

## Johan René van Dorp

Faculty Web page: <http://www.seas.gwu.edu/~dorpjr/>  
1776 G Street, NW 1776 G Street, NW • Suite 135 • Washington, DC 20052  
Voice 202-994-6638 • Fax 202 -994-0245 • E-mail • [dorpjr@gwu.edu](mailto:dorpjr@gwu.edu)

### Education

---

1998 - D.Sc., Operations Research Department, The George Washington University  
1991 - Registered Technological Designer, Mathematical Control- and Policy Modeling,  
Delft University of Technology, The Netherlands  
1989 - M.S., Mathematics & Computer Science, Delft University of Technology, The  
Netherlands

### Experience

---

November 2010 to Present: Courtesy Appointment - Professor, Decision Sciences  
Department, Business School, The George Washington University, Washington D.C.

September 2008 to Present: Professor, Engineering Management and Systems Engineering  
Department, School of Engineering and Applied Science, The George Washington  
University, Washington D.C.

September 2004 to September 2008: Associate Professor, Engineering Management and  
Systems Engineering Department, Department, School of Engineering and Applied Science,  
The George Washington University, Washington D.C.

September 1999 to September 2004: Assistant Professor, Engineering Management and  
Systems Engineering Department, Department, School of Engineering and Applied Science,  
The George Washington University, Washington D.C.

September 1997 to August 1999: Visiting Assistant Professor, Engineering Management  
Department, Department, School of Engineering and Applied Science, The George  
Washington University, Washington D.C.

January 1994 – August 1997: Research Scientist, Operations Research Department,  
Department, School of Engineering and Applied Science, The George Washington  
University, Washington, D.C.

March 1993 – December 1993: Project Engineer, National Aerospace Laboratory,  
Amsterdam, The Netherlands

April 1992 – November 1992: Research Associate, Operations Research Department, The  
George Washington University

January 1991 – January 1992: Research Analyst, Risk Analysis Department, DSM Research,  
The Netherlands

---

## Honors and Awards

2005 - Inducted as Faculty member to the international honor society Omega Rho  
2004 - EMSE Professor of the Year by School of Engineering and Applied Science Students Engineers' Council  
1999 - Semifinalist in the 1999 Franz Edelman Prize Awarded by INFORMS  
1998 - Inducted as student member to the international honor society Omega Rho  
1989 - Graduated Cum Laude (MS) from Delft University of Technology, The Netherlands

---

## Research Interests

Expert Judgment Elicitation; Uncertainty Analysis; Probabilistic Risk Analysis; Simulation Modeling; Distribution Theory; Reliability Analysis and Financial Engineering. Specific Topics: Maritime Transportation Risk Assessment utilizing Simulation; Aggregation of Data and Engineering/Expert Judgment; Statistical Dependence Modeling for Monte Carlo Uncertainty Analysis; Univariate Distributions with Bounded Support, and Accelerated Life Testing Inference.

---

## Research Contracts and Grants

2006-2008: "Assessment of Oil Spill Risk due to Potential Increased Vessel Traffic at Cherry Point, Washington " BP award, PI - \$1,127,408. Start Date: 6-1-2006, End Date: 8-31-2008.

2002-2004: "Collaborative Research: Speaking the Truth in Maritime Risk Assessment" National Science Foundation award SES-0213700, PI - \$139,305 Start Date: 8-15-2002, End Date: 8-15-2004.

2002: "Development of a Maritime Simulation for San Francisco Bay", San Francisco Bay Area Water Transit Authority (sub Contract to ABS Consulting), PI -\$144,889 Start Date: 1-3-2002, End Date: 31-12-02.

2002: "Modified Prince William Sound Simulation". RCAC (Regional Citizen Advisory Council, Alaska). PI - \$17,594 Start Date: 23-4-2002, End Date: 15-6-2002.

2000 - 2002: "Incremental Seismic Rehabilitation Manual support Project". Subcontract to FEMA funded Project, Incremental Seismic Rehabilitation Manual (RPH EMW-2000-RP-0023). PI - \$17,409 Start Date: September 26, 2000, End Date: September 25, 2002.

1999 - 2000: "The Collection, Synthesis, and Quality Assessment of Data Describing the Response to Human Needs following the 1999 Turkey Earthquakes", Co-PI, \$75,000 Start Date: 10-1-1999, End Date: 9-30-2000. (PI of NSF Award: J.R. Harrald, The George Washington University).

1998 – 1999: "Risk Mitigation in Passenger Vessel Operations", Washington State Ferry Risk Assessment, Washington State Transportation Commission, Olympia, Washington, Co-PI \$770,000 Start Date: 7-1-1998, End Date: 7-1-2000. (PI of Award: J.R. Harrald, The George Washington University).

