

GEOF H. GIVENS
CURRICULUM VITAE 2/1/2012

NAME Geof H. Givens

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EDUCATION

1993	Ph.D., Statistics	Univ. of Washington	Seattle, WA
1991	M.S., Statistics	Univ. of Washington	Seattle, WA
1988	B.A., Mathematics & Social Psychology	Pomona College	Claremont, CA

ACADEMIC POSITIONS

2000-present	Associate Professor, Dept. of Statistics, Colorado State University
1994-2000	Assistant Professor, Dept. of Statistics, Colorado State University

HONORS AND AWARDS

2008	Best Paper of 2008, <i>IEEE Face and Gesture</i>
1996	American Statistical Association Outstanding Statistical Application award.
1992-present	United States Delegate, Scientific Committee of the International Whaling Commission
1993	Z.W. Birnbaum award for outstanding research as a graduate student
1988	Phi Beta Kappa
1988	Magna cum laude
1985-1988	Pomona College Scholar: highest honor for matriculated students.

RESEARCH INTERESTS

Statistical conservation biology; Biometric human recognition; Statistical computing; Environmental applications

PUBLISHED WORKS

Books:

- *Computational Statistics*, G.H. Givens and J.A. Hoeting (2005). John Wiley & Sons, Inc. Wiley Series in Probability and Statistics. A best seller now in 8th printing. More information at www.stat.colostate.edu/computationalstatistics

Peer-reviewed Publications (see footnote for biometrics articles)¹

48. M.N. Teli, J.R. Beveridge, P.J. Phillips, G.H. Givens, B.A. Draper and D.S. Bolme (2011) Biometric zoos: Theory and experimental evidence. *International Joint Conference on Biometrics*, October 2011.
47. J.R. Beveridge, P.J. Phillips, G.H. Givens, B.A. Draper, M.N. Teli and D.S. Bolme (2011) When high-quality face images match poorly. *The Ninth IEEE International Conference on Automatic Face and Gesture Recognition*, March 2011, p. 572-578.
46. P.J. Phillips, J.R. Beveridge, B.A. Draper, G.H. Givens, A.J. O'Toole, D.S. Bolme, J. Dunlop, Y.M. Lui, H. Sahibzada and S. Weimer (2011) An introduction to the good, the bad, and the ugly face recognition challenge problem. *The Ninth IEEE International Conference on Automatic Face and Gesture Recognition*, March 2011, p. 346-353. **Also, revision invited for "Best of Face and Gesture 2011" special issue.**
45. E. Archer, K.K. Martien, B.L. Taylor, R.G. LeDuc, B.J. Ripley, G.H. Givens and J.C. George (2011) A simulation-based approach to evaluating population structure in non-equilibrium populations. *J. Cetacean Research and Management*, 11:101-114.
44. J.R. Beveridge, D.S. Bolme, B.A. Draper, G.H. Givens, Y.M. Lui and P.J. Phillips (2010) Quantifying how lighting and focus affect face recognition performance. *IEEE CVPR Workshop on Biometrics*, June 2010, 74-81.
43. G.H. Givens, R.M. Huebinger, J.C. Patton, L.D. Postma, M. Lindsay, R. S. Suydam, J.C. George, J.C. Matson and J.W. Bickham (2010) Population genetics of bowhead whales (*Balaena mysticetus*) in the western Arctic. *Arctic*, 63: 1-12.
42. J.R. Beveridge, G.H. Givens, P.J. Phillips, B. Draper, D. Bolme, and Y.M. Lui. (2010) FRVT 2006: quo vadis face quality? *Image and Vision Computing*, 28: 732-743.
41. J.R. Beveridge, G.H. Givens, P.J. Phillips, and B.A. Draper (2009) Factors that influence algorithm performance in the Face Recognition Grand Challenge. *Computer Vision and Image Understanding*, 113: 750-762.
40. G.H. Givens, J. A. Hoeting, and L. Beri (2009) Factors that influence aerial line transect detection of Bering-Chukchi-Beaufort Seas bowhead whales. *J. Cetacean Research and Management*, 11: 9-16.
39. J.R. Beveridge, G.H. Givens, P.J. Phillips, B. Draper, and Y.M. Lui (2008) Focus on quality: predicting FRVT 2006 performance. *IEEE Conf. on Automatic Face and Gesture Recognition*, 1-8. **Awarded Best Paper of 2008.**
38. G.H. Givens and I. Ozaksoy (2007) Population structure and covariate analysis based on pairwise microsatellite allele matching frequencies. *Statistical Applications in Genetics and Molecular Biology*, 6(1): #31.
37. P.E. Jorde, T. Schweder, J.W. Bickham, G.H. Givens, R.S. Suydam, and N.C. Stenseth (2006) Detecting temporal genetic structuring of migrating bowhead whales off the coast of Barrow, Alaska. *Molecular Ecology*, 16: 1993-2004.
36. G.H. Givens, J.R. Beveridge, and P.J. Phillips (2005) Repeated measures GLMM estimation of subject-related and false positive threshold effects on human verification performance. *IEEE Conference on Computer Vision and Pattern Recognition, Empirical Evaluation in Computer Vision Workshop*, June 2005. ISBN: 0-7695-2660-8.
35. G. H. Givens, J.R. Beveridge and B.A. Draper, P. Grother, and P.J. Phillips (2004) How features of the human face affect recognition: a statistical comparison of three face recognition algorithms. *IEEE Conference on Computer Vision and Pattern Recognition*, June 2004: 381-388.

