Timothy C. Haas

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EDUCATION

Colorado State University, September 1985 to December 1989, Ph.D., Statistics. Dissertation Title: "Cognitive Modeling With Bayesian Belief Networks," Co-advisors: Professor M. Siddiqui (Statistics) and Professor M. Cottam (Graduate School of International Studies, University of Denver).

University of Denver, October 1986 to June 1987. Graduate courses in political decision making.

University of California, Irvine, October 1983 to June 1985. Graduate courses in mathematics and statistics.

University of California, Santa Barbara, October 1980 to June 1981. Graduate courses in mathematics and sociology.

California State University, Los Angeles, September 1973 to June 1978, B.S., Engineering (mechanical).

CURRENT POSITION

Emeritus Associate Professor, Lubar College of Business, University of Wisconsin-Milwaukee, May 2024 to present.

PREVIOUS ACADEMIC EXPERIENCE AND SABBATICALS

Associate Professor (with tenure), Lubar College of Business, University of Wisconsin-Milwaukee, August 1995 to May 2024.

Honorary Research Fellow, School of Geography, Archaeology and Environmental Studies, University of the Witwatersrand, Johannesburg, South Africa. Appointment period: October 1, 2012 to September 30, 2015.

Fulbright Specialist, European Institute for Total Quality, Vichy, France, April 14-28 2013. Gave workshops on statistical methods for quality improvement, corporate social responsibility, sustainable manufacturing, and how manufacturing firms can contribute to biodiversity.

Visiting Scholar, School of Geography, Archaeology, and Environmental Studies, University

of the Witwatersrand, Johannesburg, South Africa, June 2012 through July 2012. Gave research seminars, delivered a four-week short course on spatial statistics and spatio-temporal statistics, and advised several doctoral students on statistical methodology.

Visiting Scholar, Department of Statistics, Stanford University, September 2006 to June 2007. Attended Statistics, Biostatistics, and Mathematics seminars at Stanford. Attended the Environmental Politics Workshop at the University of California - Berkeley.

Visiting Statistician, Geophysical Statistics Project, National Center for Atmospheric Research, Boulder, Colorado, June 1999 to December 1999. Collaborated with atmospheric scientists on the application of spatio-temporal statistical methods to the validation of atmospheric chemistry models and on fast approximation of model computations to allow statistical fitting of such models.

Assistant Professor, Lubar School of Business, University of Wisconsin-Milwaukee, September 1990 to August 1995.

Acting Assistant Professor, Department of Statistics, University of Washington, September 1989 to August 1990. Duties included teaching undergraduate statistics courses, pursuing research on Bayesian models of decision making, and collaborating with ongoing faculty research programs on spatial process prediction.

REFEREED PUBLICATIONS

Haas, T. C. (2024), "Models Vetted Against Prediction Error and Parameter Sensitivity Standards Can Credibly Evaluate Ecosystem Management Options," *Ecological Modelling*, 498, December, 11090 ("decreases" should be "increases" in the Graphical Abstract). https://doi.org/10.1016/j.ecolmodel.2024.110900

Haas, T. C. (2024), "A New Technology-Based Tool for Building Profitable Biodiversity-Conserving Offerings," *The European Journal of Sustainable Development,* 13(3): 1-13. https://doi.org/10.14207/ejsd

Haas, T. C. (2024), "Protocol to Discover Machine-Readable Entities of the Ecosystem Management Actions Taxonomy," *STAR Protocols*, Cell Press, Elsevier, 5(2), 103125: 1-12. https://doi.org/10.1016/j.xpro.2024.103125

Haas, T. C. (2023), "Adapting Cybersecurity Practice to Reduce Wildlife Cybercrime," *Journal of Cybersecurity*, 9(1): 1-20.
https://doi.org/10.1093/cybsec/tyad004
https://academic.oup.com/cybersecurity/article/9/1/tyad004/7083342

Haas, T. C. (2022), "Profitable Biodiversity," *Cogent Social Sciences*, 8(1): 1-24.
https://doi.org/10.1080/23311886.2022.2116814
https://www.tandfonline.com/doi/full/10.1080/23311886.2022.2116814

Haas, T. C. (2021), "The First Political-Ecological Database and its Use in Episode Analysis," *Frontiers in Conservation Science, section: Planning and Decision-Making in Human-*

Wildlife Conflict and Coexistence, 2:707088.
https://doi.org/10.3389/fcosc.2021.707088
https://www.frontiersin.org/article/10.3389/fcosc.2021.707088

Haas, T. (2020), "Developing Political-Ecological Theory: The Need for Many-Task Computing," *PLOS ONE*, November 24. https://doi.org/10.1371/journal.pone.0226861
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0226861
There is a podcast interview about this article at
https://researchpod.org/earth-environment/saving-the-world-with-better-data-simulations

Ferreira, S. M., Beukes, B. O., Haas, T. C., and Radloff, F. G. T. (2020), "Lion (Panthera leo) Demographics in the Southwestern Kgalagadi Transfrontier Park," *African Journal of Ecology*, 58(2): 348-360.
https://doi.org/10.1111/aje.12728

Haas, T. C. (2018), "Automatic Acquisition and Sustainable Use of Political-Ecological Data," *Data Science Journal*, 17, p.17.
https://doi.org/10.5334/dsj-2018-017

Haas, T. C. and Ferreira, S. M. (2018), "Optimal Patrol Routes: Interdicting and Pursuing Rhino Poachers." *Police Practice and Research: An International Journal*, 19(1): 61-82.
https://doi.org/10.1080/15614263.2017.1295243

Haas, T. C. and Ferreira, S. M. (2017), "Finding Politically Feasible Conservation Strategies: The Case of Wildlife Trafficking," *Ecological Applications*, 28(2): 473-494.
https://doi.org/10.1002/eap.1662

Haas, T. C. and Ferreira, S. M. (2016), "Combating Rhino Horn Trafficking: The Need to Disrupt Criminal Networks." *PLOS ONE*.
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0167040

A version of this article edited for teen-aged readers is:
Haas, T. C. and Ferreira, S. M. (2017) "Can We Save Rhinos from Extinction?" *Environmental Science Journal for Kids*, Associate Editor: Sasha Harris-Lovett, January.
https://www.sciencejournalforkids.org/articles/can-we-save-rhinos-from-extinction

Haas, T. C. (2016), "Automating a Massive Online Course with Cluster Computing." *International Journal of Distance Education Technologies,* 14(2): 30-48.

Haas, T. C. and Ferreira, S. M. (2016), "Conservation Risks: When Will Rhinos be Extinct?" *IEEE Transactions on Cybernetics*, 46(8): 1721-1734. Special issue on Risk Analysis in Big Data Era.
http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7236914.

Haas, T. C. and Ferreira, S. M. (2015), "Federated Databases and Actionable Intelligence: Using Social Network Analysis to Disrupt Transnational Wildlife Trafficking Criminal Networks," *Security Informatics,* 4:1.
https://doi.org/10.1186/s13388-015-0018-8

http://www.security-informatics.com/content/4/1/2
http://www.springer.com/-/4/0d7808225b2a4876986ead314e72ee99

Haas, T. C. (2004) "Ecosystem Management via Interacting Models of Political and Ecological Processes," *Animal Biodiversity and Conservation,* 27(1): 231-245.
https://www.bcn.es/museuciencies

Haas, T. C. (2002) "New Systems for Modeling, Estimating, and Predicting a Multivariate Spatio-Temporal Process," *Environmetrics*, 13(4): 311-332.

Haas, T. C. (2001) "A Web-Based System for Public-Private Sector Collaborative Ecosystem Management," *Stochastic Environmental Research and Risk Assessment*, 15(2): 101-131.

Haas, T. C. (1998), "Statistical Assessment of Spatio-Temporal Pollutant Trends and Meteorological Transport Models," *Atmospheric Environment*, 32(11): 1857-1864.

Haas, T. C. (1996), "Multivariate Spatial Prediction in the Presence of Nonlinear Trend and Covariance Nonstationarity," *Environmetrics*, 7(2): 145-166.