---

**Journal Publications**

---

1. Mazzuchi, Thomas A., van Dorp, Johan René (2011). A Bayesian expert judgement model to determine lifetime distributions for maintenance optimisation, *Structure and Infrastructure Engineering: Maintenance, Management, Life-Cycle Design and Performance*, Published online before print:  
<http://www.informaworld.com/10.1080/15732479.2011.563084>
2. van Dorp, Johan René (2011). Indirect parameter elicitation procedures for some distributions with bounded support – with applications in Program Evaluation and Review Technique (PERT), *Structure and Infrastructure Engineering: Maintenance, Management, Life-Cycle Design and Performance*, Published online before print:  
<http://www.informaworld.com/10.1080/15732479.2011.563099>
3. J.M. Herrerías-Velasco, R. Herrerías-Pleguezuelo and J. R.van Dorp (2010). Revisiting the PERT mean and variance, *European Journal of Operational Research*, published online before print 24 August 2010, ISSN 0377-2217, DOI: 10.1016/j.ejor.2010.08.014.  
(<http://www.sciencedirect.com/science/article/B6VCT-50VKMBN-1/2/93c4772c08091bb4b1ac2f897a7b1734>)
4. Christian M. Salmon, Vahid Motevalli, John Harrald, Johan René van Dorp (2010). Quantifying Metrics of External Airport Risk Exposure in Vicinity of Public Use, Nontowered Airports, *Transportation Research Record: Journal of the Transportation Research Board*, Volume 2184, pp. 31-40, [DOI 10.3141/2184-04](https://doi.org/10.3141/2184-04), Online Date: Friday, December 17, 2010.
5. S. Kotz and J.R. van Dorp (2010). Generalized Diagonal Band Copulas with Two-Sided Generating Densities, *Decision Analysis*, Vol. 7, No. 2, pp. 196-214.
6. J. R. van Dorp and J. R.W. Merrick (2009). On a risk management analysis of oil spill risk using maritime transportation system simulation, *Annals of Operations Research*, published online before print December 12, 2010, DOI: 10.1007/s10479-009-0678-1.  
(<http://www.springerlink.com/content/w168111018754401/>)
7. G. van de Wiel and J. R. van Dorp (2009). An oil outflow model for tanker collisions and groundings, *Annals of Operations Research*, published online before print November 25, 2010, DOI: 10.1007/s10479-009-0674-5.  
(<http://www.springerlink.com/content/d7432xmg431v42q7/>)
8. José Manuel Herrerías-Velasco, Rafael Herrerías-Pleguezuelo and Johan René van Dorp (2009). "Generalized Two-Sided Power Distributions", *Journal of Applied Statistics*, Vol. 36 (5), pp. 573-587.
9. Donatella Vicari, Johan René van Dorp and Samuel Kotz (2008). "Two-Sided Generalized Topp and Leone Distributions", *Journal of Applied Statistics*, Vol. 35 (10), pp. 1115 - 1129.
10. Johan René van Dorp, Salvador Cruz Rambaud, José García Pérez, and Rafael Herrerías Pleguezuelo (2007). "An Elicitation Procedure for the Generalized Trapezoidal Distribution with a Uniform Central Stage", *Decision Analysis Journal*, Vol. 4, pp. 156 - 166.
11. A. Singh, J. Rene van Dorp and T.A.Mazzuchi (2007). "A Novel Assymmetric Distribution with Power Tails", *Communications in Statistics, Theory and Methods*, Vol. 36 (2). pp. 235-252.
12. Fernandez, Lauren S., Joseph A. Barbera, and Johan R. van Dorp (2006). "Strategies for Managing Volunteers during Incident Response: A Systems Approach." *Homeland Security Affairs II*, no. 3 (October 2006).

