

ELMIRA POPOVA

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EDUCATION:

Case Western Reserve University, Operations Research, Ph.D., 1995.

University of Sofia, Bulgaria, Mathematics, MS, 1985.

ACADEMIC POSITIONS:

The University of Texas at Austin, Associate Professor, 2004 – now.

The University of Texas at Austin, Assistant Professor, 1995 – 2004

(on leave May 2000 – May 2002).

Wake Forest University and Eaton Corporation, Research Associate, 1995.

Case Western Reserve University, Teaching and Research Assistant, 1992 – 1994.

Case Western Reserve University, Instructor, Upward Bound Program for Minority Students, 1992.

Technical University, Rousse, Bulgaria, Senior Lecturer of Mathematics, 1989 – 1991.

Technical University, Rousse, Bulgaria, Lecturer of Mathematics, 1985 – 1987.

OTHER PROFESSIONAL EXPERIENCE:

Computer Sciences Corporation, Financial Division, Consultant, 2007-now.

Air Force High Performance Computing Center, Maui, HI, Statistics Consultant, August, 2006.

South Texas Project Nuclear Operating Company, Consultant, 2006.

Deutsche Bank Asset Management, Global Research Center, Consultant, Quantitative Trading, 2001 – 2002.

Lehman Brothers, Quantitative Strategist, Derivatives Analytics, 2000 – 2001.

PUBLICATIONS:

Refereed Archival Journals

- P.P. Balestrassi, E. Popova, A.P. Paiva, J.W. Marangon, "Design of Experiments on Neural Network's Simulation for Nonlinear Time Series Forecasting," in print, *Journal of Neurocomputing*, 2008.
- B. Dimova, J. W. Barnes, E. Popova, "Some additional properties of elementary landscapes," *Applied Mathematics Letters*, in print, 2008.
- Popova I., Popova E. and E. George, "Bayesian forecasting of prepayment rates for individual pools of mortgage," *Bayesian Analysis*, Vol. 3, No. 1, pp. 1-34, 2008.
- Popova I., Morton D., Popova E., Yao J., "Optimizing benchmark-based portfolios with hedge funds", *Journal of Alternative Investments*, vol. 10, no. 1, pp. 35-55, 2007.
- Damien P., Galenko A., Popova E., Hanson T., "Bayesian semiparametric analysis for a single item maintenance optimization," *European Journal of Operational Research*, Vol. 182, pp. 794-805, 2007.
- Popova E., Yu W., Kee E., Sun A., Richards D., Grantom R., "Basic factors to forecast maintenance cost and failure processes for nuclear power plants," *Nuclear Engineering and Design*, Vol. 236, pp. 1641-1647, 2006.
- Dimova B., Barnes J.W., Popova E., "The characteristic landscape equation for an AR(2) landscape," *Applied Mathematics Letters*, Vol. 19, pp. 260-266, 2006.
- Morton D., Popova E., Popova I, "Efficient fund of hedge funds construction under downside risk measures," *Journal of Banking and Finance*, Vol. 30, pp. 503-518, 2006.
- Dimova B. Barnes JW, Popova E., "Arbitrary elementary landscapes and AR(1) processes," *Applied Mathematics Letters*, Vol. 18, pp. 287-292, 2005.
- Popova, E., "Basic optimality results for Bayesian group replacement policies", *Operations Research Letters*, 32, pp.283 – 288, 2004.
- Morton, D. and E. Popova, "A Bayesian stochastic programming approach to an employee scheduling problem", *IIE Transactions of Operations Engineering*, 36, pp. 155 – 167, 2004.
- D.P. Morton, E. Popova, I. Popova and M. Zhong, "Optimizing benchmark-based utility functions", *Bulletin of the Czech Econometric Society*, Volume 10, Issue 18, pp. 1-18, 2003.
- Chen T. and E. Popova, "Response to the letter written by N. Jack, D.N.P. Murthy, and B. P. Iskandar", *Reliability Engineering and System Safety*, 82, 111, 2003.
- Chen, T. and E. Popova, "Maintenance policies with two – dimensional warranty", *Reliability Engineering and System Safety*, 77, 61 – 69, 2002.
- Chen, T-M and E. Popova, "Bayesian maintenance policies during a warranty period", *Communications in Statistics: Stochastic Models*, Vol. 16, No. 1, 121 – 142, 2000.