Bender, B. and T. C. Haas. (1996), "Electoria Equilibria with Entry: Some Simulations," *Public Choice*, 87: 303-314.

Haas, T. C. (1995), "Local Prediction of a Spatio-Temporal Process with an Application to Wet Sulfate Deposition," *Journal of the American Statistical Association*, 90(432): 1189-1199.

Haas, T. C., H. T. Mowrer, and W. D. Shepperd. (1994), "Modeling Aspen Stand Growth with a Temporal Bayes Network," *Artificial Intelligence Applications*, 8(1), 15-28.

Haas, T. C. (1992), "A Bayes Network Model of District Ranger Decision Making," *Artificial Intelligence Applications*, 6(3), 72-88.

Haas, T. C. (1992), "Redesigning Continental-Scale Monitoring Networks," *Atmospheric Environment*, 26A(18), 3323-3333.

Haas, T. C. (1991), "Partial Validation of Bayesian Belief Network Advisory Systems," *Artificial Intelligence Applications*, 5(4), 59-71.

Haas, T. C. (1991), "A Bayesian Belief Network Advisory System for Aspen Regeneration," *Forest Science*, 37(2), 627-654.

Haas, T. C. (1990), "Lognormal and Moving Window Methods of Estimating Acid Deposition," *Journal of the American Statistical Association,* 85(412), 950-963.

Haas, T. C. (1990), "Kriging and Automated Variogram Modeling Within a Moving Window," *Atmospheric Environment,* 24A(7), 1759-1769.

BOOKS

Haas, T. C. (2013), *Introduction to Probability and Statistics for Ecosystem Managers:*

Simulation and Resampling, "Statistics in Practice" volume, Wiley, Oxford, U.K. ISBN: 978-1118357682.
`http://www.wiley.com/WileyCDA/WileyTitle/productCd-111835768X.html`
An excerpt from a review of this textbook:

> Ultimately, the ecosystem manager who works through this volume and works through the many examples provided will emerge with a valuable toolbox of analysis techniques. (book review by Aiello-Lammens, M. (2015), *The Quarterly Review of Biology,* Volume 90, December 1: 432-433)

Haas, T. C. (2011), *Improving Natural Resource Management: Ecological and Political Models*, a "Statistics in Practice" volume, cross-listed in the Environmental Management, Policy and Planning series, and the Environmental Economics and Politics series, Wiley-Blackwell, Oxford, U.K. ISBN: 978-0-470-66113-0.
`www.wiley.com/WileyCDA/Section/id-350698.html`
A review of this book by T. Filatova is at
`http://jasss.soc.surrey.ac.uk/14/4/reviews/5.html`

REFEREED BOOK CHAPTER

Haas, T. C. (2008), "East African Cheetah Management via Interacting Political and Ecological Process Models," (in) *Conserving and Valuing Ecosystem Services and Biodiversity,* (ed.) K. N. Ninan, London: Earthscan Publishers, pp. 221-260.

REFEREED PROCEEDINGS

Kanevsky, M., Arutyunyan, R., Bolshov, L., Demyanov, V., Linge, I., Savelieva, E., Shershakov, V., Haas, T., Maignan, M. (1996), "Geostatistical Portrayal of the Chernobyl Fallout," *Geostatistics Wollongong '96*, vol. 2, (eds.) E.Y. Baafi, N.A. Schofield, Amsterdam: Kluwer Academic Publishers: 1043-1054.

Naumova, E. N. and Haas, T. C. (1997), "Individual Exposure Estimations: Analysis of Environmental and Health Effects of the Chemical Spill in the Nemadji River, Superior, Wisconsin," (in) *Lecture Notes in Statistics, 122: Modelling Longitudinal and Spatially Correlated Data: Methods, Applications, and Future Directions,* (editors) T. Gregoire, D. R. Brillinger, P. J. Diggle, E. Russek-Cohen, W. Warren, and R. D. Wolfinger, Proceedings of the Conference held on Nantucket, October 15-18, 1996, New York: Springer-Verlag, 243-254.

PROCEEDINGS

Haas, T. C. (2008), "How to Find the Most Practical Ecosystem Management Plan,' *Environmental Economics and Investment Assessment II*, Proceedings of the Conference held in Cadiz, Spain, May 28-30, (eds.) K. Aravossis, C.A. Brebbia, and N. Gomez, Southampton, U.K.: Wessex Institute of Technology Press: 241-252.

Haas, T. C. (2002), "Monte Carlo Space-Time Statistical Analysis in JavaSpaces," *Computing Science and Statistics,* Vol. 34, (eds.) E. Wegman and A. Braverman, Fairfax Station, VA: Interface Foundation of North America, Inc.: 285-314.

Haas, T. C. (1997), "Fitting Bayesian Belief Networks with Penalized Goodness-of-Fit," *Computing Science and Statistics, Proceedings of the Second World Congress of the IASC* (eds.) E. J. Wegman and S. P. Azen, Fairfax Station, VA: Interface Foundation of North America, Inc.: 383-389.

Kanevsky M., Arutyunyan R., Bolshov L., Chernov, S., Demyanov V.V., Koptelova, N., Linge, I., Savelieva E.A., Haas. T., Maignan, M. (1997), "Chernobyl Fallout: Review of Advanced Spatial Data Analysis," (in) *geoENV I – Geostatistics for Environmental Applications,* Proceedings of the Geostatistics for Environmental Applications Workshop, Lisbon, Portugal, 18-19 November 1996 (eds.) A. Soares, J. Gómez-Hernandez, and R. Froidevaux, Dordrecht: Kluwer Academic Publishers.

Kanevsky M.F., Arutyunyan R.V., Bolshov L.A., Demyanov V.V., Savel'eva E.A., Haas. T., and Maignan, M. (1996), "Artificial Neural Networks and Geostatistics for Environmental Mapping," *Applications of Artificial Intelligence in Engineering, XI* Southampton, U.K.: Computational Mechanics Publications.

Kanevsky M.F., Arutyunyan R.V., Bolshov L.A., Demyanov V.V., Savel'eva E.A., Haas. T. (1996), "Environmental Spatial Data Analysis. Case Study: Chernobyl Fallout," *Mathematical Modelling and Scientific Computing,* 6, special Conference Proceedings issue.

Kanevsky M.F., Arutyunyan R.V., Bolshov L.A., Demyanov V.V., Savel'eva E.A., Haas. T. (1995), "Geostatistical Approach to Analysis of Chernobyl Fallout," *Applied Energy,* no. 3, Moscow (in Russian).

Haas, T. C. (1994), "Nonstationary Multivariate Spatial Prediction," *Proceedings of the American Statistical Association,* Statistics and the Environment section, as read at the Environmetrics conference, August 11-15, pp. 194-203.

van Tooren, C. F. and T. C. Haas (1993), "A Site Investigation Strategy Using Moving Window Kriging and Automated Semivariogram Modelling," TNO Institute of Environmental Sciences report IMW-P93/003, Delft, The Netherlands. Report presented at the Fourth International KfK/TNO Conference on Contaminated Soil, Berlin, Germany, May 3-7.

Holland, D. M., R. Baumgardner, T. C. Haas, and G. Oehlert. (1993), "Design of the Clean Air Act Deposition Monitoring Network," (in) *Environmental Statistics, Assessment, and Forecasting* (Proceedings of the American Chemical Society Environmental Statistics Symposium, August 26, 1992, Washington, D. C.), (editors) C. R. Cothern and N. P. Ross, Boca Raton, Florida: Lewis Publishers, pp. 147-162.

Haas, T. C. (1992), "Spatio-Temporal Kriging within a Moving Window," (in) *Proceedings of ECOINFORMA '92, vol. 4,* (editors) L. Ries, H. Fiedler, G. Wagner, and O. Hutzinger, September 14-18, Bayreuth, Germany, pp. 241-262.