13. J.R. van Dorp, A. Singh and T.A. Mazzuchi (2006). "The Doubly-Pareto Uniform Distribution with Applications in Uncertainty Analysis and Econometrics", *Mediterranean Journal of Mathematics*, Vol. 3 (2), pp. 205-225.
14. L. Fernandez, J. Barbera and J.R. van Dorp (2006). "Spontaneous Volunteer Response to Disasters: The Benefits and Consequences of Good Intentions", *Journal of Emergency Management*. Vol. 4 (5), pp. 57-68.
15. S. Kotz and J. R. van Dorp (2006). "A Novel Method for Fitting Unimodal Continuous Distributions on a Bounded Domain". *IIE Transactions*, Vol. 38, pp. 421-436.
16. Merrick, J. R. W. and J. R. van Dorp (2006). "Speaking the Truth in Maritime Risk Assessment". *Risk Analysis*, Vol. 26 (1), pp. 223 - 237.
17. P. Szwed, J. Rene van Dorp, J.R.W.Merrick, T.A. Mazzuchi and A. Singh (2006). "A Bayesian Paired Comparison Approach for Relative Accident Probability Assessment with Covariate Information", *European Journal of Operations Research*, Vol. 169 (1), pp. 157-177.
18. J.R. van Dorp & T.A. Mazzuchi (2005), "A General Bayes Weibull Inference Model for Accelerated Life Testing", *Reliability Engineering and System Safety*, Vol. 90, pp. 140-147.
19. Merrick, J. R. W., J. R. van Dorp and A. Singh (2005). "Analysis of Correlated Expert Judgments from Pairwise Comparisons". *Decision Analysis*, Vol. 2 (1), pp. 17-29.
20. S. Kotz and J.R. van Dorp (2005). "A link between Two-Sided Power and Asymmetric Laplace Distributions: with Applications to Mean and Variance Approximations". *Statistics and Probability Letters*, Vol. 71, pp. 382-394.
21. J.R.W.Merrick, J. Rene van Dorp, V. Dinesh (2004). "Assessing Uncertainty in Simulation Based Maritime Risk Assessment". *Risk Analysis*, Vo. 25 (3), pp. 731-743.
22. J.R. van Dorp and S. Kotz (2004). "Uneven Two-Sided Power Distributions: With Applications in Econometric Models", *Statistical Methods and Applications*, Vol. 13, pp. 285-313.
23. J.R. van Dorp and T.A.Mazzuchi (2004). "A General Bayes Exponential Inference Model for Accelerated Life Testing", *Journal of Statistical Planning and Inference*. 119 (1): pp. 55-74.
24. J.R. van Dorp (2004). "Statistical Dependence through Common Risk Factors: With Applications in Uncertainty Analysis". *European Journal of Operations Research*. Vol. 161 (1): pp. 240-255.
25. John R. Harrald, Hugh W. Stephens, and Johann Rene vanDorp (2004) "A Framework for Sustainable Port Security", *Journal of Homeland Security and Emergency Management*: Vol. 1: No. 2, Article 12.
26. J.R. van Dorp and S.Kotz (2003). "Generalizations of Two Sided Power Distributions and their Convolution", *Communications in Statistics: Theory and Methods*, Vol. 32 (9): pp. 1703 – 1723.
27. J.R. van Dorp and S. Kotz (2003). "Generalized Trapezoidal Distributions", *Metrika*, Vol. 58 (1): pp. 85-97.
28. J.R.W. Merrick, J.R. van Dorp, J.P. Blackford, G.L. Shaw, T.A. Mazzuchi and J.R. Harrald (2003). "A Traffic Density Analysis of Proposed Ferry Service Expansion in San Francisco Bay Using a Maritime Simulation Model", *Reliability Engineering and System Safety*, Vol. 81 (2): pp. 119-132.
29. J.R.W. Merrick, J. R. van Dorp, T. Mazzuchi, J. Harrald, J. Spahn and M. Grabowski (2002). "The Prince William Sound Risk Assessment". *Interfaces*, Vol. 32 (6): pp.25-40.

30. S. Kotz and J.R van Dorp (2002). "A Versatile Bivariate Distribution on a Bounded Domain: Another Look at the Product Moment Correlation", *Journal of Applied Statistics*, Vol. 29 (8): pp. 1165-1179.
31. J.R. van Dorp and S. Kotz (2002). "A Novel Extension of the Triangular Distribution and its Parameter Estimation", *The Statistician*, Vol. 51 (1): pp. 63-79.
32. J.R van Dorp and S. Kotz (2002). "The Standard Two Sided Power Distribution and its Properties: with Applications in Financial Engineering", *The American Statistician*, Vol. 56 (2): pp. 90-99.
33. J.R. van Dorp J.R.W. Merrick , J.R. Harrald, T.A. Mazzuchi, and M. Grabowski (2001). "A Risk Management procedure for the Washington State Ferries", *Journal of Risk Analysis*, Vol. 21 (1): pp. 127-142.
34. M. Grabowski, J.R.W. Merrick , J.R. Harrald, T.A. Mazzuchi, and J.R. van Dorp (2000). "Risk Modeling in Distributed, Large Scale Systems", *IEEE Transactions on Systems, Man, Cybernetics – PART A: Systems and Humans*, Vol. 30 (6): pp. 651-660.
35. J.R. van Dorp J.R.W. Merrick , J.R. Harrald, T.A. Mazzuchi, M. Grabowski, and J.E Spahn (2000). "A Systems approach to managing oil transportation risk in Prince William Sound", *Systems Engineering*, Vol 3: pp. 128-142.
36. J.R. van Dorp and T.A.Mazzuchi (2000). "Solving for the parameters of a Beta Distribution under two quantile constraints". *Journal of Statistical Computation and Simulation*, Vol. 67: pp. 189-201.
37. J.R. van Dorp and M.R. Duffey (1999). "Modeling Statistical Dependence in Risk Analysis for Project Networks". *International Journal of Production Economics*, Vol. 58: pp. 17-29.
38. M.R. Duffey and J.R. van Dorp (1999). "Risk Analysis for Large Engineering Projects: Modeling Cost Uncertainty for Ship Production Activities", *Journal of Engineering Valuation and Cost Analysis*, Vol. 2: pp. 285-301.
39. J.R. Harrald, T.A. Mazzuchi, J. E. Spahn, J.R. van Dorp J.R.W. Merrick, S. Shrestha, M. Grabowski (1998). "Using System Simulation to Model the Impact of Human Error in a Maritime Risk Assessment". *Safety Science*, Vol. 30, pp. 235-247.
40. J.R. van Dorp, T.A. Mazzuchi and R. Soyer (1997). "Sequential inference and decision making for single mission systems development", *Journal of Statistical Planning and Inference*, Vol. 62 (2): pp. 207-218.
41. J.R. van Dorp, T.A. Mazzuchi, Lt. Gen. G. E. Fornell and L.R. Pollock (1996). "A Bayes Approach to Step-Stress Accelerated Life Testing", *IEEE Transactions on Reliability*, Vol. 45 (3): pp. 491-498.