- Popova, E. and J. G. Wilson, "Adaptive time dynamic model for production volume prediction", *International Journal for Production Research*, Vol. 38, No. 13, 3111 – 3130, 2000.
- Popova, E. and J. G. Wilson, "Group replacement policies for parallel systems whose components have phase distributed failure times", *Annals of Operations Research*, Volume on Reliability and Maintenance in Production Control, Sinuani – Stern (eds.), 91, 163 – 189, 1999.
- Popova, E. and H. – C. Wu, "Renewal reward processes with fuzzy rewards and their applications to T–age replacement policies", *European Journal of Operational Research*, Vol. 117, No. 3, 606 – 617, 1999.
- Wu, D. – Y, R.D. Matthews, E. Popova, and C. Mock, "The Texas project part 4 – final results: emissions and fuel economy of CNG and LPG conversions of light– duty vehicles", *Journal of Fuels and Lubricants*, Section 4, Vol. 107, 928 – 950, 1998.
- Wilson, J. G. and E. Popova, "Adaptive replacement policies for a system of parallel machines", N. P. Jewell et. al. (eds.), *Lifetime Data: Models in Reliability and Survival Analysis*, Kluwer Academic Publishers, 371 – 375, 1996.

Book Chapters

- Popova E., Popova I., "Replacement strategies," in *Encyclopedia of Statistics in Quality and Reliability*, edited by Ruggeri F., Faltin F., Kenett R., John Wiley & Sons, Ltd., Chichester, UK, pp. 1647-1653, 2008.
- Morton, D. and E. Popova, "Monte Carlo simulations for stochastic optimization", *Encyclopedia of Optimization*, C. A. Floudas and P. M. Pardalos (eds.), Vol. III, 439 – 447, Kluwer Academic Publishers, 2001.

Refereed Conference Proceedings

- Singh I., Popova E. and E. Kee, "Optimal preventive maintenance policy under a budget constraint," ICONE16, Orlando, FL, Proceedings Of The 16th International Conference On Nuclear Engineering,, May 2008.
- Koc A., Morton D., Popova E., Hess S. Kee E. and D. Richards, "Optimizing project prioritization under budget uncertainty," ICONE16, Orlando, FL, Proceedings Of The 16th International Conference On Nuclear Engineering, May 2008.
- Morton, David P., Dimitrov, Nedialko, Gonzalez, Marc A., Michalopoulos, Dennis P., Nehme, Michael, Popova, Elmira, Schneider, Erich A., Thoreson, Greg, "Interdiction Modeling for Smuggled Nuclear Material ," Proceedings Of The 49th Annual Meeting Of The Institute Of Nuclear Materials Management, July 2008.

- Koc A., Morton D., Popova E., Kee E., Richards D., Sun A., Hess S., "Project prioritization via optimization", Proceedings of PVP 2007/CREEP 8 ASME PVP 2007/CREEP 8 Conference, July 22-26, 2007, San Antonio, USA.
- Kee E., Moiseytseva V., Galenko A., Morton D., Popova E., "Incorporation of unit 1 inspection results on the STP reactor vessel head nuclear asset management analysis", Proceedings of PVP 2007/CREEP 8 ASME PVP 2007/CREEP 8 Conference, July 22-26, 2007, San Antonio, USA.
- Ernie Kee, Nathan Corrick, Dennis Klockentager, Elmira Popova, Jack Howell, "Accumulator Flow Rate Using Accumulator Gas Pressure for Non-Intrusive Discharge Check Valve Full Open Exercise Stroke Testing," Ninth NRC/ASME Symposium On Valves, Pumps, and In-service Testing, Washington, DC, published by NRC, NUREG/CP-0512, July 2006, Vol. 6.
- Galenko, E. Popova, E. Kee, R. Grantom, "Optimal preventive maintenance under decision dependent uncertainty," 14th International Conference on Nuclear Engineering, Miami, FL, 07/2006.
- Kee E., Sun A., Rogers S., Popova E., Nelson P., Moiseytseva V., Wang E., "A Method to Quantify Plant Availability and Initiating Event Frequency Using a Large Event Tree, Small Fault Tree Model," 14th International Conference on Nuclear Engineering, Miami, FL, 07/2006.
- A. Sun, E.Kee, W.Yu, E.Popova, R.Grantom, D.Richards, "Application of CROW-AMSAA analysis to nuclear power plant equipment performance", Proceedings Of The 13th International Conference On Nuclear Engineering, 13th International Conference On Nuclear Engineering, May 2005
- Wei Yu, E. Popova, E. Kee, A. Sun, and R. Grantom, "Basic factors to forecast maintenance cost for nuclear power plants", Proceedings Of 13th International Conference On Nuclear Engineering, 13th International Conference On Nuclear Engineering, Beijing, China, May 16-20, 2005
- A. Galenko, D. Morton, E. Popova, E. Kee, R. Grantom, A. Sun, "Operational level models and methods for risk informed nuclear asset management", In Proceedings Of The American Nuclear Society International Topical Meeting On Probabilistic Safety Assessment, American Nuclear Society International Topical Meeting On Probabilistic Safety Assessment, 2005
- A. Sun, E.Kee, W.Yu, E.Popova, R.Grantom, D.Richards, "Application of CROW-AMSAA analysis to nuclear power plant equipment performance", Proceedings Of The 13th International Conference On Nuclear Engineering, 13th International Conference On Nuclear Engineering, May 2005
- Wei Yu, E. Popova, E. Kee, A. Sun, and R. Grantom, "Basic factors to forecast maintenance cost for nuclear power plants", Proceedings Of 13th International Conference On Nuclear Engineering, 13th International Conference On Nuclear Engineering, Beijing, China, May 16-20, 2005