Mowrer, H. T. and T. C. Haas. (1991), "Propagating Uncertainty Estimates from an Expert System Through a Forest Growth Simulation Model," (in) *Proceedings of the Systems Analysis in Forest Resources Symposium,* Charleston, SC.

Haas, T. C. (1986), "The Numerical Solution of a System of Ordinary Stochastic Differential Equations on the Cyber 205 Supercomputer," (in) *Computer Science and Statistics, Proceedings of the 18th Symposium on the Interface* (editors) Boardman, T. J. and Stefanski, I. M., Washington D.C.: American Statistical Association.

BOOK REVIEWS AND DISCUSSANT CONTRIBUTION

Haas, T. C. (2005), review of *Analysis and Modeling of Spatial Environmental Data* by Mikhail Kanevski and Michel Maignan, 2004, New York: Marcel Dekker, 288 pages with CD-ROM (in) *International Journal of Mathematical Geology,* 37(8): 943-946.

Haas, T. C. (1998), discussant contribution to Diggle, P. J., Tawn, J. A., and Moyeed, R. A., "Model-based Geostatistics," *Applied Statistics* (Royal Statistical Society) 47, Part 3: 299-350.

Haas, T. C. (1996), review of *Multivariate Geostatistics: An Introduction With Applications* by Hans Wackernagel, 1995, New York: Springer, 256 pages (in) *Journal of the American Statistical Association,* 91(435): 1375-1376.

RESEARCH GRANTS AND COOPERATIVE RESEARCH PROJECTS

Haas, T. C., Senior Researcher (2013-2016), "Assessment of Symptomatic Strategies for Reducing Rhino Poaching," South African National Parks (SANParks), January 2013 to January 2016. Accomodation while visiting SANParks headquarters in Skukuza, South Africa. Travel support for Professor Haas' visits to South Africa provided by a grant from the World Wildlife Fund administered through SANParks.

Haas, T. C., Principal Investigator (2004), "Development of a Web-based Decision Support System for Sustainable Forest Management," USDA Forest Service, $68,000, January 2004 to May 2005. Supports relief from two courses, software, and travel.

Haas, T. C., Principal Investigator (1996), Extension to "Predicting Landscape Impacts on Fish Populations and Statistical Inference for Bayesian Belief Networks," USDA Forest Service, $21,000, May 1997 to May 1998. Supports relief from one course, summer salary, and travel.

Haas, T. C., Principal Investigator (1995), "Predicting Landscape Impacts on Fish Populations and Statistical Inference for Bayesian Belief Networks," USDA Forest Service, $44,000, May 1995 to May 1997. Supports relief from two courses, summer salary, software purchase, and travel.

Haas, T. C., Principal Investigator (1995), "Development of a Bayesian Belief Network for Eutrophication Risk Assessment," USDA Forest Service, $7,740, March 1995 to June 1996.

Supports summer salary and travel.

Haas, T. C., Principal Investigator (1994), "Development of a Windows Version of the Bayes Network Program, "bayes"," USDA Forest Service, $6,000, June 1994 to December 1994. Supported summer salary and travel.

Haas, T. C., Principal Investigator (1992), "Augmenting Empirical Mortality Estimates through Integration of Qualitative Stand Characteristics using a Bayesian Belief Network," USDA Forest Service, $15,000, September 1991 to October 1992. Supported relief from one class in Spring 1992, computer equipment, and travel.

Haas, T. C., Principal Investigator (1991), "Deposition Network Uncertainty Assessment," Environmental Protection Agency Two Year Cooperative Agreement, $168,000, March 1991 to March 1993. Supported summer salary, course relief, the purchase of a Hewlett-Packard workstation (model 720), and travel.

COURSES TAUGHT

1. Statistics 110: Introduction to Statistics (University of Washington)
2. Statistics 310: Probability and Statistics With Calculus (University of Washington)
3. BusAdm 210: Introduction to Management Statistics
4. BusAdm 310: Management Models
5. BusAdm 311: Quality and Process Improvement
6. BusAdm 395/495: Environmental Policy
7. BusAdm 478: Supply Chain Analytics
8. BusAdm 493: Business Scholars Seminar: Building Environmentally Sustainable Supply Chains
9. BusAdm 571: Quality and Six Sigma Tools
10. BusAdm 702: Probability and Statistics for Managers
11. BusMgmt 709: Data Analysis for Management Applications
12. BusAdm 713: Business Forecasting Methods
13. BusAdm 714: Multivariate Techniques in Management Research
14. BusAdm 754: Statistical Analysis
15. BusAdm 912: Probability and Statistics for Management Research
16. BusAdm 914: Advanced Multivariate Techniques in Management Research

17. BusAdm 993: Doctoral Seminar: Optimizing Supply Chains for Environmental Sustainability

18. BusAdm 995: Doctoral Seminar in Decision Sciences: Statistical Methods for Management Research. Five-Week Module on the Design of Experiments

TECHNICAL REPORTS

Kanevsky, M., R. Arutyunyan, L. Bolshov, I. Linge, E. Savel'eva, and T. C. Haas (1994), "Spatial Data Analysis of Chernobyl Fallout. 2. Monitoring Network Description, 3. Univariate Statistics and Declustering, 4. Cross-Validation," Institute of Nuclear Safety, Russian Academy of Sciences, Moscow, Russia.

Kanevsky, M., R. Arutyunyan, L. Bolshov, I. Linge, E. Savel'eva, and T. C. Haas (1993), "Spatial Data Analysis of Chernobyl Fallout. 1. Preliminary Results," Institute of Nuclear Safety, Russian Academy of Sciences, Moscow, Russia.

Gibson, J. H., J. C. Moore, T. C. Haas, and P. L. Chapman, (1989), "Final Report, Analysis of Wet Deposition Monitoring Data: Application to Forest and Aquatic Effects Research," Project Report under EPA Grant Number CR813673-01-1.

Gibson, J. H., J. C. Moore, and T. C. Haas (1988), "An Analysis of Ion Concentration and Deposition at St. Mary and Fire Weather Station NADP Monitoring Sites, Glacier National Park, Montana," Final Report to the National Park Service, West Glacier, MT, Natural Resource Ecology Laboratory, Colorado State University.

Vong, R., S. Cline, G. Reams, J. Bernert, D. Charles, J. H. Gibson, T. C. Haas, J. C. Moore, R. Husar, A. Olsen, J. Simpson, and S. Seilkop (1988), "Regional Analysis of Wet Deposition for Effects Research," Synthesis and Integration Project Report, Forest Response Program, Acid Rain Team, Terrestrial Branch, EPA Environmental Research Laboratory, Corvallis, OR.

PRESENTATIONS

2024. "Adapting Cybersecurity Practice to Reduce Wildlife Cybercrime," tutorial delivered at the International Academy, Research, and Industry Association (IARIA) CYBER 2024 Conference, September 29, Venice, Italy.

2024. One of two interviewees on the Ecological Society of America Webinar: *Ecology Careers Outside of Academia,* September 18, one hour. Webinar had over 100 attendees listen to the interviewees talk about their careers.

2024. "A New Technology-Based Tool for Building Profitable Biodiversity-Conserving Offerings," contributed talk at the International Conference on Sustainable Development, September 11, Rome, Italy.

2024. "How Ecologists Can Get For-Profit Firms to Fund Biodiversity Conservation," con-

tributed talk at the 109th Ecological Society of America Meeting, August 8, Long Beach, California.

2024. "A New Technology-Based Tool for Building Profitable Biodiversity-Conserving Offerings," contributed talk at TechConnect, June 19, National Harbor, Maryland.

2024. "A New Technology-Based Tool for Building Profitable Biodiversity-Conserving Offerings," contributed talk at the International Symposium on Sustainable Systems and Technology (ISSST), June 18, Baltimore, Maryland.

2024. "How Computer Science can Save Species," Industry Affiliate Talk, CS201 Seminar Series, UCLA Department of Computer Science, January 9, Los Angeles, California.

2022. "How Firms Can Apply Data Science to Save Species," keynote presentation at the 2022 rvatech/Data Summit, March 31, Richmond, Virginia.