---

## Book

1. Samuel Kotz and Johan Rene van Dorp (2004). *Beyond Beta, Other Continuous Families of Distributions with Bounded Support and Applications*, World Scientific Press, Singapore, December, 2004.

---

## Book Chapters

1. J. René van Dorp, Thomas A. Mazzuchi, Jorge E. Garcidueñas (2007), "Comparing Accelerated Life Testing Designs Within A Single Bayesian Inferential Framework", To Appear in *Encyclopedia of Quality and Reliability*.

2. J.R. van Dorp and S. Kotz (2006). "Modeling Income Distributions Using Elevated Distributions", in *Distribution Models Theory*, Editors: Rafael Herrerias Pleguezuelo, Jose Callejon Cespedes, Jose Manuel Herrerias Velasco. World Scientific Press, Singapore. pp. 1-25.
3. J.R. van Dorp and T.A. Mazzuchi (2004), "Parameter Specification of The Beta Distribution and Its Dirichlet Extensions Utilizing Quantiles". *Handbook of Beta Distribution and Applications*, A.K. Gupta and S. Nadarajah, eds., Marcel Dekker. Inc, pp. 283-318.

### Conference Proceedings

---

1. J. René van Dorp (2009), On Some Elicitation Procedures for Distributions with Bounded Support – with Applications in PERT, *Risk and Decision Analysis in Maintenance Optimization and Flood Management*, M.J. Kallen and S.P. Kuniewski (Eds.) IOS Press, The Netherlands, pp. 21 - 34.
2. J. Rene van Dorp, T.A. Mazzuchi and Jorge E. Garcidueñas (2006), "A Comparison of Accelerated Life Testing Designs Within A Single Bayesian Inferential Framework", *2006 Reliability and Maintainability Symposium Proceedings*, New Port Beach, CA.
3. A.C. Sener and J. Rene van Dorp (2005), "Evolution of Technical and Economical Decision Making in Geothermal Energy Projects", *GRC Transactions*, Vol. 29, 475-481
4. J.R. W. Merrick, V. Dinesh, A. Singh, J. R. van Dorp, T.A. Mazzuchi (2003), "Propagation of Uncertainty in a Simulation-Based Maritime Risk Assessment Model Utilizing Bayesian Simulation Techniques", *Proceedings of the 2003 Winter Simulation Conference*. pp. 449-455.
5. J.R. van Dorp (2003), "A Distribution for Modeling Dependence Caused by Common Risk Factors", *ESREL Conference Proceedings*, pp. 551 - 558, Swets and Zeitlinger Publishers, Lisse, The Netherlands.
6. J.R. van Dorp & T.A. Mazzuchi (2003), "A General Bayes Weibull Inference Model for Accelerated Life Testing", *ESREL Conference Proceedings*, pp. 559 - 566, Swets and Zeitlinger Publishers, Lisse, The Netherlands.
7. P. S. Szwed and J.R. van Dorp (2002), "A Bayesian Model for Rare Event Risk Assessment Using Expert Judgment about Paired Scenario Comparisons", *ASEM National Conference Proceedings*, pp. 444-453.
8. J.R.W. Merrick , J.R. van Dorp, J.R. Harrald, T.A. Mazzuchi (2001) "Modeling risk in the dynamic environment of maritime transportation", *Proceedings of the 2001 Winter Simulation Conference*, pp. 1090 – 1099.
9. Wayne L. Andrews, Jr. and J. Rene van Dorp (2001), "An Oblique Approach to Nuclear Criticality Safety Using a Causal Sequence Model to Introduce Risk Interventions", *PVP-Vol. 417, Emerging Technologies: Advances Topics in Computational Mechanics and Risk Assessment*, Editors: D.R. Metzger, J. Tang, and Y. Urthaler, pp. 1 - 7.
10. Harrald, T.A. Mazzuchi, J.R.W. Merrick, John Spahn, J.R. van Dorp and M. Grabowski (2000). "Prince William Sound Risk Assessment: System Risk Analysis by Simulation and Expert Judgment". *Conference Proceedings 22 "Risk Management in the Marine Transportation System*, Transportation Research Board, National Research Council, pp. 65-72.
11. R. C. Waters, J. Deason and J.R. van Dorp (2000). "Technical Management: Key to Enterprise Success in the 21<sup>st</sup> Century", *proceedings 2000 ASEM National Conference*, October 4-7, 2000, Washington D.C.