¹ Many peer-reviewed publication fora for important biometric research include the words *Conference* or *Proceedings* in the title.. Unlike the convention in statistics publication, these are rigorously peer-reviewed articles with acceptance rates as low as 4%. These publications allow rapid dissemination of prominent work in a fast-moving field. Biometric "journals" sometimes lag behind the cutting edge and serve more of an archival role.

34. G.H. Givens, J.R. Beveridge, B.A. Draper, and D. Bolme (2004) Using a generalized linear mixed model to study the configuration space of a PCA+LDA human face recognition algorithm. *Articulated Motion and Deformable Objects (AMDO 2004)*: 1-11.
33. G.H. Givens, J.R. Beveridge, B. Draper, and D. Bolme (2003) A statistical assessment of subject factors in the PCA recognition of human faces. *IEEE Conference on Computer Vision and Pattern Recognition*, Dec 2003.
32. G.H. Givens (2003) Empirical estimation of safe aboriginal whaling limits for bowhead whales. *Journal of Cetacean Research and Management*, **5**: 39-44.
31. G.H. Givens and D. Poole (2002) Problematic likelihood functions from sensible population dynamics models: a case study. *Ecological Modelling*, **151**: 109-124.
30. D. Poole and G.H. Givens (2001) An exploratory assessment of the Bering-Chukchi-Beaufort Seas stock of bowhead whales using a stochastic population dynamics model. *Journal of Cetacean Research and Management*. **3**: 1-6.
29. P.J. Roback and G.H. Givens (2001) Supra-Bayesian pooling of priors linked by a deterministic simulation model. *Communications in Statistics-Simulation and Computation*, **30**: 447-476.
28. J.R. Beveridge, K. She, B. Draper, and G.H. Givens (2001) A nonparametric statistical comparison of principal component and linear discriminant subspaces for face recognition. *IEEE Conference on Computer Vision and Pattern Recognition*, December, 2001: 535-42.
27. J.R. Beveridge, K. She, B. Draper, and G.H. Givens (2001) Parametric and nonparametric methods for the statistical evaluation of human ID algorithms. *Third Workshop on the Empirical Evaluation of Computer Vision Systems*, Dec. 2001.
26. A.E. Punt and G.H. Givens (2000) Issues related to the specification of trials for the Eastern North Pacific stock of gray whales. *Journal of Cetacean Research and Management*, **2**(Suppl.): 153-154.
25. G.H. Givens (1999) Strike limit algorithm optimisation: a realistic example. *Journal of Cetacean Research and Management*, **1**: 75-83.
24. G.H. Givens, A.E. Punt, and T.A.O. Bernstein (1999) Equivalence tuning of strike limit algorithms. *Journal of Cetacean Research and Management*, **1**: 289-295.
23. G.H. Givens (1999) Multicriterion decision merging: competitive development of an aboriginal whaling management procedure. *Journal of the American Statistical Association*, **94**: 1003-1014.
22. G.H. Givens and P.J. Roback (1999) Logarithmic pooling of priors linked by a deterministic simulation model. *Journal of Computational and Graphical Statistics*, **8**: 452-478.
21. D. Poole, G.H. Givens, and A.E. Raftery (1999) On a proposed stock assessment method and its application at the International Whaling Commission. *Fishery Bulletin*, **97**: 144-152.
20. C.A. Hunt, G.H. Givens, and S. Guzy (1998) Bootstrapping pharmacokinetic models: visualization of predictive and parameter uncertainty. *Pharmaceutical Research*, **15**: 690-697.
19. G.H. Givens (1998) AWMP development and diverse prototypes. *Report of the International Whaling Commission*, **48**: 483-495.
18. G.H. Givens, D.D. Smith, and R.L. Tweedie (1997) Bayesian data-augmented meta-analysis that accounts for publication bias issues exemplified in the passive smoking debate. *Statistical Science*, **12**: 221-250.
17. G.H. Givens and D. Thomas (1997) Bowhead aboriginal management scheme trials and statistics. *Report of the International Whaling Commission*, **47**: 851-864.
16. P. Wade and G.H. Givens (1997) Designing catch control laws that reflect the intent of aboriginal whaling management principles. *Report of the International Whaling Commission*, **47**: 871-874.
15. G.H. Givens and D. Thomas (1997) Sample bowhead aboriginal whaling management scheme trials', *Report of the International Whaling Commission*, **47**: 875-884.
14. G.H. Givens and A.E. Raftery (1996) Local adaptive importance sampling for multivariate densities with strong nonlinear relationships. *Journal of the American Statistical Association*, **91**: 132-141.
13. G.H. Givens and S.E. Thompson (1996) Alternative Bayesian synthesis approaches to Bering-Chukchi-Beaufort Seas bowhead whale stock assessment: uncertainty in historic catch and hitting with fixed