2021. "How Data Science Can Save Species," invited talk in the IMPACT Professional Speaker Series, Northwestern Mutual Data Science Institute, December 10 (held via Zoom).

2021. "Rapporteur's report on the Operations Engineering Breakout Room," part of the invitation-only Workshop on Disrupting Wildlife Trafficking Networks through Convergence of Physical and Virtual Ecosystems. Funded by the U.S. National Science Foundation, Professor Meredith Gore, University of Maryland, Principal Investigator. May 13 (held online due to COVID-19).

2020. "Developing Political-Ecological Theory: The Need for Many-Task Computing," contributed talk at the Ecological Society of America Annual Meeting, August 3-6 (online meeting due to COVID-19).

2018. "How to Disrupt a Wildlife Trafficking Network Using Standardized GIS Information," invited talk given at the U.S. State Department, invitation-only Workshop on GIS Standards to Help Combat Wildlife Trafficking, Addis Ababa, Ethiopia, March 26-28.

2017. Conference talk: "Finding Politically Feasible Conservation Strategies: The Case of Wildlife Trafficking," by Timothy C. Haas and Sam M. Ferreira, Large Mammal Ecologist, Scientific Services, SANParks, South Africa. Given at the Resilience 2017 Conference, Stockholm, August 20.

2017. Conference talk: "Finding Politically Feasible Conservation Strategies: The Case of Wildlife Trafficking," by Timothy C. Haas and Sam M. Ferreira, Large Mammal Ecologist, Scientific Services, SANParks, South Africa. Given at the 2017 International Conference on Conservation Biology, Cartagena, Colombia, July 25.

2017. Poster: "Finding Politically Feasible Conservation Strategies: The Case of Wildlife Trafficking," by Timothy C. Haas and Sam M. Ferreira, Large Mammal Ecologist, Scientific Services, SANParks, South Africa. Given at the NSF Agent-Based Modeling Symposium, April 20-22, San Diego, California.

2016. "Professional Workshop: Applying Models of Animal Spatial Behavior to Conser-

vation Management," Department of Statistics, University of Pretoria, South Africa, July 18-29. This is an intensive two-week workshop for SANParks scientists, statisticians, and graduates students that covers individual and agent-based models to support wildlife conservation management.

2014. "A Federated Database of Wildlife Trafficking Criminals," presented at an invitation-only workshop on the use of social network analysis in criminal investigations of cycad poachers sponsored by the South African National Biodiversity Institute (SANBI). Held at the Milkplum tea garden, Pretoria National Botanical Garden, South Africa, March 14.

2013. "Sustainable Development and the Importance of Protecting Biodiversity," WUWM radio interview with University of Wisconsin-Milwaukee Vice Chancellor Tom Luljak, September 26.
`http://wuwm.com/post/sustainable-development-importance-protecting-biodiversity`

2013. "Using Social Network Analysis to Disrupt Wildlife Trafficking Criminal Networks," Haas, T.C. and Ferreira, S., South African South African Rhino Horn Trading Workshop, Kruger National Park, South Africa, September 18.

2013. "Using Social Network Analysis to Disrupt Wildlife Trafficking Criminal Networks," Haas, T.C. and Ferreira, S., South African Wildlife Management Association (SAWMA) Symposium 2013, Kruger National Park, South Africa, September 15-19.

2012. "Computing the Most Politically Feasible Plan for Sustaining an Ecosystem," Third Workshop on Modelling Spatial and/or Longitudinal Data, University of the Witwatersrand, South Africa, July 11.

2011. "A Tool for Finding Politically-Feasible Ways to Manage Ranch-Kept Wildlife," talk given at the 7$^{\text{th}}$ International Wildlife Ranching Symposium, Kimberley, South Africa, October 10-13.

2008. "How to Find the Most Practical Ecosystem Management Plan," talk given at the *Conference on Environmental Economics and Investment Assessment II*, Cadiz, Spain, May 28-30.

2006. "Wildlife Management Using an Integrated Model of Political and Ecological Processes," talk given at the *Resource Management: Biodiversity II* session at the *2006 Berlin Conference on the Human Dimensions of Global Environmental Change,* November 17-18, Freie Universität, Berlin, Germany. Available on the web at
`http://web.fu-berlin.de/ffu/akumwelt/bc2006/download.htm`.

2005. "Multi-Country Ecosystem Management via Interacting Models of Political and Ecological Processes," talk given in the *Economics and Conservation* session at the *South African Wildlife Management Association* Symposium 2005, October 2-4, Magoebaskloof Hotel, Limpopo Province, South Africa.

2003. "Ecosystem Management via Interacting Models of Political and Ecological Processes," plenary talk in the *Population Dynamics and Monitoring Applied to Decision Mak-*

ing session at the *European Union for Bird Ringing* (EURING) Technical Meeting, October 7-11, Radolfzell, Germany.

2002. "Nonlinear Space-Time Statistics via Monte Carlo Methods Implemented in a JavaSpaces Distributed Computer," invited talk at the Joint Statistical Meetings, New York, August 11-17.

2002. "Ecosystem Management via Interacting Models of Political and Ecological Processes," invited presentation at the International Environmetrics Society Conference, Genoa, Italy, June 18-23.

2002. "Nonlinear Space-Time Statistics via Monte Carlo Methods Implemented in a JavaSpaces Distributed Computer," invited talk at the Statistical Society of Canada 2002 Conference, Hamilton, Ontario, May 25-29.

2002. "Nonlinear Spatial Statistics via Monte Carlo Methods Implemented in a JavaSpaces Distributed Computer," invited talk at the Interface 2002 conference, Montreal, Canada, April 17-21.

2000. "Introduction to Influence Diagrams," three hour tutorial given at the continuing education workshop entitled "An Introduction to Decision Analysis for Natural Resources Management," American Fisheries Society Meeting, St. Louis, Missouri, August 20.

2000. "New Systems for Modeling, Estimating, and Predicting a Multivariate Spatio-Temporal Process," contributed presentation at the Joint Statistical Meetings, Indianapolis, IN, August 13 to 17.

2000. "New Systems for Modeling, Estimating, and Predicting a Multivariate Spatio-Temporal Process," invited presentation at the International Conference on Statistics in the 21st Century, Orono, Maine, June 29 to July 1.

1999. "Combining Expert Beliefs, Nongaussian Random Variables, and Decision Options in an Influence Diagram," Interface '99, Schaumburg, Illinois, June 9-12.

1999. "Introduction to Influence Diagrams," invited presentation at the Peer Review Workshop on the use of Bayesian Belief Networks for the evaluation of EIS alternatives in relation to species viability in the Columbia Basin Ecosystem, USDA Forest Service, Regional Office, Portland, Oregon: January 28-29.

1998. "Shared Network Redesign Decision Making," invited presentation, Joint Statistical Meetings, Dallas, TX: August 8-13.

1998. "Establishing Causality in the Social Sciences: The Why and How of Replacing LISREL Models with Causal Diagrams," half day workshop held February 20, School of Business Administration, University of Wisconsin – Milwaukee.

1997. "A Method for Statistically Assessing Spatio-Temporal Pollutant Trends and Meteorological Transport Models," invited presentation, Joint Statistical Meetings, Anaheim, CA, August 11-14.

1997. "Semiparametric Modeling and Prediction of a Multivariate Spatio-Temporal Process," invited presentation, Joint Statistical Meetings, Anaheim, CA, August 11-14.

1997. "Modeling Waterbody Eutrophication with a Bayesian Belief Network," AMS-IMS-SIAM Joint Summer Research Conference on Graphical Markov Models, Bayesian Belief Networks and Influence Diagrams, University of Washington, June 28 - July 3.

1997. "Nonparametric Classification and Computer Intensive Hypothesis Testing," one day workshop held March 21, School of Business Administration, University of Wisconsin – Milwaukee.

1997. "Penalized Goodness-of-Fit Parameter Estimation for Bayesian Belief Network Models," International Association for Statistical Computing, Second World Conference, February 19-22, Pasadena, California.