12. J.R. Harrald, T.A. Mazzuchi, J.R.W. Merrick, J.R. van Dorp and M. Grabowski (1999). "Assessing Risk in the Washington State Ferry System". Proceedings, TIEMS' 99 Delft, Netherlands, pp. 427-437.
13. J.R. Harrald, T.A. Mazzuchi, J.R.W. Merrick, J.R. van Dorp and M. Grabowski (1999). "The Analysis of Alternative Escort Vessel Requirements in Prince William Sound". *Proceedings, 1999 International Oil Spill Conference, March*, pp. 403-407.
14. J.R. Harrald, T.A. Mazzuchi, J.R.W. Merrick, J.E. Spahn and J.R. van Dorp (1997). "Hidden assumptions and Misleading Data: Accounting for Human Error in Maritime Risk Assessment". *Proceedings 1997 of Maritime Operations: The Human Element Conference*.
15. J.R. Harrald, T.A. Mazzuchi, J.R.W. Merrick, J.E. Spahn and J.R. van Dorp (1997). "System Simulation: A Risk Management Tool for Prince William Sound", *Proceedings 1997 International Oil Spill Conference*, pp. 545-550.
16. J.R. Harrald, T.A. Mazzuchi, J.R.W. Merrick, J.E. Spahn and J.R. van Dorp (1997). "Using Simulation to Model the Impact of Human Error in Maritime Risk Assessment". *Proceedings 1997 Conference of the International Emergency Management Society (TIEMS)*, pp. 41-54.
17. T.A. Mazzuchi, R. Cooke, J.R. van Dorp, J.M. van Noortwijk and R. Dekker (1991). "The Elicitation and Use of Expert Judgment Elicitation for Maintenance Optimization", *The World Congress on Expert Systems proceedings, (J. Liebowitz, ed.)*, Pergamon Press, pp. 888-896.

## Technical Reports

---

1. J.R. van Dorp, J.R.W. Merrick (2009). *A Response to Seven Additional Questions Related to the Vessel Traffic Risk Assessment (VTRA) Project*, Submitted to BP, May, 20, 2009.
2. J.R. van Dorp, J.R.W. Merrick (2009). *An example risk management effectiveness analysis using a Maritime Transportation System (MTS) risk simulation tool developed for the maritime waters surrounding the San Juan Islands, Washington State.*, A Microsoft Power Point presentation, Submitted to BP, February, 23, 2009.
3. J.R. van Dorp, J.R.W. Merrick, J.R. Harrald and M. Grabowski (2009). *Explanation of BP Traffic Levels*, A Microsoft Power Point presentation, Submitted to BP, February, 23, 2009.
4. J.R. van Dorp, J.R.W. Merrick, J.R. Harrald and M. Grabowski (2009). *Final Report Addendum: Vessel Traffic Risk Assessment (VTRA), A response to 23 comments from the Corps*, Final Report Addendum, submitted to BP, January, 7, 2009.
5. J.R. van Dorp, J.R.W. Merrick, J.R. Harrald and M. Grabowski (2008). *Final Report: Vessel Traffic Risk Assessment (VTRA), An Assessment of Oil Spill Risk due to Potential Increased Vessel Traffic at Cherry Point, Washington*, Final Report submitted to BP, August, 31, 2008.
6. J.R. van Dorp, J.R.W. Merrick, J.R. Harrald, T.A. Mazzuchi, G.L. Shaw and J.P. Blackford (2002). *San Francisco Bay Exposure Assessment*, Final Report submitted to San Francisco Bay Water Transit Authority.
7. J.R. van Dorp and J.R.W. Merrick (2002). *Modified Prince William Sound Simulation*, Final Report submitted to RCAC (Regional Citizen Advisory Council, Alaska).
8. J.R. van Dorp, J.R.W. Merrick, J.R. Harrald and T.A. Mazzuchi (1999). *The Washington State Ferry Risk Assessment*, Final Report submitted to Blue Ribbon Panel on Washington State Ferry Safety, submitted to Washington State Transportation Commission.
9. J.R. van Dorp (1997). *A General Bayesian Inference Model for Accelerated Life Testing*, Dissertation, The George Washington University, Washington, D.C.

