.**, and Fitzgerald, M. (2003). “Hierarchical Models for Permutations: Analysis of Auto Racing Results,” *Journal of the American Statistical Association*, **98**, 282–291 (Department Chair’s Outstanding Paper Award).

Johnson, V.E., Graves, T.L, Hamada, M., and **Reese, C.S.** (2003). “A Hierarchical Model for Estimating the Reliability of Complex Systems”(with Discussion), *Bayesian Statistics 7*, Oxford University Press.

**Reese, C.S.**, Calvin, J.A., George, J.C. and Tarpley, R.A. (2001). “Estimation of Gestation in Bowhead Whales” (with Discussion). *Journal of the American Statistical Association*, **96**, 915–938. (JASA Applications and Case Studies Invited Paper Award Winner)

Hamada, M., Martz, H.F., **Reese, C.S.**, and Wilson, A.G. (2001). “Finding Near Optimal Bayesian Designs Via Genetic Algorithms”. *The American Statistician*, **55**, 175–181.

Hermann, K. and **Reese, C.S.** (2001). “Relationship Between Selected Measures of Impairment, Functional Limitation and Disability in Patients with Cervical Spine Disorders,” (with Discussion) *Physical Therapy*, **81**, 903–914. (feature paper)

Berry, S.M., **Reese, C.S.** and Larkey, P.M. (1999). “Bridging Different Eras in Sports” (with Discussion). *Journal of American Statistical Association*, **94**, 661–684. (JASA Applications and Case Studies Invited Paper Award Winner)

Eubank, R.E., Kambour E.L, Kim, J.T., Klipple, K., **Reese, C.S.** and Schimek, M.E. (1998). “Estimation in Partially Linear Models”. *Journal of Computational Statistics and Data Analysis*, **29**, 27–34.

**Submitted**

Ryan, K.J. and **Reese, C.S.** (2007). “Estimation of Reliability Trends in the ‘World’s Fastest Computer’,” Los Alamos National Laboratory Technical Report. Revise and Resubmit for *Technometrics*.

**Reese, C.S.**, Johnson, V.E., Hamada, M.S. and Wilson, A.G. (2007). “Hierarchical Models for System Lifetime Analysis”. Revise and Resubmit to *Journal of the American Statistical Association*.

Heaton, M., **Reese, C.S.**, and Christensen, W.F. (2008). “Time Varying Dirichlet Based Source Apportionment” Submitted to *Journal of the American Statistical Association*.

### Non Refereed

Berry, S.M., **Reese, C.S.** and Larkey, P.M. (2005). “Bridging Different Eras in Sports”. in *Anthology of Statistics in Sports*, ASA/SIAM.

Wilson, A.G., **Reese, C.S.**, Hamada, M., and Martz, H.F. (2003). “Integrated Analysis of Reliability Data”, in *Mathematical Reliability: An Expository Perspective*, R. Soyer (ed).

Hansen, M.H., Perry, L.T., **Reese, C.S.** and Fellingham, G.W. (2002). “A Bayesian Application of the Resource Based View: Bridging the Gap Between Theory and Practice”, *Strategic Management Society Conference Proceedings*. McKinsey and Company. (SMS Best Conference Paper Award Winner)

Sellers, K.F., Booker, J.M., Singpurwalla, N.D. and **Reese, C.S.** (2002). “Bayesian Methods,” in *Fuzzy Logic and Probability Applications: Bridging the Gap*. ASA/SIAM: New York.

Morzinski, J., Martz, H.F., **Reese, C.S.**, and Denogean, L. (2002). “Hierarchical Bayes Regression with Correlated Measurement Errors”, *Proceedings of the Section on Bayesian Statistics*.

**Reese, C.S.** (1997). “Computing Cook’s Distance for Nonlinear Regression in S-Plus”. *Interface Proceedings*, **29**, 59–61.

### In Preparation

**Reese, C.S.** and Grimshaw, S.D. (2007). “Does Salt Lake City Have the World’s Fastest Ice?” Being prepared for *The American Statistician*.

Fellingham, G.W., Tolley, H.D., and **Reese, C.S.** (2007). “A Bayesian Model for Combining Life Table Data” Being prepared for *Biometrics*.