- MSYR. *Report of the International Whaling Commission*, **46**: 509-530.
12. G.H. Givens, J.E. Zeh, and A.E. Raftery (1996) Implementing the current management regime for aboriginal subsistence whaling to establish a catch limit for the Bering-Chukchi-Beaufort Seas stock of bowhead whales. *Report of the International Whaling Commission*, **46**: 593-600.
 11. G.H. Givens and M.V. Bravington (1996) Confirmation, revision, and sensitivity analysis of the 1994 Scientific Committee assessment of the Bering-Chukchi-Beaufort Seas stock of bowhead whales. *Report of the International Whaling Commission*, **46**: 501-8.
 10. G.H. Givens (1995) Consistency of the local kernel density estimator. *Statistics and Probability Letters*, **25**: 55-61.
 9. G.H. Givens, A.E. Raftery, and J.E. Zeh (1995) Response to comments by Butterworth and Punt in SC/46/AS2 on the Bayesian synthesis approach. *Report of the International Whaling Commission*, **45**: 325-330.
 8. G.H. Givens, A.E. Raftery, and J.E. Zeh (1995) Assessment of the Bering-Chukchi-Beaufort Seas stock of bowhead whales using the BALEEN II model in a Bayesian synthesis framework. *Report of the International Whaling Commission*, **45**: 345-364.
 7. A.E. Raftery, G.H. Givens, and J.E. Zeh (1995) Inference from a deterministic population dynamics model for bowhead whales (with discussion). *Journal of the American Statistical Association*, **90**: 402-430. **Awarded 1996 ASA Outstanding Statistical Application.**
 6. G.H. Givens, A.E. Raftery, and J.E. Zeh (1994) A reweighting approach for sensitivity analysis within the Bayesian synthesis framework for population assessment modeling. *Report of the International Whaling Commission*, **44**: 377-384.
 5. G.H. Givens, A.E. Raftery, and J.E. Zeh (1993) Benefits of a Bayesian approach for synthesizing multiple sources of evidence and uncertainty linked by a deterministic model. *Report of the International Whaling Commission*, **43**: 495-500.

Submitted:

- G.H. Givens (2011) Fitting a weighted mark-recapture model in RMark. *Journal of Statistical Software*.

In Preparation:

(Invited)

- D. Bolme, G.H. Givens, Y.M. Lui, J.P. Phillips, B.A. Draper and J.R. Beveridge (2012) The evolution of face recognition algorithms from birth to state-of-the-art and their statistical underpinnings. Invited paper for *Wiley Interdisciplinary Reviews: Computational Statistics*.

(Nearly submitted)

- G.H. Givens, J.R. Beveridge, P.J. Phillips, B.A. Draper, Y.M. Lui and D. Bolme (2011) Introduction to face recognition and evaluation of algorithm performance. Intended for *JRSS C*.
- G.H. Givens, S.L. Edmondson, J.C. George, B. Tudor, R. DeLong, and R. Suydam (2011) Estimation of detection probabilities from the 2010 ice-based independent observer survey of bowhead whales near Barrow, Alaska. *JCRM* ?