10. J.R. Harrald, T.A. Mazzuchi, J. R.W. Merrick, J.R. van Dorp , S. K. Shrestha, J.E. Spahn and M. Grabowski (1996). *Prince William Sound Risk Assessment*, Final Report submitted to ADEC, APSC/SERVS, PWS Regional Citizens Advisory Council, US Coast Guard, PWS Shipping Companies.
11. J.R. Harrald, T.A. Mazuchi, J.R. van Dorp and J.E. Spahn (1996). *U.S. Coast Guard, Port and Waterway Risk Assessment Guide*, The George Washington University & Institute for Crisis and Disaster Management.
12. M. Grabowski, J.R. Harrald, T.A. Mazzuchi, J.R. van Dorp and J.E Spahn (1995). *Evaluating and Monitoring Port and Waterway Risk for the Lower Mississippi River*, PHASE II report submitted to the board of commissioners of the Port of New Orleans, Washington D.C.
13. M.R. Duffey, J.R. van Dorp, L.K. Ruderapatna, P.Felix (1994). *Project Risk Analysis for Ship Production*, Final Report for research funded by ARPA grant of December 1991, "Design of the Virtual Shipyard", project No. DTMA 91-94-H-00034.
14. M.A. Piers, M.P. Loog, M.K.H. Giesberts, J.R. van Dorp and M.J.H. Couwenberg (1993). *Analysis of external safety around Schiphol International Airport* (in Dutch), Contract Report National Aerospace Laboratory (CR 93485 L), Amsterdam.
15. J.R. van Dorp (1993). *Confidence limits for Individual Risk and Societal Risk around Schiphol International Airport*, Internal Report National Aerospace Laboratory (IW93022), Amsterdam.
16. J.R. van Dorp (1993). *Track extensions for Noise calculations* (in Dutch), Internal Report National Aerospace Laboratory (IW93021), Amsterdam.
17. J.R. van Dorp and T.A. Mazzuchi, R. Dekker, R. Cooke (1992). "A Framework for Eliciting Lifetime Distributions from Maintenance Engineers", Working paper, *Institute for Reliability and Risk Analysis*, The George Washington University, Washington D.C.
18. J.R. van Dorp (1991). *Dependence Modeling for Uncertainty Analysis*, Internal report TU Delft (Thesis Registered Technological Designer two year post-graduate program) , Delft, The Netherlands.
19. J.R. van Dorp (1989). *Expert Opinion and Maintenance Data to Determine Lifetime Distributions*, Internal report TU Delft (Masters Graduation Thesis), Delft., The Netherlands.

## Software Development

---

1. J.R. van Dorp and J.R.W. Merrick (2008). "Vessel Traffic Risk Simulation Maritime Simulation Model", funded by BP, used by the Army Corps of Engineers.
2. J.R. van Dorp and J.R.W. Merrick (2002). "San Francisco Bay Maritime Simulation Model", used by San Francisco Bay Water Transit Authority.
3. J.R. van Dorp and J.R.W. Merrick (1999). "Washington State Ferry Risk Analysis Decision Support Tool", used by the Washington State Transportation Commission.
4. J.R. van Dorp, J.R.W. Merrick and J.E. Spahn (1996). "Prince William Sound Risk Analysis Decision Support Tool", used by the Prince William Sound Risk Assessment Steering Committee (ADEC, APSC/SERVS, PWS Regional Citizens Advisory Council, US Coast Guard, PWS Shipping Companies).
5. J.R. van Dorp (1996). "\$MART 1.4, Step-stress Model for Accelerated Reliability Testing", used by USAF and Contractors, Patent Pending.

6. J.R. van Dorp (1995). "GRASP 1.0, General Risk Assessment for Sizable Projects", used by the George Washington University.
7. R.M. Cooke, J.R. van Dorp and V. Kritchallo (1994), "UNICORN, UNcertainty analysIs with CORrelatioNs", published by AEA Technology for the European Safety and Reliability Association, used by the Delft University of Technology.