- Wei Yu, E. Popova, E. Kee, A. Sun, "Equipment data development case study - Bayesian Weibull analysis", Conference Proceedings, Editor: Thomas J. Winn, Jr., South Central SAS Users Group 14th Annual Conference, p. 408-450, November 2004, Austin, TX,
- Popova, E. and D. Morton, "Adaptive stochastic manpower scheduling", *Proceedings of the 1998 Winter Simulation Conference*, D. J. Medeiros et al. (eds.), 661 – 668, 1998.
- Wilson, J. G. and E. Popova, "Bayesian approaches to maintenance intervention", *Proceedings of the Section on Bayesian Science of the American Statistical Association*, 244 – 248, 1996.
- Popova, E. and J. G. Wilson, "Selecting and Implementing the Best Group Replacement Policy for a Non Markovian System", *Proceedings of the International Conference on Probabilistic Safety Assessment and Management*, Crete, 1996, Carlo Cacciabue et al. (eds.), Springer– Verlag, Vol. 1, 58 – 63, 1996.
- Popova, E. and J. G. Wilson, "Minimum Cost Maintenance Policies For Parallel Machines Each With Different Failure Time Distributions And Cost Parameters", *Proceedings of the Information Systems and Quantitative Methods*, 30th Annual Meeting of the Midwest Business Administration Association, Chicago, 214 – 223, 1994.

Non-refereed Conference Proceedings

- Galenko A., Popova E., Morton D., Damien P., Kee E., "Reducing Cost and Increasing Reliability at Nuclear Power Plants", NSF-CMMI Grantees Conference, Knoxville, TN, 01/2008.
- Galenko A., Popova E., Morton D., Damien P., Kee E., "Optimal Replacement Schedule for a System of N Items Under Finite Horizon and Stochastic Dependencies," NSF-DMII Grantees Conference, St. Louis, MO, 07/2006.
- Morton, D.P., Pan, F., Papageorgiou, D., and Popova, E, "Stochastic Network Interdiction of Nuclear Material Smuggling", Proceedings of the NSF Design, Service and Manufacturing Grantees Conference, 2005
- Morton, D.P., Pan, F., Papageorgiou, D., and Popova, E, "Stochastic Network Interdiction of Nuclear Material Smuggling", Proceedings of the Design, Service and Manufacturing Grantees Conference, 2005

Papers under review

- P.P. Balestrassi, L.F. Barca and E. Popova, "Long's Anthropometry Corporation : Exploring Gage R&R in a Six Sigma context ," under second revision *Journal of Applied Statistics*.
- Galenko A., Popova E. and I. Popova, "Investment Decisions in the Presence of Long Term Dependencies", *Review of Quantitative Finance and Accounting*.

Amaral M.R.S., Lima M. and E. Popova, "Semi-parametric estimation of cointegrated VARMAX models: a combined maximum likelihood and subspace methods approach", *Journal of Time Series Analysis*.

Nanzer J.A., Popova E. and R.L. Rogers, "Real time detection of self-luminous objects using total power and correlation radiometry", submitted, 2008.

STUDENTS SUPERVISION

Ph. D. Supervisions, Chair

Alexander Galenko, Operations Research and Industrial Engineering, "Modeling stochastic dependencies and their impact on optimal decision making", in progress, expected graduation December 2008.

Inderjeet Singh, Operations Research and Industrial Engineering, in progress.