Williams, B., **Reese, C.S.**, and Christensen, W.F. (2007). “Identifying Source Pollution Directions” Being prepared for *The Annals of Applied Statistics*.

Menke, J. and **Reese, C.S.** (2007). “Hierarchical Modeling and Rank Assignment for Online Gaming” Being prepared for *The American Statistician*.

Dubnicka, S. and **Reese, C.S.** (2008). “A Bayesian model for environmental exposure data with limit of detection”. being prepared for *The American Statistician*.

Dubnicka, S. and **Reese, C.S.** (2008). “ Bayesian analysis of challenge model data”. being prepared for ???.

Lu, W., Ranjan, P., Bingham, D. and **Reese, C.S.** (2008) “Follow-up Experiment Designs for Computer Models and Physical Processes” being prepared for *Technometrics*.

## Grants & Contracts

- 2008 Co PI: “CDI: Uncertainty Quantification in Upper Atmospheric Modelling”,  
National Science Foundation
- 2007 Co PI: “Collaboration between Mathematics and the Geosciences”,  
National Science Foundation. (not funded)
- 2007 Co PI: “Incorporating Multiple Sources of Information”,  
Environmental Protection Agency . (not funded).
- 2006 Senior Personnel: “IDEA Labs”,  
National Science Foundation (**awarded \$750,000**).
- 2004 Co PI: “Source Apportionment Modeling”,  
Environmental Protection Agency, STAR Grant. (**awarded \$238,000**).
- 2003 Co PI: “Hierarchical Modeling of Aging”,  
National Institutes of Health. (not funded).
- 2003 Co PI: “Nanoscale Positioning Uncertainty Quantification”,  
National Science Foundation. (not funded).
- 2002 PI: “Integrated Approach to Hierarchical Modeling of Reliability”,  
Los Alamos National Laboratory. (**awarded \$18,662**).
- 2001 Co PI: “Functional Imputation of Route Indices”,  
Submitted to Bureau of Transportation Statistics (not funded).

## STUDENTS SUPERVISED

Year	Student	Supervisory Role	Current Position
2000	Kenneth Ryan (ISU, PhD)	Committee Member	University of Illinois, Chicago
2002	Mike Smith (BYU, MS)	Committee Chair	DNF (Modelers,SLC)
2003	Mike Joner (BYU, MS)	Committee Chair	Virginia Tech (PhD)
2003	Nicole Smith (BYU, MS)	Committee Chair	IHC (MS)
2003	Geraldine Madariaga (BYU, BS)	Advisor	BYU (homemaker)
2004	Sherstin Mortensen (BYU, MS)	Advisor	not yet completed
2005	Elizabeth Lawson (BYU, MS)	Committee Chair	Financial analyst (MS)
2006	Andrew Stacey (BYU, MS)	Committee Chair	Ohio State (Med School)
2006	Matt Heaton (BYU, MS)	Committee Chair	Duke (PhD)
2006	Jessica Olsen (BYU, BS)	Advisor	Actuarial Firm
2006	T.J. Gray (BYU, BS)	Advisor	Actuarial Firm
2006	Richie Wiess (BYU, BS)	Advisor	BYU (MS)
2007	Scott Gregory (BYU, BS)	Advisor	not yet completed
2007	Ryan McBride (BYU, BS)	Advisor	not yet completed
2007	Chien Wang (BYU, BS)	Advisor	not yet completed
2007	Tommy Leininger (BYU, BS)	Advisor	not yet completed
2008	Sayed (BYU, BS)	Advisor	not yet completed