### Invited Talks/Seminars

---

1. "Generalized Diagonal Band Copulas with Two-Sided Generating Densities", Presented at Distribution Theory Workshop at University of Granada, Spain, September 9, 2010.
2. "Generalized Diagonal Band Copulas with Two-Sided Generating Densities", Presented at VIII Seminario ASEPELT sobre Modelos de Generación de Distribuciones Almería, 10 y 11 de septiembre de 2009.
3. "On Some Elicitation Procedures for Distributions with Bounded Support – with Applications in PERT", a symposium in remembrance of Jan M. van Noortwijk (1961 – 2008), November 24, 2009 Delft, the Netherlands.
4. "Development of a Comprehensive Vessel Traffic Risk Management Tool", 2009 Strathclyde University Seminar Series, Glasgow, May 2009.
5. "Development of a Comprehensive Vessel Traffic Risk Management Tool", 2008 National Harbor Safety Conference, Seattle, May 2008.
2. "A Novel Asymmetric Distribution with Power Tails", Statistics Department Seminar at American University, Washington D.C., April 2007.
3. "A Bayesian Paired Comparison Approach for Relative Accident Probability Assessment with Covariate Information", Presented at the Society for Risk Analysis Conference in Baltimore, December 2006.
4. "Two-Sided Generalized Topp and Leone (TS-GTL) distributions", Invited speaker at COMSTAT 2006 Conference, University of Rome, "La Sapienza, Rome, Italy, August 2006.
5. "A Traffic Density Analysis of Proposed Ferry Service Expansion in San Francisco Bay Utilizing Maritime Simulation", Reliability Engineering Seminar, Mechanical Engineering Department, University of Maryland Colloquium, April 2006.
6. "A Comparison of Accelerated Life Testing Designs Within A Single Bayesian Inferential Framework", *2006 Reliability and Maintainability Symposium Proceedings*, New Port Beach, CA., January 2006.
7. "Beyond Beta, Other Continuous Families of Distributions with Bounded Support and Applications", V Seminario Asepelt, Modelos de Generacion de Distribuciones. Propiedades y Aplicaciones, University of Granada, Spain, September, 2005.
8. "The Doubly-Pareto Uniform Distribution, with Applications in Uncertainty Analysis and Econometrics", International Mediterranean Congress of Mathematics 2005, University of Almeria, Spain, June, 2005.
9. "Beyond Beta, Other Continuous Families of Distributions with Bounded Support and Applications", Invited by the Editor-in-Chief N. Balakrishnan of the journal *Communications and Statistics* to attend a Workshop on Distribution Theory at Bowling Green State University in Ohio, April 2005. Other invitees were:

Barry Arnold (Univ. of California, Riverside),  
Ram Tripathi (Univ. of Texas, San Antonio)

John Nolan (American University, DC)  
T. Kozubowski (Univ. of Nevada, Reno)  
G.S. Mudholkar (Univ. of Rochester, Rochester, NY)  
Felix Famoye (Central Michigan University, MI)  
Arjun Gupta (Bowling Green State University, OH)

9. "Propagation of Uncertainty in a Maritime Risk Assessment Model utilizing Bayesian Simulation and Expert Judgment Aggregation Techniques", Rutgers University, Industrial and Systems Engineering Department Colloquium, September, 2004.
10. "A Traffic Density Analysis of Proposed Ferry Service Expansion in San Francisco Bay Utilizing Maritime Simulation", Rutgers University informal presentation session in Industrial and Systems Engineering Department, August, 2004.
11. "A Bayesian Paired Comparison Approach for Relative Accident Probability Assessment with Covariate Information", Student Symposium at the Delft University of Technology, The Netherlands, November, 2003.
12. "Managing Port Safety and Security Risk Using Dynamic Simulation" 2003 Institute for Defense and Homeland Security Research Summit, June 25, Ronald Reagan Building Washington, DC., <http://www.idhs.org/summit/topics.html> , July, 2003.
13. "A Traffic Density Analysis of Proposed Ferry Service Expansion in San Francisco Bay Utilizing Maritime Simulation", GWU Informs Student Chapter, February, 2003.
14. "A Systems Approach Towards Risk Intervention Prioritization in the Maritime Environment" NATO Advanced Research Workshop (Moscow, Russia), February, 2002.
15. "Risk Analysis & Risk Management", Aviation Safety Certificate Program, The George Washington University, November, 2000.
16. "A Systems Approach towards Risk Intervention Prioritization in the Maritime Environment" Maritime Operations: The Human Element, The Fifth Annual Conference on the Ship's Most Important Safety and Anti-Pollution System, Risk Assessment Experience and Studies, Washington D.C., May, 2000.
17. "A Systems Approach towards Risk Intervention Prioritization", Disaster & Risk Management Workshop, Bogazici University, Istanbul, Turkey, December, 1999.
18. "The Washington State Ferry Risk Assessment", US Coast Guard Headquarters – MSE 1 Division, Washington, D.C., November, 1999.