1996. "Modeling Waterbody Eutrophication with a Bayes Network," contributed presentation made at the Society for Risk Analysis conference, New Orleans, December 10-13.

1996. "Global Hypothesis Testing Based on Local Models of a Spatio-Temporal Stochastic Process," contributed presentation made at the Modelling Longitudinal and Spatially Correlated Data: Methods, Applications, and Future Directions Conference, Nantucket, October 15-18. Only one in five oral presentation proposals were accepted for this conference.

1996. "Artificial Neural Networks and Geostatistics for Environmental Mapping," with Kanevsky, M., Arutyunyan, R., Bolshov, L., Demyanov, V., Savelieva, E., and Maignan., M., contributed paper given at the Engineering Applications of Artificial Intelligence – 1996 conference, Tampa, Florida, September 11-13.

1996. "Consistency Analysis: A Bayesian-like Parameter Estimation Method that Represents the Strength of Prior Knowledge Without Prior Distributions," contributed paper given at the International Society for Bayesian Analysis (ISBA) conference, Chicago, August 3.

1996. "Global Hypothesis Testing Based on Local Models of a Spatio-Temporal Stochastic Process," invited paper given at the Joint Statistical Meetings, Chicago, August 7.

1995. "Local Prediction of a Spatio-Temporal Process With an Application to Wet Sulfate Deposition," invited talk given to the Department of Statistics and Actuarial Science, University of Iowa, September 28.

1995. "Environmental Spatial Data Analysis. Case Study: Chernobyl Fallout," invited talk given to the Center for Global and Regional Environmental Research, University of Iowa, September 29.

1995. "Environmental Spatial Data Analysis. Case Study: Chernobyl Fallout," with M. Kanevsky, R. Arutyunyan, L. Bolshov, V. Demyanov, and E. Savel'eva, Tenth International Conference on Mathematical and Computer Modelling and Scientific Computing, Boston, July 8.

1995. "Prediction of a Nonstationary Spatio-Temporal Process," invited seminar at the National Institute of Statistical Sciences, Research Triangle Park, North Carolina, January 10.

1994. "Multivariate Spatial Prediction in the Presence of Nonlinear Trend and Covariance Nonstationarity," invited paper read at the Environmetrics Conference, Burlington, Canada, August 12-15.

1994. "Predicting First and Second Order Nonstationary Spatio-Temporal Processes," Spatial Statistics Workshop, Nuclear Safety Institute, Russian Academy of Sciences, Moscow, Russia, May 23-29.

1993. "Cokriging Variables that are First and Second Order Nonstationary," Canadian Statistical Society Meeting, Wolfville, Nova Scotia, June 7-9.

1992. "Redesigning Continental-Scale Pollution Monitoring Networks," 39th Regional Science Association International Meetings, Chicago, November 13.

1992. "Constructing and Validating a Temporal Bayes Network Model," American Statistical Association, Milwaukee Chapter Luncheon Meeting, October 13.

1992. "Spatio-Temporal Kriging within a Moving Window," ECOINFORMA '92, Bayreuth, Germany, September 15.

1992. "Modeling Aspen Stand Growth with a Temporal Bayes Network," American Association for Artificial Intelligence Meetings, workshop on AI in Natural Resource Management, San Jose, CA, July 16.

1991. "Estimating Acid Deposition with Spatial Statistics," American Statistical Association, Milwaukee Chapter, December 18.

1991. "Monitoring Network Redesign," National Atmospheric Deposition Program Technical Meeting, October 9, Philadelphia, PA.

1991. "Tutorial on Statistical Graphics," Conference on Graphics, sponsored by the Milwaukee Chapter of the American Statistical Association and Marquette University, October 4, Marquette University, Milwaukee, WI.

1991. "A Belief Network Model of District Ranger Aspen Resource Decision Making," invited speaker, August 26, USDA Forest Service Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

1991. "A Belief Network Model of District Ranger Aspen Resource Decision Making," The AAAI Workshop on AI in Natural and Agricultural Resource Management, July 14, Anaheim, CA.

1991. "Network Design to Optimize Spatial Interpolation," CASTNET Design Workshop, held by the Environmental Protection Agency, June 26, Research Triangle Park, NC.

1990. "Construction and Partial Validation of a Bayesian Belief Network Advisory Sys-

tem for Aspen Regeneration," AAAI Workshop on Artificial Intelligence in Natural and Agricultural Resource Management, July 29, Boston.

1990. "Belief Networks and Political Decision Making," International Society of Political Psychology, July 11-15, Washington, D.C.

1990. "Using Spatial Covariance Estimation, Estimation Error, or Information Theory to Define Optimality in Monitoring Network Design," IMS/WNAR Northwest Regional Meetings, June 18-20, Bozeman, MT.

1990. "A Bayesian Belief Network Advisory System for Aspen Regeneration," International Union of Forestry Research Organizations (IUFRO), Edgewater Hotel, Seattle, WA.

1989. "Modeling the Cognitive Process of Decision Making Using Bayesian Belief Networks," Eighth Annual Spring Conference on Statistics, Colorado – Wyoming Chapter, American Statistical Association, Boulder, CO.

1989. Poster: "Modeling Political Crisis Decision Making Using Bayesian Belief Networks," Conference on Artificial Intelligence and Statistics, Fort Lauderdale, Florida.

1988. "Using Kriging to Generate Precipitation Chemistry Contour Maps," National Atmospheric Deposition Program Technical Meeting, Champaign, Illinois.

1988. "Statistical and Computational Aspects of Kriging," Seventh Annual Spring Conference on Statistics, Boulder Colorado: Colorado-Wyoming Chapter, ASA.

1988. (with J. C. Moore, P. L. Chapman, and J. H. Gibson), Poster: "The Analysis of Acid Deposition: Techniques to Estimate the Spatial Pattern of a Multiscale Process," Third Annual Landscape Ecology Symposium, Albuquerque, New Mexico.

DEPARTMENTAL SEMINARS

2017. "Rhino Antipoaching Interdiction Patrol Planning via a Stackelberg Game Informed by a Stochastic Animal Movement Simulator," Department of Mathematics, University of Wisconsin-Milwaukee, September 15.

2015. "Summary of Research Outputs from work with Dr. Sam Ferreira starting September 2012," Scientific Services, South Africa National Parks (SANParks), South Africa, July 30.

2015. "Optimal Patrol Routes: Interdicting and Pursuing Rhino Poachers," The Council for Scientific and Industrial Research (CSIR), South Africa, July 23.

2015. "Optimal Patrol Routes: Interdicting and Pursuing Rhino Poachers," Department of Statistics, University of Pretoria, South Africa, July 21.

2015. "A Tool for Finding Politically Feasible Ways to Manage Rhino Poaching in South Africa: Statistical Parameter Estimation," Department of Mathematics, University of Wisconsin-Milwaukee, April 16.

2015. "A Tool for Finding Politically Feasible Ways to Manage Rhino Poaching in South Africa: Background," Department of Mathematics, University of Wisconsin-Milwaukee, March 5.

2012. "Minimum Simulated Hellinger Distance Estimation of a Spatio-Temporal Point Process Model," School of Statistics and Actuarial Science, University of the Witwatersrand, Johannesburg, South Africa, August 3.

2012. "A Tool for Finding Politically Feasible Ways to Manage Ranch-Kept Wildlife," School of Geography, Archaeology, and Environmental Studies, University of the Witwatersrand, Johannesburg, South Africa, July 26.

2011. "Computing the Most Politically Feasible Plan for Sustaining an Ecosystem," School of Geography and the Environment, Oxford University, Oxford, U.K., May 3.

2011. "Computing the Most Politically Feasible Plan for Sustaining Blue Whales," Scripps Institution of Oceanography, University of California at San Diego, April 4.

2007. "How to Estimate a Political-Ecological Process Model So That It Can Be Used to Manage an Ecosystem," Statistics Department, Stanford University, February 13.

2002. "The Impact of Hidden Biases on Regression Analysis of Observational Data," Research Seminar Series, School of Business Administration, University of Wisconsin at Milwaukee, October 3.