Dmitriy Belyi, Operations Research and Industrial Engineering, in progress.

Ali Koc, Operations Research and Industrial Engineering, in progress. co-supervised with David Morton.

Boryana Dimova, Operations Research and Industrial Engineering, "Characterizing Neighborhoods Favorable To Local Search Techniques", Ph.D. in Operations Research and Industrial Engineering, 2004.

Ta – Mou Chen, "Maintenance Policies under Warranty Period – From a Statistical Point of View", Ph.D. in Operations Research and Industrial Engineering, 1998.

Hsien – Chung Wu, "Bayesian Reliability Analysis under Fuzzy Environment", Ph.D. in Operations Research and Industrial Engineering, 1997.

M.S. Supervisions, Chair

Venkataraman, Srinivasan, Operations Research and Industrial Engineering, Spring 2008

"Volatility Estimation For High Frequency Stock Prices During Market Closing "

Degwekar, Sachin Pradeep, Operations Research and Industrial Engineering, August 2008

"Solving a Multi-Period Asset-Liability Management Problem Using Multi-Stage Stochastic Programming", Co-supervised with Leon Lasdon.

Christopher Mark Smith, Spring 2007, Operations Research & Industrial Engineering, "The Learning of Probability".

Alexander Galenko, Spring 2006, "Operational Models and Methods for Risk-informed Nuclear Asset Management", Operations Research and Industrial Engineering.

Xiaobin Wang, Summer 2006, "Short-Term Load Forecasting For Industrial Customers Using Time Series Methods", Statistics.

Patrick J. Munson, Spring 2005, "Random Variate Generation For Bayesian Nonparametric Reliability Analysis", Operations Research and Industrial Engineering.

Mariano Mezzatesta, Fall 2004, "The Markowitz Mean-Variance Portfolio Model And Beyond", Operations Research and Industrial Engineering.

Wei Yu, "Bayesian modeling of failure data", Statistics and Actuarial Sciences, 2004.

Anubhav Jain, Fall 2004, "Risk Analysis Of Steel Production Risers For Deepwater Offshore Facilities"

Tao Shu, "Order Flow and Stochastic Clock of Asset Returns", Statistics and Actuarial Sciences, 2003.

Fuad Hamza, "A Comparison of Two Methods of Safety Stock Calculation", Operations Research and Industrial Engineering, 2002.

Laura Diane Pacher, "A Survey of Bayesian Classification Methods", Operations Research and Industrial Engineering, 1999.

Richard Eddie White, "The Effect of Early Lot Release in a Manufacturing System with a Severe Disruption", Operations Research and Industrial Engineering, 1999.

Ali Abbas Bokhari, "Design of Electronic Circuit Card Manufacturing Line Using Event Simulation", Manufacturing Engineering, 1998.

Ph.D. Committees, Member

Amit Partani, Operations Research & Industrial Engineering, Ph.D. Committee Member.

Burak Buke, Operations Research & Industrial Engineering, Ph.D. Committee Member.

Daniel Howard Bauer, Operations Research & Industrial Engineering, Ph.D. Committee Member (in progress).

Dennis P. Michalopoulos, Operations Research & Industrial Engineering, Ph.D. Committee Member (in progress).

Hyung Joo Lee, Chemical Engineering, Ph.D. Committee Member (in progress).

Kranthi M Adusumilli, Operations Research & Industrial Engineering, Ph.D. Committee Member (in progress).

Marcelo Menna Azambuja, Civil Engineering, Ph.D. Committee Member (in progress).

Stewart A. Vaculik, Mechanical Engineering, Ph.D. Committee Member (in progress).

Yang Zhang, Chemical Engineering, Ph.D. Committee Member (in progress).

Balaji Sampath, Operations Research & Industrial Engineering, Ph.D. Committee Member, 2007.

Bishwarup Mondal, ComNets and Systems, "Grassmann Quantization For Precoded Mimo Systems", Ph.D. Committee Member.

Yang-Chi, Operations Research & Industrial Engineering, Ph.D. Committee Member, 2007.

Kaye McKinzie, Operations Research and Industrial Engineering.

Hee Sung Cha, Civil Engineering.

John M. Harwig, Operations Research and Industrial Engineering.

Feng Pan, "Models and Methods for Stochastic Networks Interdiction", Operations Research and Industrial Engineering.

Joon Woo Kim, "Soft Security: Building Trust in Agent Societies", Electrical and Computer Engineering".

Jerry Joseph Caples, "Variance Reduction Techniques in Dual System Estimation", Management Science.