Refereed Chapters in Books:

4. P.J. Phillips, P.J. Flynn, J.R. Beveridge, W.T. Scruggs, A.J. O'Toole, D. Bolme, K.W. Bowyer, B.A. Draper, G.H. Givens, Y.M. Lui, H. Sahibzada, J.A. Scallan III, and S. Weimer (2009) "Overview of the Multiple Biometrics Grand Challenge", in *Advances in Biometrics, Lecture Notes in Computer Science*, Springer, Berlin/Heidelberg.
3. J.R. Beveridge, B.A. Draper, G.H. Givens, and W. Fisher (2005) 'Introduction to the statistical

- evaluation of face recognition algorithms', in *Face Processing: Modeling and Methods*, W. Zhao and R. Chellappa (Eds.), Elsevier.
2. D.D. Smith, G.H. Givens, and R.L. Tweedie, (2000) 'Adjusting for publication and quality bias in Bayesian meta-analysis', in *Meta-analysis in Medicine and Health Policy*, D.K. Stangl and D.A. Berry (Eds.), Marcel Dekker, New York, pp. 277-304.
 1. G.H. Givens, (1999) 'Bayesian population dynamics modeling using uncertain historical catch, surveyed abundances, and biological priors', In: *Marine Mammal Survey and Assessment Methods*, G.W. Garner et al. (Eds), A.A. Balkema, 225-238.

Invited and Non-Refereed Journal Publications:

- G.H. Givens and D. Poole, 'Comment on 'Estimation of fetal growth and gestation in bowhead whales'', invited comment on 2001 JASA Applications and Case Studies recipient, *Journal of the American Statistical Association*, **96**: 926-8.
- A.E. Raftery, G.H. Givens, and J.E. Zeh, 1995, 'Revised estimate of bowhead rate of increase', Appendix 6 of Annex F, Report of the Scientific Committee, *Report of the International Whaling Commission*, **45**.
- G.H. Givens, 1993, 'Contribution to the discussion of 'The Gibbs sampler and other Markov chain Monte Carlo methods', *Journal of the Royal Statistical Society, B*, **55**: 75-76.

Selected Non-Refereed Proceedings/Transactions:

- Y.M. Lui, D.S. Bolme, B.A. Draper, J.R. Beveridge, G.H. Givens, and J. Phillips (2009) "A meta-analysis of face recognition covariates", IEEE International Conference on Biometrics: Theory, Methods, Applications and Systems. September 2009.
- Skaug, H.J. and G.H. Givens 2007. "Relatedness among individuals in BCB bowhead whale microsatellite samples". Paper SC/59/BRG20 presented to the Scientific Committee of the International Whaling Commission, May, 2007.
- Givens, G.H. 2007. A note on interannual variation of F_{IS} for bowhead whales sampled at Barrow. Paper SC/59/BRG32 presented to the Scientific Committee of the International Whaling Commission, May, 2007.
- Martien, K., Givens, G., and E. Archer 2007. A note on using STRUCTURE to infer the number of populations in the BCB bowhead whale stock. ". Paper SC/59/BRG34 presented to the Scientific Committee of the International Whaling Commission, May, 2007.
- G.H. Givens and I. Ozaksoy, 2006. 'Transience of a temporal lag correlation feature in bowhead microsatellites'. Paper SC/58/BRG18 presented to the Scientific Committee of the International Whaling Commission, May 2006.
- G.H. Givens, J.C. George, T.D. Smith, J.W. Bickham, and B.L. Taylor, 2004. 'Evaluation of the sequentially alternating stock hypothesis for Bering-Chukchi-Beaufort Seas bowhead whales based on microsatellite DNA evidence'. Paper SC/56/BRG29 presented to the Scientific Committee of the International Whaling Commission, July 2004.
- G.H. Givens, T.D. Smith, and J.W. Bickham, 2004. 'Comment on how Jorde et al. (2004) attribute table-wide bowhead whale heterozygote deficiency equally to all microsatellite loci'. Paper SC/56/BRG45 presented to the Scientific Committee of the International Whaling Commission, July 2004.
- G.H. Givens, 2002. 'Performance comparison of aboriginal whaling management procedures for bowhead whales'. Paper SC/54/AWMP4 presented to the Scientific Committee of the International Whaling Commission, April 2002.

- J.R. Beveridge, K. She, B. Draper, and G.H. Givens, 2001. ‘Parametric and nonparametric methods for the statistical evaluation of human ID algorithms’. *Third Workshop On the Empirical Evaluation of Computer Vision Systems*, December 2001.
- G.H. Givens, 2001. ‘A strike limit algorithm for the management of aboriginal whaling for the Bering-Chukchi-Beaufort Seas stock of bowhead whales’. Paper SC/53/AWMP3 presented to the Scientific Committee of the International Whaling Commission, July 2001.
- G.H. Givens, 2001. ‘A merging of two strike limit algorithms for the management of aboriginal whaling for the Bering-Chukchi-Beaufort Seas stock of bowhead whales’. Paper SC/53/AWMP4 presented to the Scientific Committee of the International Whaling Commission, July 2001.
- G.H. Givens, 2001. ‘The “Eva” and “Geof” SLAs are within tuning distance’. Paper SC/53/AWMP7 presented to the Scientific Committee of the International Whaling Commission, July 2001.
- G.H. Givens and J.P. Hughes, 1995, 'A method for determining uncertainty of predictions from deterministic epidemic models', In: *Proceedings of Health Sciences, Physiological and Pharmacological Simulation Studies, Proceedings of the 1995 Western Multiconference*, (J.G. Anderson and M. Katzper, Eds.), Society for Computer Simulation, 205-210.
- G.H. Givens, A.E. Raftery, and J.E. Zeh, 'A Bayesian framework for exploiting stochastic evidence when modeling environmental systems', In: *Bulletin of the International Statistical Institute, 49th Session, Contributed Papers, Book I*, International Statistical Institute, 495-6.