2002. "Ecosystem Management via a Coupled Model of Political and Ecological Processes," Management Science Brown Bag Seminar Series, School of Business Administration, University of Wisconsin-Milwaukee, March 14.

2001. "Ecosystem Management via a Coupled Model of Political and Biological Processes," Yale Forest Forum Lunchtime Seminar, School of Forestry and Environmental Studies, Yale

University, December 6.

2001. "Tutorial on Latent Variable Modeling with Partial Least Squares," Management Science Brown Bag Seminar Series, School of Business Administration, University of Wisconsin-Milwaukee, May 10.

2000. "Computational Speed Up of Atmospheric Chemistry Models with Hoeffding Formula Approximators," presentation given at the National Science Foundation Review Panel Meeting on the Geophysical Statistics Project, Climate and Global Dynamics Division, National Center for Atmospheric Research, Boulder, Colorado, May 26.

2000. "New Systems for Modeling, Estimating, and Predicting a Multivariate Spatio-Temporal Process," given at the Brown Bag Management Science weekly seminar, School of Business Administration, Milwaukee, WI, March 2.

1999. "Tutorial on the Use of Java for Numerical Computing," given as an informal seminar to the Geophysical Statistics Project, Climate and Global Dynamics Division, National Center for Atmospheric Research, Boulder, Colorado, November 12.

1999. "New Models and Parameter Estimators for the Local Prediction of a Multivariate Spatio-Temporal Process," given as an informal seminar to the Geophysical Statistics Project, Climate and Global Dynamics Division, National Center for Atmospheric Research, Boulder, Colorado, October 22.

1999. "New Models and Parameter Estimators for the Local Prediction of a Multivariate Spatio-Temporal Process," given at the weekly seminar, Department of Statistics, Colorado State University, Fort Collins, Colorado, October 11.

1998. "New Models and Parameter Estimators for the Local Prediction of a Multivariate Spatio-Temporal Process," given at the weekly seminar, Department of Statistics, University of Wisconsin - Madison, December 9.

1998. "Unifying Expert Opinion, Stochastic Models, and Intervention Analysis with an Influence Diagram," given at the Brown Bag Management Science weekly seminar, School of Business Administration, Milwaukee, WI, October 1.

1998. "Unifying Expert Opinion, Stochastic Models, and Intervention Analysis with an Influence Diagram," given at the Biostatistics Department weekly seminar, Medical College of Wisconsin, Milwaukee, WI, September 22.

1997. "Semiparametric Modeling and Prediction of a Multivariate Spatio-Temporal Process," given at the Department of Statistics weekly seminar, Iowa State University, October 27.

1995. "Spatial Statistics with Applications to Business," School of Business Administration, Brown Bag Luncheon Workshop, February 10, 17, and 24.

1992. "Spatio-Temporal Kriging within a Moving Window," Department of Statistics, University of Wisconsin, Madison, October 14.

1992. "Optimal Addition and Deletion of Spatial Sampling Sites," Seminar on Spatial Statistics and Image Processing, University of Washington, Seattle, WA, July 29.

1992. "Space-Time Estimation of Acid Deposition with Kriging," Division of Statistics, University of Northern Illinois, January 23.

1991. "Organization Member Decision Making," Marketing Interest Brown Bag Seminar, School of Business Administration, University of Wisconsin – Milwaukee, November 8.

1991. "The Modeling and Validation of Decision Making with a Bayesian Belief Network," Strategic Management Brown Bag Seminar, School of Business Administration, University of Wisconsin – Milwaukee, April 4.

1990. "Belief Networks and Political Decision Making," Seminar, Statistics Faculty, University of British Columbia.

1990. "Belief Networks and Political Decision Making," Joint Statistics, Biostatistics Seminar, University of Washington.

1989. "Estimating Acid Deposition with Moving Window Kriging," Seminar, Department of Statistics, University of Washington.

1988. "Parallel Computation in Statistics," Seminar, Department of Statistics, Colorado State University.

WEB DOCUMENTS

Haas, T. C. (2014), "Analyzing Wildlife Trafficking Criminal Networks," available at `https://sites.uwm.edu/haas/`

Haas, T. C. (2011), "Learn Probability and Statistics," available at `https://sites.uwm.edu/haas/`

Haas, T. C. (2008), "Tutorial on Influence Diagrams," available at `https://sites.uwm.edu/haas/`

Haas, T. C. (2008), "**id** User's Manual," available at `https://sites.uwm.edu/haas/`

AWARDS

Chancellor Discretionary Merit Award, 2020. Campus-wide award for notable merit as discerned by the Dean of the Lubar School of Business and the chancellor of the University of Wisconsin, Milwaukee.

Fulbright Specialist Candidate. Listed on roster April 11, 2012 for a five-year tenure ending on April 11, 2017. J. William Fulbright Foreign Scholarship Board, U.S. Department of State, Bureau of Education and Cultural Affairs (ECA), and the Council for International Exchange of Scholars (CIES),.

Junior Faculty Research Award, 1994, School of Business Administration, University of Wisconsin, Milwaukee.

Best Student Presentation, Colorado-Wyoming Chapter, ASA, Regional Meeting, 1988.

Student Fellow, 1986 Interface Conference on Computer Science and Statistics, Fort Collins, CO.

Member, Tau Beta Pi, and Pi Tau Sigma (Engineering honor societies), Beta Gamma Sigma (Business honor society).

Dean's List, three academic quarters, California State University, Los Angeles.

COMPUTER EXPERIENCE

Developed several Excel workbooks for optimization of supply chains.

Developed a general purpose JAVA program for ecosystem management through graphical association modeling. This software system, called **id** also has extensive capabilities for performing spatio-temporal statistical analyses. See
`https://sites.uwm.edu/haas/`

Developed a general purpose C program for categorical data analysis. Methods include logistic regression, classification trees, direct kernel estimators, and modular neural networks.

Modified the time series analysis program, PEST (Brockwell and Davis 1987) to perform the Kalman recursions for missing value estimation. Also ported the program from Windows to Unix.

Extensive experience with statistical computation with SAS/STAT, SAS/IML, SAS/ETS, Splus (R), BMDP, SPSS, and Minitab.

STUDENT STATISTICAL CONSULTING EXPERIENCE

Colorado State University Statistics Laboratory, Graduate Research Assistant, October 1985 to January 1987. Provided consultation for faculty and graduate student researchers on the design of experiments and surveys, analyzed data, assisted users with statistical packages.

STUDENT STATISTICAL RESEARCH EXPERIENCE

USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO, Part-time Statistician, May 1989 to August 1989. Developed a probability-based expert system to forecast aspen regeneration in the Rocky Mountains.

National Atmospheric Deposition Program, Natural Resource Ecology Laboratory, Colorado State University, Graduate Research Assistant, June 1987 to August 1989. Wrote spatial interpolation programs for analyzing precipitation chemistry data, evaluated spatial pre-

diction algorithms (kriging), performed time series analyses using ARMA models, wrote technical reports, participated in spatial prediction symposia, and advised on acquisition of PC systems and statistical software.

PROFESSIONAL EXPERIENCE

Printronix, Irvine, California, Research and Development Engineer, November 1981 to August 1985. Supervised experiments and performed analyses for development of high speed dot matrix printers. Programmed nonlinear differential equation numerical solution methods, performed finite element analysis of dynamic systems and modified a large finite element code (NASTRAN). Supervised acquisition of a VAX-11/750 multi-user minicomputer.

Evince, Goleta, California, Project Engineer, June 1981 to September 1981. Performed dynamic analysis of a high speed 35mm slide projector, supervised acquisition of testing and machine shop equipment.

Burroughs Corporation, Westlake Village, California, Research and Development Engineer, January 1979 to June 1981. Designed and performed experiments to study a combined dynamic – aerodynamic phenomenon associated with a flexible media disk drive.

General Electric Corporation, Schenectady, New York, Field Engineer Trainee, June 1978 to September 1978. Completed Steam Turbine Technology training course.