Donna Korycinski, "Investigating the use of tabu search to find near-optimal solutions in multiclassifier systems", Operations Research and Industrial Engineering, 2003.

Anukul Chiralaksanakul, "Monte Carlo Methods For Multi-Stage Stochastic Programs", Operations Research and Industrial Engineering, 2003.

Joseph Troy Morgan, "Adaptive Hierarchical Classification with Limited Training Data", Operations Research and Industrial Engineering, 2002.

Matthew Stafford, "Online Searching and Connection Cashing", Operations Research and Industrial Engineering, 2000.

Lisa Rene Vickers, "Characterization of the Neutron Beam in the Building 12-56 Neutron Radiography facility at the US Department of Energy Pantex Plant", Nuclear Engineering, 1999.

Christina Y. Chen Hong, "Mean and Variance of Cycle Time in Semiconductor Manufacturing", Operations Research and Industrial Engineering, 1999.

Elizabeth Blum Campbell, "Analysis of Manufacturing Systems with Wait-Dependent Service Times", Operations Research and Industrial Engineering, 1999.

Bruce William Colletti, "Vehicle Routing Using Group Theoretic Tabu Search", Operations Research and Industrial Engineering, 1999.

Kim Anne Menezes, "Bayesian Spatial Modeling", Management Science, 1999.

Astrid Sandrine Leuba, "Algorithms and Applications in Stochastic Programming", Operations Research and Industrial Engineering, 1998.

Linghua Peng, "Normalizing Constant Estimation in Monte Carlo Simulation", Management Science, 1998.

Myunghee Jung, "Contextual Simulation of Landscape Based on Remotely Sensed Data", Operations Research and Industrial Engineering, 1997.

Wei– Jung Juang, "Unsupervised Image Classification Using Multiresolution Wavelet Decomposition and Markov Models", Operations Research and Industrial Engineering, 1996.

MS Committees, Member

John Newton Whilden, Operations Research & Industrial Engineering, Spring 2007, "Design of Experiment Within Army Testing".

Lin Tao, Operations Research & Industrial Engineering, Spring 2007, "Profit Analysis on Different Common Types Of Annuities".

Leo Kwong, Statistics, Summer 2006, "Value at Risk Estimation Using Markov Chain Monte Carlo"

Bruce Andrew Logan, "Queuing Network Applications for Microsoft Excel", Manufacturing Engineering, 1998.

Vinod Kumar Sitaraman, "Reduction in Variance of Mean Cycle Time of Wafers in Semi – Conductor Manufacture", Operations Research and Industrial Engineering, 1996

Undergraduate Senior Project Advisor

Mark Boomgaarden, Maria Herrera, and Craig Price, "Design of Experiments for Active Suspension with Human Interface in Off – Road Vehicles", Spring 1998.

Reagan Evans, Mark Hunter, and Stuart Weikel, "Design and Implementation of an Experiment to Isolate Variation in the Optical Assembly of Applied Materials' Centura Orienter Module", Spring 1997.

UNIVERSITY COMMITTEES:

Member, The University of Texas at Austin Graduate Assembly, 2006 – present.

Member, Graduate Assembly Academic Committee, UT Austin, 2006 - present.

Member, Outstanding graduate advisor award committee, UT Austin, 2006-2007.

Member, Outstanding graduate teaching award committee, UT Austin, 2006-2007.

Member, University Standing Committee on Parking and Traffic Appeals, 2002 – 2006.

Member, The University of Texas at Austin Faculty Council, 1999 – 2003.

Member, The University of Texas at Austin Faculty Council, General Faculty Rules Committee, 1999 – 2000.

Member, Graduate Studies Committee, Graduate Program in Operations Research and Industrial Engineering, 1995 – now.

Member, Graduate Studies Committee, Graduate Program in Statistics, 1998 – now.

Member, Graduate Studies Committee, ICES, 2006 - present.

COCKRELL SCHOOL OF ENGINEERING COMMITTEES:

Member, Women in Engineering, 2007 – present.

Member, College of Engineering Committee to write a proposal for establishment of Center for Manufacturing Research, 1996 – 1997.

DEPARTMENT COMMITTEES:

Member, Awards committee, Mechanical Engineering, 2006-present.

Graduate recruiter for the OR/IE programs, 2002 – 2003, 2006 - present.

Member, Energy recruitment committee, 2007 – present.

Member, HSIMS (Human Scale Intelligent Mechanical Systems) committee, 2007 – present.