CONTRACTS & GRANTS

Contracts and Grants: 22 PI, 8 Co-PI

\$3,364,000 total funding received; \$1,500,000 pending

(2012-2017)	(\$1,500,000)	(Pending) Assessing water management tradeoffs and targets under climactic and land use uncertainty. NSF/USDA Co-PI with J. Pritchett, A. Denning and K. Paustian. PI is M. Arabi.
2012	\$130,974	Bowhead whale census population size estimation. NSB. PI.
2011-2012	\$249,000	Face recognition evaluation and baseline algorithm development. IARPA. Co-PI with J.R. Beveridge and B.A. Draper
2011-2012	\$ 15,583	Bowhead whale census visual detection probability estimation via the Huggins model. NSB. PI.
2010-2012	\$451,663	Advanced statistical analysis of biometric challenges and evaluations. TSWG. Co-PI with J.R. Beveridge and B.A. Draper.
2009-2011	\$153,742	Statistical methods for the study of spatio-temporal patterns of Bowhead whale presence and migration. NSB. PI.
2008-2009	\$433,587	Enhanced biometrics fusion: multiple biometrics grand challenge. TWSG. Co-PI with J.R. Beveridge and B.A. Draper.
2008	\$ 38,985	Patterns of genetic structure and spatio-temporal distribution in Bering-Chukchi-Beaufort Seas bowhead whales. Funded extension to 2004-2007 NSB grant. PI.
2007	\$ 55,000	Supplement to 2004-5 TSWG grant
2007	\$ 13,086	Interim supplemental extension to 2004-5 TSWG grant
2006-2007	\$ 77,091	Supplemental extension to 2004-06 NSB bioinformatics grant. PI.
2005-2006	\$159,992	Funded extension to 2004-05 TSWG face recognition grant. Co-PI.
2005-2006	\$ 14,539	Budget increase for 2004-06 NSB bioinformatics grant. PI.
2004-2006	\$209,968	Bowhead Bioinformatics: Studies of genetic homogeneity in a whale population. NSB/SA. PI.

2004-2005	\$159,992	Covariate analysis of face recognition algorithms. TSWG. Co-PI with J.R. Beveridge and B.A. Draper.
2003-2004	\$ 62,401	Bowhead Whale Bioinformatics. NSB/SA/NOAA/NMML. PI.
2000-2003	\$437,318	Statistical Inference Methods for Understanding Human Identification, DARPA, Co-PI with J.R. Beveridge and B.A. Draper.
1999-2003	\$200,000	CAREER: Bayesian Simulation Modeling, NSF. The NSF characterized CAREER as a 'premier program' supporting work 'of the highest quality and in the broadest sense'. In the mid-1990s, awards numbered about zero to two annually in statistics.
2001-2002	\$ 67,585	Completion of a bowhead aboriginal whaling management procedure, NSB/SA/NOAA/NMML. PI.
2000-2001	\$ 59,549	Development of a bowhead aboriginal whaling management procedure, NSB/SA/NOAA/NMML. PI.
1999-2000	\$ 56,968	Advancements in bowhead aboriginal whaling management procedure development, NSB/SA/NOAA/NMML. PI.
1998-1999	\$ 54,081	Optimization methods for bowhead whale aboriginal whaling management procedures, NSB/SA/NOAA/NMML. PI.
1998	\$ 6,000	Computer-intensive aboriginal whaling management procedure simulation and optimization, NMFS. PI.
1998	\$ 9,725	Equipment purchase for AWMP development, NSB/SA/NOAA/NMML. PI.
1998	\$ 6,000	Equipment purchase contribution for AWMP simulation, NMML.
1997-1998	\$ 59,997	Continued development of bowhead aboriginal whaling management procedures, NSB/SA/NOAA/NMML. PI.
1996-1997	\$ 66,541	Development and initial exploration trials for bowhead aboriginal whaling management procedures, NSB/SA/NOAA/NMML. PI.
1996	\$ 7,451	Simulation evaluations relevant to bowhead aboriginal management, NMML.
1995-1996	\$ 62,710	Statistical evaluations of aboriginal management schemes for the bowhead whale, NSB/SA/NOAA/NMML. PI.
1995	\$ 7,518	Analysis of bowhead whale morphology and management, NMML. PI.
1994-1995	\$ 36,950	Assessment modeling of the bowhead whale, <i>Balaena mysticetus</i> , NSB/SA/NOAA/NMML. PI.