### Conference Presentations

---

1. "A Bayesian Expert Judgment based Maritime Accident Probability Model", 2010, Informs Conference, Austin, TX, November 7 – November 10, 2010.
2. "An oil outflow model for tanker collisions and groundings", 2009, Risk Analysis Conference in Baltimore, MD, December 9, 2009.
3. "Development of a Comprehensive Vessel Traffic Risk Management Tool", 2008, Risk Analysis Conference, Boston, December 2008.
4. "Assessing Uncertainty in Simulation Based Maritime Risk Assessment", 2003 INFORMS Conference in Atlanta Georgia, October, 2003.
5. "A Bayesian Paired Comparison Approach for Relative Accident Probability Assessment with Covariate Information", INFORMS Conference, Atlanta, Georgia, 2003.

6. "A Distribution for Modeling Dependence Caused by Common Risk Factors", *European Safety and Reliability Conference*, Maastricht, The Netherlands, 2003.
7. "A General Bayes Weibull Inference Model for Accelerated Life Testing", *European Safety and Reliability Conference*, Maastricht, The Netherlands, 2003.
8. "Modeling risk in the dynamic environment of maritime transportation" INFORMS Winter Simulation Conference, Washington, DC, 2001.
9. "A Systematic Approach Towards Risk Intervention Prioritization", EURO Conference, Rotterdam, The Netherlands, 2001.
10. "A Systems Approach towards Risk Intervention Prioritization in the Maritime Environment", Risk Analysis Conference, Arlington VA, 2000.
11. "A General Exponential Inference Model for Accelerated Life Testing", INFORMS Conference, Philadelphia, 1999.
12. "Risk Based Bidding in Project Management", INFORMS Conference, Dallas Texas, 1997.
13. "A General Bayesian Model for Accelerated Life Testing", INFORMS Conference, Dallas Texas, 1997.
14. "A Framework for Eliciting Lifetime Distributions from Engineers", INFORMS Conference, 1996.
15. "Small Sample Accelerated Reliability Testing", NATO ASI Conference: Reliability and Maintenance of Complex Systems, Antalya-Turkey, 1995.
16. "Optimal Stopping in Reliability Growth Testing", The 45-th NBER-NSF Seminar on Bayesian Inference in Econometrics and Statistics, Duke University, North Carolina, 1992.

### Graduate Theses Supervised

---

**Current:** 6 D.Sc. Students – Marc Greenberg, J.P. Blackford, Leon Adams, Mohamed Ali E. Ahmed, Patrick Murphy, Phil Schrader.

**Graduated:** 4 D.Sc. Students

1. Adil Caner Sener, *Uncertainty Analysis of Geothermal Energy Economics*, June, 2007.
2. Amita Singh, *A Novel Asymmetric Distribution with Power Tails*, May, 2007.
3. Lauren Schiff-Fernandez, *Volunteer Management System Design and Analysis for Disaster Response and Recovery*, March 2007.
4. Paul Szwed *A Bayesian Model for Risk Assessment using Expert Judgments about Paired Scenario Comparisons*, August 2002.
5. Noraida Abdul Ghani, *The Strategic Location and Allocation of Emergency Medical Services Vehicles Under Uncertainty*, September 2002.

**Graduated:** 1 M.Sc. Student

1. Marc Greenberg "An Activity Network Simulation Approach for Estimating Production Schedule of a Convertible Containership", April 1998.

### Teaching

---

EMSE 234 - Management of Risk and Vulnerability for Natural and Technological Hazards (Graduate)

EMSE 269 - Elements of Decision Making and Problem Solving (Graduate).

EMSE 271 - Data Analysis for Engineers and Scientists (Undergraduate/Graduate)  
EMSE 273 - Discrete System Simulation (Undergraduate/Graduate)  
EMSE 282 - Quality Control and Acceptance Sampling (Undergraduate/Graduate)  
EMSE 388 - Quantitative Methods in Cost Engineering (Graduate)  
EMSE 292 – Investment Science (Graduate)

### Professional Activities

---

Membership	The International Honor Society Omega Rho (OMEGA RHO), INFORMS, AMSTAT.
Editorial Board	INFORMS Decision Analysis Journal, since January 2011.
Journal Referee	Journal Applied Stochastic Models in Business and Industry, Decision Analysis Journal, European Journal of Operations Research, Test, International Statistical Review, International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, Statistical Methods and Applications, Journal of Multivariate Analysis, Metrika, Communication in Statistics, Journal of Statistical Planning and Inference, IEEE Transactions on Reliability, Risk Analysis, Natural Hazards Review, Journal of Homeland Security and Emergency Management.
Proposal Reviewer	NSF Proposal Review Panel “Hazard Mitigation and Response”. Program Director: Miriam Heller.
Other	Deputy Technical Program Chair, American Society for Engineering Management 2000 National Conference, October 4 – 7, Washington D.C., 2000. Coordinated paper review process and final publication of the proceeding both in paper and electronically (CD) form.  Convener, Science Engineering and Apprentice Program, 2001, 2002, 2003.