Faculty mentor for Mechanical Engineering undergraduate students, 2002 – 2003.

Member, Senior breakfast committee, 1995 – 1998.

Member, Department of Mechanical Engineering Committee to write a proposal for new Manufacturing and Decision Systems Engineering Graduate Program, 2001.

NATIONAL COMMITTEES:

Member, Committee to select the best paper for the year 2001 for *IIE Transactions*.

Chair, Committee to select the best paper for the year 2002 for *IIE Transactions*.

Member, Austin Local Chapter Executive Committee, American Statistical Association, 2006 - 2007.

HONORS AND AWARDS:

Fulbright Scholar, 2008.

Halliburton/Brown & Root Young Faculty Excellence Award (teaching and research), College of Engineering, The University of Texas at Austin, 1999.

Department of Mechanical Engineering nominee for the College of Engineering young faculty teaching award, 1997, 1998.

DSI Doctoral Colloquium, Honolulu, Hawaii, November 1994.

ORSA/TIMS Doctoral Colloquium, Phoenix, Arizona, November 1993.

Bulgarian National Mathematics Olympiads, 1980, ranked in the top 10.

GRANTS AND CONTRACTS:

NSF/DNDO, "ARI-MA: Interdicting Smuggled Nuclear Material", with D. Morton and E. Schneider, \$1,902,923, 2007 – 2012.

NRC, "Development of a Nuclear Certificate for Nuclear Safety, Nuclear Security, and Nuclear Environmental Protection within a Mechanical Engineering Department", with S. Landsberger, S. Biegalski, Kendra Foltz-Biegalski, Michael Krause, \$200,000, 2007 – 2008.

NSF, "CIEG Supplement: Parallel algorithms for project prioritization in electric power generation", with D. Morton, \$15,000, 2007 – 2008.

EPRI, "Project asset management for electric power generation", with D. Morton, \$50,505, 2007 – 2008.

UT Austin and Tate Foundation, "Data mining combinations derived from the medicinal algorithmic combinatorial screen (MACS)", with P. Damien and R. Zinner, \$20,000, 2007 – 2008.

EPRI, "Project Prioritization via Optimization with Applications to Electric Power Generation", with D. Morton, \$39,660, 2006-2007.

NSF: "Risk Informed Nuclear Asset Management Models and Methods", with D. Morton and P. Damien, \$370,340, 2005-2008.

South Texas Project Nuclear Operating Company, Risk Management, "Risk Informed Nuclear Asset Management", 2003-now, \$149,111.

Standard Aero, "Maintenance program optimization", \$10,000, 2004.

National Science Foundation, "Stochastic network interdiction models for homeland security", with D. Morton and W. Charlton, \$99,960, 2002 – 2004.

Advanced Research Program, Mathematics Division, Texas Higher Education Coordinating Board, "Adaptive Recursive Filters for Data Mining", \$44,820, 2000 – 2002.

The University of Texas at Austin, FAST – TEX grant to develop a web site for teaching Probability and Statistics for Engineers, an undergraduate course, 10 student hours, Spring 2000.

The University of Texas at Austin, Faculty Development Program, "Simulation and optimization techniques for designing and scheduling a manufacturing system under uncertainty", \$12,806, 1998.

Advanced Technology Program, Manufacturing Program, Texas Higher Education Coordinating Board, "Designing a predictive preventive maintenance program for a system with several sources of uncertainty", \$101,750, 1996 – 1998.

DOE and National Renewable Energy Lab, "Focus fleet study – propane QVM vehicles project", with R. Matthews, \$216,991, 1996 – 1998.

Southwestern Bell, "Building and validating models of operation processes at Southwestern Bell", with V. Tardif and D. Morton, \$52,822, 1996 – 1997.

The University of Texas at Austin, Bureau of Engineering Research, "Research Initiation Grant", \$5,000, 1995 – 1997.

The University of Texas at Austin, College of Engineering, "Special Equipment Grant", \$50,000, 1995 – 1997.

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:

Member: American Statistical Association

Member: ASME

Member: INFORMS

Member: International Society for Bayesian Analysis

Member: National Association for Security Dealers (NASD).

JOURNAL EDITORSHIPS AND EDITORIAL BOARDS:

Member, Editorial Board, *IIE Transactions of Operations Engineering*, 1997 – now.

Associate Editor, *Naval Research Logistics Quarterly*, 2001 – 2004.

CONFERENCES ORGANIZED/CHAired:

Track Chair, ICONE16, Orlando, FL, January 2008 - May 2008.