Acronyms

DARPA=Defense Advanced Research Projects Agency; EPA=Environmental Protection Agency; IARPA=Intelligence Advanced Research Projects Activity, Army Research Office; NIH=National Institutes of Health; NMFS=National Marine Fisheries Service; NMML=National Marine Mammal Laboratory; NOAA=National Oceanic and Atmospheric Administration; NSB=North Slope Borough, Alaska; NSF=National Science Foundation; SA=State of Alaska; TSWG=Technical Support Working Group (US interagency counterterrorism program under US Dept. of Homeland Security)

TEACHING

<u>Course No./Title</u>	<u>Credit Hours</u>	<u>Sections/Instances</u>
ST192-First Year Seminar	1	1
ST204-Stat. for Business Students	3	2
UW Stat 220-Basic Statistics	3	1

ST301-Intro. to Statistical Methods	3	7
ST310-Data Analysis Tools	3	3
ST372-Data Analysis and Database Management Tools	3	4
ST304-Multiple Regression Analysis	3	2
ST498-Undgr. Research: Exploratory. & Graphical. Data Anal.	1	1
ST540-Data Analysis and Regression	3	5
ST600-Statistical Computing	3	8
ST640-Design and Linear Modeling	4	1
ST684-Supervised College Teaching	3	5
ST699-Thesis	Var.	24
ST796-Group Study	3	1
ST799-Dissertation	Var.	10

STUDENT ADVISING/GRADUATE SUPERVISION

CURRENT:

Advisor:

Stacy Edmondson, Ph.D.
Brett Hunter, Ph.D.

Member:

Elizabeth Harp, Ph.D., Biology
Melanie Hartman, Ph.D., NREL/Ecology
M. Nayeem Teli, Ph.D., Computer Science
Hao Zhang, Ph.D., Computer Science
Keegan Patmore, MS, Computer Science
Samantha Barrows, Honors B.S., Statistics

PAST:

Graduate Statistics Degrees Completed Under My Supervision:

Grant Dornan	2011	MS
John Greenberg	2011	MS
Benjamin Bird, co-advisor	2010	MS
Josh Horstman	2008	MS
Laura Beri, co-advisor	2008	MS
Marisa Williams	2007	MS
Isin Ozaksoy	2006	Ph.D.
Jonathan Holland	2002	MS
Sarah Hawley	2002	MS
Marsha S. Huang	2000	MS
Paul J. Roback	1998	Ph.D.
Tiffany A.O. Bernstein	1998	MS
David D. Smith, co-advisor	1997	Ph.D.
Dave Thomas	1997	MS
Sandra Thompson	1996	MS
Mike Williams	1996	MS

Committee Memberships for Completed Graduate Degrees:

Jennifer Kendall	2011	MS	Grad. Deg. Prog. in Ecol.
Dusty Ross	2009	MS	Mathematics
Amy Davis	2008	MS	Statistics
Laura Ciasto	2008	Ph.D.	Atmospheric Science
Gabi Marques Betz	2008	MS	Animal Science (Subs.)
Jilmil Saraf	2006	MS	Computer Science
Katrina Olson	2005	MS	Animal Science
Laura Ciasto	2004	MS	Atmospheric Science
Jason Furtado	2004	MS	Atmospheric Science
Laura Ciasto	2003	MS	Atmospheric Science
Alex Trindade	2003	Ph.D.	Statistics
Jean-Paul Watson	2001	Ph.D.	Computer Science
Lance Forbes	2001	Ph.D.	Computer Science
Shengtao Dong	2001	MS	Computer Science
Jean-Paul Watson	1999	MS	Computer Science

Other Graduate Committee Memberships (unfinished, temporary, etc.):

Served on the following additional committees:

- 5 Ph.D. Statistics, Member
- 6 MS Statistics, Advisor
- 8 MS Statistics, Member
- 4 MS Other, Member

SERVICE APPOINTMENTS

International:

US delegate to Scientific Committee of International Whaling Commission, 1992-present. The IWC shapes international and domestic policy for cetaceans. I lead scientific development of global aboriginal whaling management policies with a small team of international colleagues.