Union Carbide Corporation, Wilmington, California, Co-op Engineer Trainee, July 1976 to November 1976. Studied air separation technology, assisted in the installation of a small air separation plant.

NASA, Edwards, California, Co-op Engineer Trainee, October 1975 to March 1976. Analyzed YF-12 wind tunnel data, performed mechanical and thermal stress analysis of a Space Shuttle wing structure using NASTRAN.

SERVICE

2024. Reviewer for *Discover Conservation* (Springer Nature) (1 paper).

2024. Reviewer for *Discover Animals* (Springer Nature) (1 paper).

2024. Reviewer for *Biodiversity and Conservation* (Springer Nature) (1 paper).

2024. Reviewer for *Scientific Reports* (Springer Nature) (1 paper).

2024. Dissertation committee member for Megha Yadav, Lubar College of Business, University of Wisconsin-Milwaukee.

2024. Reviewer for *Journal of Cybersecurity* (1 paper).

2024. Reviewer for *Frontiers in Conservation Science* (12 papers).

2023. Reviewer for *Science Advances* (1 paper).

2023. Reviewer for *PLOS ONE* (2 papers).

2023. Reviewer for *Frontiers in Environmental Science* (1 paper).

2023. Reviewer for *Frontiers in Conservation Science* (7 papers).

2022. Reviewer for *Frontiers in Conservation Science* (1 paper).

2022. Reviewer for *Deviant Behavior* (1 paper).

2022 to present. Review Editor, Human-Wildlife Interactions, *Frontiers in Conservation Science*.

2022. Guest associate editor for *Frontiers in Conservation Science* (2 manuscripts).

2022. Reviewer for *African Journal of Wildlife Research* (1 paper).

2022-2023. Chair, Supply Chain and Operations Management and Business Statistics area, Lubar College of Business, University of Wisconsin-Milwaukee.

2022. Faculty representative at the Lubar School of Business Majors Fair: Explore Business, April 4.

2021. Chair of the Rockwell Automation Chaired Professor search and screen committee, Lubar School of Business, University of Wisconsin-Milwaukee.

2021. Reviewer for *Proceedings of the National Academy of Sciences* (1 paper).

2020. Reviewer for *Conservation Science and Practice* (1 paper).

2020. Reviewer for *Global Ecology and Conservation* (1 paper).

2020. Reviewer for *Conservation Letters* (1 paper).

2020. Member, preliminary examination committee for a Lubar School of Business doctoral candidate.

2019. Member, preliminary examination committee for a Lubar School of Business doctoral candidate.

2019-2020. Member, undergraduate program committee, Lubar School of Business, University of Wisconsin-Milwaukee.

2019. Dissertation committee member for Azam Nabizadeh, Department of Civil Engineering, University of Wisconsin-Milwaukee.

2019. Chair, undergraduate curriculum review task force committee, Lubar School of Business, University of Wisconsin-Milwaukee.

2019. Reviewer for the South African National Research Foundation. One researcher rating application.

2018-2019. Augmentation member, Executive Committee, Department of Health Informatics and Administration, College of Health Sciences, University of Wisconsin-Milwaukee.

2018. Member of the Search and Screen committee for Dean of the Lubar School of Business, University of Wisconsin-Milwaukee.

2018. Reviewer for *Conservation Science and Practice* (1 paper).

2018. Reviewer for *Koedoe* (1 paper).

2018. Reviewer for *Ambio* (1 paper).

2018. Reviewer for *Journal of Modern Applied Statistical Methods* (1 paper).

2018. Reviewer for *Mathematical Geosciences* (2 papers).

2018. Reviewer for *International Journal of Distance Education Technologies* (3 papers).

2017. Upon request, wrote and ran a SAS program to compute performance scores for all Lubar School of Business faculty in support of a merit evaluation.

2017. Member of Dhwani Patel's MS committee (Manufacturing and Industrial and Manufacturing Engineering Department, UWM).

2017. Reviewer for *International Journal of Distance Education Technologies* (1 paper).

2017. Reviewer for *Mathematical Geosciences* (1 paper).

2017. Presentation *Lean Six Sigma for Sustainability* given at Eaton Corporation, Menomonee Falls, Wisconsin, June 19.

2017. Reviewer for Wiley (1 proposed textbook manuscript).

2017. Reviewer for *South African Crime Quarterly* (1 paper).

September 2015 to 2016. Chair of the SCOM and Business Statistics Subcommittee of the Lubar School of Business Executive Committee.

2016. Reviewer for *Mathematical Geosciences* (1 paper).

2016. Reviewer for *International Journal of Distance Education Technologies* (2 papers).

2015. Reviewer for *International Journal of Biodiversity and Conservation* (1 paper).

2015. Member of the disseration committee for Wen Zeng, School of Education, University of Wisconsin-Milwaukee.

2015. Reviewer for *International Journal of Distance Education Technologies* (1 paper).

2015. Reviewer for *Environmental Modeling and Software* (1 paper).

September 2014 to 2015. Chair of the SCOM and Business Statistics Subcommittee of the Lubar School of Business Executive Committee.

2014. Reviewer for *Journal of Applied Statistics* (1 paper).

2014. Guest Editor for *Ecological Applications* (1 paper).

2014. Reviewer for *IEEE Transactions on Cybernetics* (2 papers).

2013. Reviewer for the National Research Foundation of South Africa (1 proposal).

2013. Referee for *Atmospheric Research* (1 paper).

2013. Member, Emerging Educational Initiatives Committee, convened by the Associate Vice Chancellor for Academic Affairs, University of Wisconsin-Milwaukee.

2013. Member, Working Group for Re-evaluation of the Center for Urban Initiatives and Research, convened by the Vice Chancellor, University of Wisconsin-Milwaukee.

2012. Referee for *Journal of Applied Statistics* (1 paper).

2012. Reviewer for book proposals to Wiley-Blackwell (2 proposals).

2012. Referee for *International Environmental Modelling and Software Society Proceedings* (1 paper).

2011. One of three judges of the Student Research Symposium, College of Health Sciences, University of Wisconsin at Milwaukee, coordinator: Professor Hanh Trinh, December 2.

2011. One of three judges of the Student Research Symposium, College of Health Sciences, University of Wisconsin at Milwaukee, coordinator: Professor Hanh Trinh, April 15.

2011. Member of John Delano's dissertation committee (Management Information Systems).

2011. Reviewer for a book proposal to Wiley-Blackwell.

2011. Reviewer for a book series proposal to Wiley-Blackwell.

2010. Referee for *Mathematical Geosciences* (1 paper).

2010. Referee for *Journal of Applied Statistics* (1 paper).

2009. Member of the Great Lakes Research Facility Pre-design Working Group, University of Wisconsin-Milwaukee.

2009-2010. Chair of the POM/Quantitative Methods Subcommittee of the School of Business Administration Executive Committee.

2009. Referee for *Conservation Biology* (1 paper).

2009. Referee for *Computers and Industrial Engineering* (1 paper).

2009. Referee for *Computational Statistics and Data Analysis* (1 paper).

2008. Referee for *Journal of the Royal Statistical Society, Series C: Applied Statistics* (1

paper).

2008. Referee for *Journal of Applied Statistics* (2 papers).

2008. Referee for *Atmospheric Environment* (1 paper).

2007. Member of the Lubar School of Business Administration (LSBA) Undergraduate Program Committee (Fall semester only).

2007. Reviewer for *Statistics and Probability Letters* (2 papers).

2006. Reviewer for a book proposal to Wiley.

2006. Referee for *Mathematical Geology* (2 papers).

2005. Reviewer for the book "Bayesian Networks" (in French) (1 chapter).

2005. Reviewer for the U.S. Civilian Research and Development Foundation (1 proposal).

2005. Referee for *Mathematical Geology* (1 paper).

2005. Referee for *Atmospheric Environment* (2 papers).

2004 to 2005. Chair, SBA Undergraduate Program Committee.