## PRESENTATIONS

### Invited Presentations

- 2007 "Bridge Building: Bayesian Hierarchical Models In Sports", Utah State, Logan, UT
- 2007 "Bayesian Source Apportionment Directional Analysis", TAMU, College Station, TX
- 2007 "Bayesian Source Apportionment Directional Analysis", Int. Conf. on Design, Greensboro, NC
- 2007 "Bayesian Hierarchical Reliability", Raytheon, Arizona
- 2007 "Information Integration Technology", National Academy of Science
- 2007 "Statistics in Sports Consulting", ASA JSM, Salt Lake City
- 2007 Invited Discussion: "Subjective Likelihood Analysis", ASA JSM, Salt Lake City
- 2006 "Degrees of Separation: Statistics and Defense", KEYNOTE ADDRESS, Army Conf. AS
- 2006 "Hybrid Experimental Design: Computer or Physical", JSM, Seattle.
- 2006 "Hybrid Experimental Design: Computer or Physical", DAE, Tianjin, CHINA.
- 2006 "Hybrid Experimental Design: Computer or Physical", SSC, London, CANADA.
- 2006 "Hierarchical Modeling for Complex Systems", Interface, Pasadena.
- 2006 "Hierarchical Modeling for Complex Systems", Kansas ASA.
- 2006 "Hierarchical Modeling for Permutations", KSU
- 2005 "Hybrid Experimental Design: Computer or Physical", INFORMS, San Francisco.
- 2005 "System Reliability Assessment: A Bayesian Hierarchical Approach", JSM, Minneapolis.
- 2004 "Comparison of GASP and Response Surface to Integrated Analysis", SAMSI Workshop, Banff.
- 2004 "Hierarchical Reliability Based on System Lifetime Data", MMR Conference, Santa Fe, NM.
- 2004 "Hierarchical Reliability Based on System Lifetime Data", SRC, Gaithersburg, MD.
- 2004 "Hierarchical Models for Permutations: Auto Racing Results", Simon Fraser, Vancouver, BC
- 2003 "Integrated Analysis of Computer and Physical Experiments", JANNAF, Colo. Springs, CO.
- 2003 "Hierarchical Models for Sports Applications", IMS Mini Meeting, WPI, MA.
- 2003 "Surviving Graduate School", BYU Graduate Student Fall Workshop, Provo, UT.
- 2003 "Integrated Analysis of Computer and Physical Experiments", General Motors, Detroit, MI.
- 2003 "Optimal Resource Allocation for Fault Trees", Math. Meth. for Combinatorics, Portland, ME.
- 2003 "Bayesian Methods for Applied Fields", Organized Invited Session at WNAR, Denver, CO.
- 2003 "Integrated Analysis of Computer and Physical Experiments", ISI, Berlin, Germany.
- 2002 Invited Panelist for "Knowledge Modeling", Spring Research Conference, Ann Arbor, MI.
- 2002 "Supercomputer Reliability", The RAND Corporation, Santa Monica, CA.
- 2002 "Optimal Bayesian Experimental Design", DAE Conference, Vancouver, BC, Canada
- 2001 "Bayesian Optimal Experimental Design", W.L. Gore, Flagstaff, AZ.
- 2001 "Bridging Different Eras in Sports", Northern Arizona Univ., Flagstaff, AZ.
- 2001 "Estimation of Gestation in Bowhead Whales", St. Cloud State, St. Cloud, MN.
- 2001 "Bridging Different Eras in Sports", SMU, Dallas, TX.
- 2001 "Integrated Analysis of Computer and Physical Experiments", U. of Iowa, Iowa City, IA.
- 2001 "Information Integration", AWE Exchange, Aldermaston, UK.
- 2001 "Evaluation of Computer Models", Joint Aerospace Warfare Symposium, Seattle, WA.
- 2001 "Hierarchical Modeling of Complex Systems", UQWG, Los Alamos, NM.
- 2001 "Bayesian Optimal Experimental Design", Q&P Meetings, Austin, TX.
- 2001 "Estimation of Gestation in Bowhead Whales", JSM, Atlanta, GA
- 2000 "Supercomputer Reliability", Brigham Young University, Provo, UT.
- 2000 "Information Integration", Proctor and Gamble, Cincinnati, OH.
- 2000 "Information Integration", Joint Aerospace Warfare Symposium, San Antonio, TX.
- 1999 "Bridging Different Eras in Sports", Joint Statistical Meetings, Anaheim, CA.
- 1999 "Estimation of Gestation in Bowhead Whales", Los Alamos NL, Los Alamos, NM.
- 1999 "Estimation of Gestation in Bowhead Whales", Quintiles Consulting, Kansas City, MO.
- 1999 "Estimation of Gestation in Bowhead Whales", Mayo Clinic, Rochester, MN.
- 1999 "Estimation of Gestation in Bowhead Whales", University of Connecticut, Storrs, CT.
- 1998 "Bridging Different Eras in Sports", Brigham Young University, Provo, UT.