National:

International Biometrics Society ENAR/WNAR representative to American Association for the Advancement of Science (AAAS), 2005-2007

University:

Committee on Responsibilities and Standing of Academic Faculty, 9/10-current
University Curriculum Committee, 8/00-12/02 (15% effort allocation)
School of Global Environmental Sustainability, Curriculum Committee, 9/08-5/09

College:

College of Natural Sciences Curriculum Committee:

Chair, 8/00-12/02

8/08-5/09

Member, 4/99-8/00

8/08-8/08

College of Natural Science Strategic Planning Committee, 12/04-12/05

Sabbatical Committee, 9/11-5/15

Department (various years):

Graduate committee

Hiring committee

Undergraduate committee

Computing committee

Distance program admission committee, chairperson

Distance degree program

Technical Report Coordinator

Distance Degree Program Coordinator, 3/99-8/02

- Directed all aspects of program including student recruitment and course coordination
- Led creation of two new certificate degree programs to market to distance students
- Increased department program enrollment by 175% and income by 275% in first two years of my management

REVIEWING**Editorial boards:**

Associate Editor: *Computational Statistics and Data Analysis*

Consulting Editor: John Wiley & Sons, Inc

Associate Editor: *Australian & New Zealand Journal of Statistics*

Grant Refereeing:

Australian Marine Mammal Center, Australian Antarctic Division

National Science Foundation

Manuscript Refereeing:

Journal of the American Statistical Association

Journal of Computational and Graphical Statistics

Statistics and Computing

Biometrics

Statistica Sinica

Ecology

Arctic

Marine Mammal Science

Journal of Applied Ecology
Water Resources Research
Report of the International Whaling Commission
Journal of Cetacean Research and Management
A.A. Balkema Publishers
John Wiley and Sons Publishers

Review boards:

Program Committee, Biometrics Symposium, BCC 2005-7.
National Marine Fisheries Service panel review of basis for United States Letter of Authorization for an arctic oil exploration project.
IATTC Inter-American Tropical Tuna Commission independent panel review of data collection and database use.
NSB Scientific Advisory Committee panel review of BP Alaska's Northstar Development (Liberty Prospect) Environmental Impact Statement to the US Dept. of Interior, US Minerals Management Service.
NSB Scientific Advisory Committee panel review of BP Alaska's sound monitoring program for the Northstar facility

PROFESSIONAL AFFILIATIONS

American Statistical Association 1992-present
International Biometrics Society, WNAR 2005-2008
American Association for the Advancement of Science, 2005-2008
Society for Computer Simulation 1994-1995
International Statistical Institute 1993-1994

PAPERS PRESENTED/SYMPOSIA/INVITED LECTURES/PROFESSIONAL MEETINGS/WORKSHOPS

Short Courses:

- 2009, 'Methods for Monte Carlo Integration and Optimization', CSIRO, Brisbane, Australia.
- 2008, 'Computational Statistics: Methods for Monte Carlo Integration and Optimization', Joint Statistical Meetings, Denver.
- 2006, 'Computational Statistics' Joint Statistical Meetings, Seattle.
- 2006, 'Computational Statistics' 2-day course for Alaska Chapter of ASA, Juneau.
- 2005, 'Computational Statistics', Joint Statistical Meetings, Minneapolis.
- 2004, 'Optimization methods for environmental problems in statistics: numerical maximum likelihood, combinatorial optimization, and EM algorithms'. Computational Environmetrics Conference jointly sponsored by ASA and Univ. of Chicago.
- 2004, 'Methods of integration for environmental problems in statistics: quadrature, Monte Carlo integration, and Markov chain Monte Carlo methods'. Computational Environmetrics Conference jointly sponsored by ASA and Univ. of Chicago.

Invited/Organizer:

- 2011, 'Advances in design', Joint Statistical Meetings, Miami. Organizer.
- 2010, 'Estimation of spatio-temporal relative animal density from line transect data with clustering and censoring', Joint Statistical Meetings, Vancouver, Canada.
- 2008, 'A new model for analysis of spatio-temporal genetic variation, with emphasis on population substructure', North Carolina State University Dept. of Statistics, Raleigh NC.
- 2008, 'Detection of population structure using a new model for analysis of spatio-temporal genetic variation', CSU Dept. of Statistics, Fort Collins, CO.
- 2007, 'Methods for inference about population structure and inheritance from genetic data', organizer and speaker, Joint Statistical Meetings, Salt Lake City.
- 2006, 'Statistical approaches to performance evaluation of biometric algorithms', in Symposium on *Strengthening the Scientific Basis of Biometric Identification and Authentication*, American Association for the Advancement of Science Annual Meeting, St. Louis, February.
- 2004, 'Statistical models for assessing how features of the human face affect recognition', Biometric Consortium Conference, Arlington VA.
- 2003, 'Statistical assessment of subject factors in the PCA recognition of human faces', *IEEE Conference on Computer Vision and Pattern Recognition*.
- 2003, 'Statistics and the whaling debate at the International Whaling Commission: Bayesian simulation modeling and decision making', Dept. of Mathematics and Statistics, University of Otago, Dunedin, New Zealand.
- 2002, 'A statistical assessment of subject factors in the PCA recognition of human faces', NIPS, Workshop on Statistical Methods for Computational Experiments in Visual Processing and Computer Vision, Whistler, British Columbia.
- 2002, 'Statistical evaluation of human ID algorithms', (with J.R. Beveridge), DARPA Human ID Conference, NIST, Gaithersburg, MD.
- 2001, 'Bayesian simulation modeling', Invited Keynote Speaker, American Association for the Advancement of Science, Arctic Science Conference, Anchorage. (Session cancelled on 9/11/01.)
- 2001, Invited discussant of the 2001 JASA Applications and Case Studies Invited Paper.
- 2000, 'Bayesian estimation with a stochastic whale population model, and problems with the underlying likelihood', in Minisymposium: Bayesian Analysis in Computational Science and Engineering. First SIAM Conference on Computational Science and Engineering, Washington DC.
- 1998, 'Estimating and adjusting for publication bias using data augmentation in a Bayesian meta-analysis', U.C. Berkeley Statistics Department, Berkeley.
- 1998, 'Estimating and adjusting for publication bias using data augmentation in a Bayesian meta-analysis', Rand Corporation Statistics Group, Santa Monica.
- 1998, 'Estimating and adjusting for publication bias using data augmentation in a Bayesian meta-analysis', U.C. San Francisco Department of Biostatistics, Department of Biopharmaceutical Sciences, and the Medical Information Science Program, San Francisco.
- 1998, 'Bayesian population dynamics modeling using uncertain historical catch, surveyed abundances, and biological information', Symposium on Surveys, Status, and Trends of Marine Mammal Populations, sponsored by Alaska Biological Science Center, Biological Resources Division, US Geological Survey, and NMML, NMFS, NOAA, Seattle.
- 1997, *Understanding nature: simulation-based inference for natural systems*, Joint Statistical Meetings, Invited Session Organizer and Chair, Anaheim.
- 1997, 'Evidence pooling via simulation models', Joint Statistical Meetings, Anaheim.
- 1996, 'Log pooling of incoherent priors linked by a deterministic model', Joint Statistical Meetings, Chicago.

- 1994, 'Inference from a deterministic population dynamics model for bowhead whales (with discussion)', JASA Applications and Case Studies Invited Speaker, Joint Statistical Meetings, Toronto.

Selected Other:

- 2011, “Biometric Face Recognition and Performance Evaluation”, Joint Statistical Meetings, Miami.
- 2005, ‘Generalized linear mixed model evaluation of face verification algorithms, emphasizing human subject characteristics’, Joint Statistical Meetings, Minneapolis.
- 1999, 'Multicriterion decision merging: competitive development of an aboriginal whaling management procedure', Joint Statistical Meetings, Baltimore.
- 1995, 'Bayesian meta-analysis with data-augmentation to estimate publication bias', Joint Statistical Meetings, Orlando.
- 1995, 'A method for determining uncertainty of predictions from deterministic epidemic models', Western Multiconference sponsored by the Society for Computer Simulation, Las Vegas.
- 1993, 'A Bayesian framework for exploiting stochastic evidence when modeling environmental systems', Meetings of the International Statistical Institute, Milan.

OTHER ACTIVITIES

Visiting scholars sponsored:

- Barbara Taylor, Conservation Biologist, Southwest Fisheries Science Center, NMFS, La Jolla. December, 2004.
- Pia Barner Neve, Research Scientist, Greenland Institute of Natural Resources. August, 1997.
- C. Anthony Hunt, Professor of Pharmaceutical Chemistry, Bioengineering, and Medical Information Science, Univ. of California at San Francisco. August, 1997.

Undergraduate research sponsor:

- Bailey Draper, Iris Challenge Evaluation 2006 data analyst, CSU Depts of Statistics and Computer Science, 2008.

Promotion of CSU, Department of Statistics, and the field in popular media:

- ‘Harvest in the Spotlight: To Whale or not to Whale?’, *National Fisherman*, December, 2000.
- ‘Whaling with Computers’, Science and Technology Network, syndicated television program. March, 1998.
- ‘Leviathan Effort’, Science Feature article, *Rocky Mountain News*, 4/19/98.
- ‘Cancer Alert on Passive Smoking “is false alarm”’, *Daily Telegraph (U.K.)*, 10/19/97.