

Mechanical Engineering

THE UNIVERSITY OF TEXAS AT AUSTIN
Cockrell School of Engineering
Standard Resume

FULL NAME: Elmira Popova **TITLE:** Associate Professor

DEPARTMENT: Mechanical Engineering

***DATE OF BIRTH:** 2/24/1962

***CITIZENSHIP:** U.S.

EDUCATION: *(Institution, major, degree, dates)*

University of Sofia, Bulgaria Mathematics MS Summer 1985

Case Western Reserve University Operations Research PhD Summer 1995

CURRENT AND PREVIOUS ACADEMIC POSITIONS: *(Institution, rank(s), beginning and ending dates for each rank)*

University of Texas at Austin	Associate Professor	Fall 2004 - present
University of Texas at Austin	Assistant Professor	Fall 1995 – Summer 2004
Wake Forest University	Research Scientist	Spring 1995 – Summer 1995
Technical University, Bulgaria	Senior Lecturer	Fall 1989 – Summer 1991
Technical University, Bulgaria	Lecturer	Fall 1985 – Summer 1987

OTHER PROFESSIONAL EXPERIENCE: *(Name of company, position, beginning and ending dates)*

Lehman Brothers	Quantitative Analyst	May 2000 – June 2001
Deutsche Bank Asset Management, Global Research Center	Consultant	July 2001 – August 2002

***CONSULTING:** *(Names of companies, beginning and ending dates)*

Computer Sciences Corporation	2007 – present
Air Force High Performance Computing Center, Maui, HI	Jan. 2006 – Sept. 2006
South Texas Project Nuclear Operating Company	Jan. 2006 – Dec. 2006

HONORS AND AWARDS: *(Include dates)*

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.

***MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:**

American Statistical Association, ASME, INFORMS, International Society for Bayesian Analysis

UNIVERSITY COMMITTEE ASSIGNMENTS: *(Include major departmental, college, and university assignments, including administrative assignments, with beginning and ending dates)*

Departmental-	Member, Awards committee	2006-present
	Member, HSIMS (Human Scale Intelligent Mechanical Systems) committee	2007-present
	Faculty mentor, undergraduate students	1995-present
	ORIE Program graduate recruiter	2006-present
	Director, UT-Brazil CAPES program	2004-present
	ORIE Program graduate recruiter	2002-2003
	Department of Mechanical Engineering Committee to write a proposal for new Manufacturing and Decision Systems Engineering Graduate Program	2001
	Member, Senior breakfast committee	1995-1998
College-	Member, Women in Engineering	2007-present
	Member, College of Engineering Committee to write a proposal for establishment of Center for Manufacturing Research	1996-1997
University-	Chair, Faculty Welfare Committee	2009-2010
	Chair, Graduate Assembly Academic Committee	2009-2010
	Chair-Elect, Graduate Assembly	2009-2010
	Member, Faculty Welfare Committee	2008-2009
	Member, Graduate Assembly Academic Committee	2006-2009
	Member, Steering Committee for the Portfolio Program in Applied Statistical Modeling	2008-2009
	Member, Graduate Assembly	2006-present
	Member, Outstanding Graduate Advisor Award Committee	2006-2007
	Member, Outstanding Graduate Teaching Award Committee	2006-2007
	Member, University Standing Committee on Parking and Traffic Appeals	2002-2006
	Member, Hamilton book award committee	Fall 2005
	Member, Faculty Council	1999-2003
	Member, Rules Committee	1999-2000
	Member, GSC, ORIE	1995-present
Member, GSC, ME	1995-present	
Member, GSC, Statistics and Actuarial Sciences	1998-present	
Member, GSC, ICES	2006-present	

PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES: *(Include dates)*

Member, Plant Operation, Engineering and Maintenance ASME/NED Technical Committee, 2008 - present.

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

Member, Committee to select the best paper for IIE Transactions, 2002.

Chair, Committee to select the best paper for IIE Transactions, 2001.

PUBLICATIONS: **In listing publications, please use the following format: author's name(s), title of paper, journal name, volume number, page numbers, month and year.)*