Session Chair, INFORMS, Seattle, WA, November 2007.

Session Chair, ICONE16, Orlando, FL, May 2008.

Administrative chair for the National INFORMS meeting, Dallas, October 1997.

Cluster Chair of "Statistics and Reliability", INFORMS, Dallas, October 1997.

ORAL PRESENTATIONS:

Singh I., Kee E., Popova E., "Optimal preventive maintenance policy under a budget constraint," ICONE16, Orlando, FL, May 2008.

Koc A., Morton D., Popova E., Hess S., Kee E., Richards D., "Optimizing project prioritization under budget uncertainty," ICONE16, Orlando FL, May 2008.

Koc A., Hess S., Kee E., Morton D., Popova E., "A Parallel Branch-and-price Approach for the Project Prioritization Problem," INFORMS, Seattle, November 2007.

Singh I., Kee E., Popova E., "Optimal Preventive Maintenance Policy Under a Budget Constraint," INFORMS, Seattle, November 2007.

Popova I., Popova E., "The Art and Science of Creating a Trading Strategy," INFORMS, Seattle, November 2007.

Galenko A., Popova I., Popova E., "High-frequency Trading in the Presence of Long-term Stochastic Dependencies," INFORMS, Seattle, November 2007.

Koc A., Morton D., Popova E., Kee E., Richards D., Sun A., Hess S., "Project prioritization via optimization", PVP 2007/CREEP 8 ASME PVP 2007/CREEP 8 Conference, July 22-26, 2007, San Antonio, USA.

Kee E., Moiseytseva V., Galenko A., Morton D., Popova E., "Incorporation of unit 1 inspection results on the STP reactor vessel head nuclear asset management analysis", PVP 2007/CREEP 8 ASME PVP 2007/CREEP 8 Conference, July 22-26, 2007, San Antonio, USA.

Popova E., Damien P., Galenko A., Hanson T., "Bayesian semiparametric analysis for a single item maintenance optimization," Isaac Newton Institute, Cambridge University, United Kingdom, August 2007.

Elmira Popova, "Bayesian models and methods for reliability and risk assessment," UT Austin, Robotics Seminar, May 2007.

Popova E., Popova I., Galenko A., "Simulation of Cointegrated Returns for Fund-of-Funds Construction Under Different Risk Measures," Pittsburgh, November 2006.

A. Galenko, E. Popova, E. Kee, R. Grantom, "Optimal preventive maintenance under decision dependent uncertainty," Miami, FL, July, 2006.

Galenko A., Popova E., Morton D., Kee E., "Optimal replacement schedule for a system of N items under finite horizon and stochastic dependencies," St. Louis, MO, July, 2006.

Ivilina Popova, Elmira Popova, Edward I. George, "Bayesian Forecasting of Prepayment Rates for Individual Pools of Mortgages," Seattle, WA, August, 2006.

Elmira Popova, Paul Damien, Timothy Hanson, "Bayesian Semiparametric Analysis for a Single-Item Maintenance Optimization," Seattle, WA, August, 2006.

Popova E., "Aspects of the American electricity markets," University of Itajuba, Brazil, March, 2006.

Kee E., Sun A., Rogers S., Popova E., Nelson P., Moiseytseva V., Wang E., "A Method to Quantify Plant Availability and Initiating Event Frequency Using a Large Event Tree, Small Fault Tree Model," Miami, FL, July, 2006.

Popova E., Hanson T., Damien P., Galenko A., "Bayesian semiparametric analysis for a single item maintenance optimization," San Francisco, November 13, 2005.

Galenko A., Popova E., "Optimal preventive maintenance under decision-dependent uncertainty," San Francisco, November 14, 2005.

Popova E., Yu W., Schmidt P., "Creating and teaching courses that integrate manufacturing and mathematics," San Francisco, November 15, 2005.

Popova E., "Decision dependent randomness-estimation and control," UT Austin, ORIE seminar, November 18, 2005.

Popova E., "Decision dependent randomness-estimation and control," CWRU, Cleveland, OH, December 8, 2005.

A. Sun, E.Kee, W.Yu, E.Popova, R.Grantom, D.Richards, "Application of CROW-AMSAA analysis to nuclear power plant equipment performance", Beijing, China, May 2005

E.Popova, "Risk informed nuclear asset management", South Texas Project Nuclear Operating Company, May 2005

Wei Yu, E. Popova, E. Kee, A. Sun, and R. Grantom, "Basic factors to forecast maintenance cost for nuclear power plants", Beijing, China, May 2005.