2004. Referee for *Statistics and Probability Letters* (1 paper).

2003 to 2004. Member, SBA Undergraduate Program Committee.

2004. Associate Editor of *Environmetrics*: completed the review process for 1 paper.

2004. Referee for *Journal of Statistical Planning and Inference* (1 paper).

2004. Referee for *Atmospheric Environment* (1 paper).

2002 to 2004. Member, University Information and Technology Policy Committee.

2003 to 2004. Member, Core Services Team for Campus E-Mail System Replacement.

2003. Referee for *Animal Biodiversity and Conservation* (1 paper).

2003. Referee for *Mathematical Geology* (1 paper).

2003. Referee for *Environmental Management* (1 paper).

2003. Referee for *Atmospheric Environment* (2 papers).

2003. One of three judges of the Health Sciences Student Research Poster Competition, College of Health Sciences, UWM, Coordinator: Professor Hanh Trinh, April 25.

2003. Associate Editor of *Environmetrics*.

2003. Reviewer for National Science Foundation (1 proposal).

2002. Chair, University Faculty Rights and Responsibilities Committee.

2002. Associate Editor of *Environmetrics*. Managed the review of 1 manuscript.

2002. Referee for *Journal of Geophysical Research – Atmospheres* (1 paper).

2002. Referee for *Environmental and Ecological Statistics* (1 paper).

2002. Referee for *Fisheries* (1 paper).

2002. Referee for *Environmetrics* (1 paper).

2002. Reviewer for National Science Foundation (1 proposal).

2002. Referee for *Mathematical Geology* (1 paper).

2001. Referee for *Statistics and Probability Letters* (1 paper).

2001. Reviewer for the U.S. Civilian Research and Development Foundation (1 proposal).

2001. Reviewer for the Michael Smith Health Research Foundation (1 proposal).

2001. Referee for *Stochastic Environmental Research and Risk Assessment* (1 paper).

2001. Referee for *Mathematical Geology* (1 paper).

2001. Referee for *Atmospheric Environment* (1 paper).

2001. Referee for *Environmental Science & Technology* (1 paper).

2001. Referee for *Statistics in Medicine* (1 paper).

2001. Reviewer for National Science Foundation (1 proposal).

2000. Referee for *Biometrika* (1 paper).

2000. Referee for *Statistics in Medicine* (1 paper).

2000. Referee for *Mathematical Geology* (1 paper).

2000. Reviewer for the USDA Forest Service (1 technical report).

2000. Referee for *Journal of the American Statistical Association* (1 paper).

2000. Referee for *Naval Research Logistics* (1 paper).

2000. Referee for *Journal of Forest Ecology and Management* (2 papers).

1999. Referee for *Australian Journal of Soil Research* (1 paper).

1999. Referee for *Journal of Agricultural, Biological, and Environmental Statistics* (1 paper).

1999. Referee for *Statistics in Medicine* (1 paper).

1999. Referee for *Stochastic Environmental Research and Risk Assessment* (1 paper).

1999. Organized the invited session: *MCMC and Related Methods* for the INTERFACE '99 conference, Schaumburg, Illinois, June 9-12, 1999.

1999. Referee for *Atmospheric Environment* (3 papers).

1999. Referee for *Mathematical Geology* (2 papers).

1998. Referee for *Journal of Environmental Management* (1 paper).

1998. Referee for *Statistics and Probability Letters* (1 paper).

1998. Attended an invitation-only symposium on the use of Influence Diagrams for modeling wildlife populations, September 3-4, Pacific Northwest Research Station, Portland, Oregon. Provided technical guidance on this problem to USDA Forest Service ecologists. Trip expenses were reimbursed but no consulting fee charged.

1998. Member of the Ph.D. Program Task Force, School of Business Administration.

1998. Referee for *Environmetrics* (1 paper).

1998. Referee for *Iran Agricultural Research* (1 paper).

1998. Referee for *Environmental Science and Technology* (1 paper).

1998. Referee for *Atmospheric Environment* (2 papers).

1998. Referee for *Journal of the American Statistical Association* (1 paper).

1997. Chair, School of Business Research Award Committee.

1997 to 2000. Member, School of Business Ph.D. Program Committee.

1997. Referee for *Society for Industrial and Applied Mathematics* (1 monograph).

1997. Referee for *Statistics and Probability Letters* (2 papers).

1997. Discussant for the session "Modeling Longitudinal and Spatially Correlated Data," Joint Statistical Meetings, Anaheim, CA, August 11-14.

1997. Referee for the *National Research Council* (1 proposal).

1997. Referee for *Water Resources Research* (1 paper).

1997 to 2003. Member, University Faculty Rights and Responsibilities Committee.

1996-1997. Chair of the POM/Quantitative Methods Subcommittee of the School of Business Administration Executive Committee.

1997. Referee for *AI Applications* (1 paper).

1996-1997. Member, School of Business Administration Dean Search and Screen Committee.

1996. Business School representative for the Calculus Advisory Committee, Mathematics

Department, University of Wisconsin – Milwaukee.

1996. Referee for *Natural Sciences and Engineering Research Council of Canada*, (1 proposal).

1996. Referee for *Journal of Great Lakes Research* (1 paper).

1996. Referee for *AI Applications* (1 paper).

1996. Referee for *Environmetrics* (1 paper).

1996. Referee for *Atmospheric Environment* (1 paper).

1996. Referee for *Statistics and Probability Letters* (2 papers).

1995. Referee for *Atmospheric Environment* (1 paper).

1995. Referee for *Environmetrics* (1 paper).

1995. Referee for *Journal of Statistical Planning and Inference* (1 paper).

1995. Referee for British Columbia Health Research Foundation (1 proposal).

1995. Referee for *AI Applications*, Moscow, Idaho (2 papers).

1994. Minor professor for the minor in Business Statistics for the Finance Ph.D. candidate Ron Penl.

1994-1995. Member, Faculty Senate, University of Wisconsin-Milwaukee.

1994-1995. President of the Milwaukee Chapter of the American Statistical Association.

1993-1994. Secretary for Milwaukee Chapter of the American Statistical Association, Dr. Jamshid Hosseini, President.

1994. Referee for *Environmetrics*, Burlington, Canada (1 paper).

1993. Referee for *Forest Science*, Blacksburg, VA (1 paper).

1993. Referee for *Water Resources Research*, Charlottesville, VA (1 paper).

1993. Referee for *Statistics and Probability Letters*, Madison, WI. (1 paper).

1993-1994. Referee for *Artificial Intelligence Applications,* Moscow, ID. (3 papers).

1992 to 1995. Member, University of Wisconsin-Milwaukee Computer Policy Committee.

1992-1993. Secretary for Milwaukee Chapter of the American Statistical Association, Dr. Robert Kuhn, President.

1991-1992. Treasurer for Milwaukee Chapter of the American Statistical Association, Dr. Russell Fenske, President.

1991-1992. Chairman, Library Committee; member Ad-Hoc Computer Committee, School

of Business Administration, University of Wisconsin – Milwaukee.

1991. Chairperson for luncheon roundtable discussion group: "Issues in Analysis of Environmental Processes Monitored from Earth or Space," held at the Annual American Statistical Association Meetings, August 18-22, Atlanta, GA.

1990. Referee for *The Astronomical Journal*, University of Washington (1 paper).

1990. Referee for *Annals of the Institute of Statistical Mathematics,* Tokyo (1 paper).

1990, 1991, 1995. Referee for *Atmospheric Environment,* Oxford, U.K. (5 papers).

1990-1992, 1995. Referee for *Journal of the American Statistical Association,* Alexandria, VA (4 papers).

1990. Reviewer of chapter 4, "Spatial Covariance Estimation for Monitoring Data" (in) *Statistics in the Earth and Environmental Sciences,* 1992, edited by A. T. Walden and P. Guttorp, London: Edward Arnold.

1989. Referee for *Environmental Monitoring and Assessment*, Idaho Falls, Idaho (1 paper).

1989. Referee for *National Atmospheric Deposition Program*, Fort Collins, CO (1 paper).

CITATIONS

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