E.Popova, "Risk informed nuclear asset management-models and methods", EPRI webcast, August 2005

A.Galenko, E. Popova, "Optimal Replacement Time for a Nuclear Pressure Vessel Head", Denver, CO, November 2005.

B.Dimova, W.Barnes, E.Popova, "The Characteristic Neighborhood Equation for an AR(2) Landscape", Denver, CO, November 2004.

W.Yu, E.Popova, "Equipment data development case study-Bayesian Weibull analysis", Austin, TX, November 2004.

E.Popova, D. Morton, "Risk informed nuclear asset management", Paris, France, December 2004.

Popova, E., I. Popova and E. George, "Markov Chain Monte Carlo algorithm for probit mixture of regressions", INFORMS, Summer 2003, Istanbul, Turkey.

Popova, E., "Bayesian arbitrage trading strategies", INFORMS, Fall 2001, Miami, FL.

Popova, E, I. Popova, and E. George, "Bayesian prepayment model for pricing mortgage pass – through securities", INFORMS Applied Probability Conference, Ulm, Germany, July 1999.

Popova, E. and T. Chen, "Maintenance policies during two dimensional warranty", INFORMS, Spring 1999, Cincinnati, OH.

Popova, E. and D. Morton, "Adaptive stochastic optimization for employee scheduling on a single machine", INFORMS, Spring 1999, Cincinnati, OH.

Popova, E. and D. Morton, "Adaptive stochastic manpower scheduling", Winter Simulation Conference, December 1998, Washington, DC.

Popova, E., "Bayesian approach to scheduling of manpower on a single machine", INFORMS, Spring 1997, San Diego, CA.

Chen, T. and E. Popova, "Combining warranty and maintenance: a Bayesian perspective", INFORMS, Spring 1997, San Diego, CA.

Chen, T. and E. Popova, "Bayesian minimal repair policy during warranty interval", INFORMS, Fall 1997, Dallas, TX.

Popova, E. and J. G. Wilson, "Optimal purchasing and replacement decisions for machines with different costs and failure parameters", INFORMS, Spring 1996, Washington DC.

Popova, E. and J. G. Wilson, "Optimal configuration/maintenance decisions for a system with no more than two machines", INFORMS, Fall 1995, New Orleans, LA.

Popova, E. and J. G. Wilson, "An algorithm for reducing the policy set for maintenance decisions involving n parallel machines with different failure parameters", ORSA/TIMS National Meeting, Spring, 1994, Boston, MA.

Popova, E. and J. G. Wilson, "Minimum cost maintenance policies for parallel machines each with different failure time distributions and cost parameters", Midwest Business Administration Association Meeting, 1994, Chicago, IL.

Popova, E. and J. G. Wilson, "Optimal purchasing and replacement decisions for machines with different costs and failure parameters", National Decision Sciences Conference, 1994, Honolulu, Hawaii.

Popova, E., "New approaches for group maintenance policies", Seminar in the Program of Operations Research and Statistics, Department of Civil Engineering, Princeton University, April 1994, Princeton, NJ.

Popova, E. and J. G. Wilson, "Group Maintenance Policies for Parallel Machines with Different Failure Time Distributions." ORSA/TIMS National Meeting, Spring, 1993, Chicago, IL.

Popova, E., "Ito's formula and its extensions", Stochastic processes seminar, Department of Mathematics, Case Western Reserve University, October 1993, Cleveland, OH.

OTHER PROFESSIONAL ACTIVITIES

Reviewer for National Science Foundation.

Reviewer for National Research Council, Transportation Research Record Series.

Reviewer for *Operations Research*.

Reviewer for *IIE Transactions of Operations Engineering*.

Reviewer for *Naval Research Logistics*.

Reviewer for *Journal of Tribology*.

Reviewer for *Communication in Statistics: Stochastic Models*.

Reviewer for *European Journal of Operational Research*.

Reviewer for *Decision Sciences Institute*.

Reviewer for *IEEE Transactions on Intelligent Transportation Systems*.

Reviewer for *Transportation Science*.

Reviewer for *International Journal of Systems Science*.

Reviewer for *Energy Economics*.

Reviewer for *Interfaces*.

Reviewer for *Republic of Serbia, Ministry of Science and Environmental Protection*.

PROFESSIONAL LICENSES

National association for security dealers (NASD): Series 7, 63, 65.

COURSES TAUGHT AT UT AUSTIN

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