A. Refereed Archival Journal Publications

- Koc, A., D. Morton , E. Popova, S. Hess, E. Kee, and D. Richards, "Prioritizing project selection", Engineering Economist, accepted, Sept. 2009.
- Balestrassi,P.P., A. P. Paiva, A. C. Zambroni de Souza, J. B. Turrioni, and E. Popova, "A multivariate descriptor method for change point detection in nonlinear time series", Journal of Applied Statistics, accepted, Sept. 2009.
- Zinner, R. G., B. L. Barrett, E. Popova, P. Damien, A. Y. Volgin, J. G. Gelovani, R. Lotan, H. T. Tran, C. Pisano, S. M. Lippman, G. B. Mills, L. Mao, and J. H. Miller, "Algorithmic guided screening of drug combinations of arbitrary size for activity against cancer cells", Molecular Cancer Therapeutics, 8, 3, pp. 521 - 532, 2009.
- Balestrassi, P. P., E. Popova, A. P. Paiva, and J.W. Marangon, "Design of experiments on neural network's simulation for nonlinear time series forecasting", Neurocomputing, 72, pp. 1160-1178, 2009.
- Dimova, B., J. W. Barnes, E. Popova, and B. Colletti, "Some additional properties of elementary landscapes", Applied Mathematics Letters, 22, 2, pp. 232-235, 2009.
- Popova, I., E. Popova, and E. George, "Bayesian forecasting of prepayment rates for individual pools of mortgages", Bayesian Analysis, 3, 2, pp. 393-426, 2008.
- Popova, I., D. Morton, E. Popova, and J. Yao, "Optimizing benchmark-based portfolios with hedge funds", Journal of Alternative Investments, 10, 1, pp. 35-55, 2007.
- Damien, P., A. Galenko, E. Popova, and T. Hanson, "Bayesian semiparametric analysis for a single item maintenance optimization", European Journal of Operational Research, 182, pp. 794-805, 2007.
- Popova, E., W. Yu, E. Kee, A. Sun, D. Richards, and R. Grantom , "Basic factors to forecast maintenance cost and failure processes for nuclear power plants", Nuclear Engineering and Design, 236, pp. 1641-1647, 2006.
- Dimova, B., J. W. Barnes, and E. Popova, "The characteristic landscape equation for an AR(2) landscape", Applied Mathematics Letters, 19, pp. 260-266, 2006.
- Morton, D., E. Popova, and I. Popova, "Efficient fund of hedge funds construction under downside risk measures", Journal of Banking and Finance, 30, pp. 503-518, 2006.
- Dimova, B., J. W. Barnes, and E. Popova, "Arbitrary elementary landscapes and AR(1) processes", Applied Mathematics Letters, 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.
- Morton, D., E. Popova, I. Popova, and M. Zhong, "Optimizing benchmark-based utility functions", Bulletin of the Czech Econometric Society, 10, 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, pp. 61 – 69, 2002.
- Chen, T., and E. Popova, "Bayesian maintenance policies during a warranty period", Communications in Statistics: Stochastic Models, 16, 1, pp. 121 – 142, 2000.
- Popova, E., and J. G. Wilson, "Adaptive time dynamic model for production volume prediction", International Journal for Production Research, 38, 13, pp. 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, pp. 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, 117, 3, pp. 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, 107, pp. 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, pp. 371 – 375, 1996.

B. Refereed Conference Proceedings

- Belyi, D., P. Damien, D. Morton, and E. Popova, "Bayesian non-parametric simulation of hazard functions", *Proceedings of the 2009 Winter Simulation Conference*, M. D. Rossetti, R. R. Hill, B. Johansson, A. Dunkin, and R. G. Ingalls (eds.), December, 2009.
- Galenko, A., D. Morton, E. Popova, and I. Popova, "Simulating cointegrated time series", *Proceedings of the 2009 Winter Simulation Conference*, M. D. Rossetti, R. R. Hill, B. Johansson, A. Dunkin, and R. G. Ingalls (eds.), December, 2009.
- Belyi, D., P. Damien, D. Morton, and E. Popova, "Bayesian nonparametric analysis of single item preventive maintenance strategies", *Proceedings of the 17th International Conference on Nuclear Engineering*, July 2009.
- Morton, D., N. Dimitrov, M. A. Gonzalez, D. P. Michalopoulos, M. Nehme, E. Popova, E. Schneider, and G. Thoreson, "Interdiction modeling for smuggled nuclear material", *Proceedings of the 49th Annual Meeting of the Institute of Nuclear Materials Management*, July 2008.
- Singh, I., E. Popova, and E. Kee, "Optimal preventive maintenance policy under a budget constraint", *Proceedings of the 16th International Conference on Nuclear Engineering*, May 2008.
- Koc, A., D. Morton, E. Popova, S. Hess, E. Kee, and D. Richards, "Optimizing project prioritization under budget uncertainty", *Proceedings of the 16th International Conference on Nuclear Engineering*, May 2008.
- Galenko, A., E. Popova, and I. Popova, "Trading in the presence of cointegration", *Proceedings of the Southwestern Finance Association Meeting*, March 2007.
- Koc, A., D. Morton, E. Popova, E. Kee, D. Richards, A. Sun, and S. Hess, "Project prioritization via optimization", *Proceedings of PVP 2007/CREEP 8 ASME PVP 2007/CREEP 8 Conference*, July 2007.
- Kee, E., V. Moiseytseva, A. Galenko, D. Morton, and E. Popova, "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 2007.
- Kee, E., N. Corrick, D. Klockentager, E. Popova, and J. 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, vol. 6, July 2006.
- Galenko, A., E. Popova, E. Kee, and R. Grantom, "Optimal preventive maintenance under decision dependent uncertainty", *Proceedings of the 14th International Conference on Nuclear Engineering*, July 2006.
- Kee, E., A. Sun, S. Rogers, E. Popova, P. Nelson, V. Moiseytseva, and E. Wang, "A method to quantify plant availability and initiating event frequency using a large event tree, small fault tree model", *Proceedings of the 14th International Conference on Nuclear Engineering*, July 2006.
- Sun, A., E. Kee, W. Yu, E. Popova, R. Grantom, and D. Richards, "Application of CROW-AMSAA analysis to nuclear power plant equipment performance", *Proceedings of the 13th International Conference on Nuclear Engineering*, May 2005.
- Yu, W., E. Popova, E. Kee, A. Sun, and R. Grantom, "Basic factors to forecast maintenance cost for nuclear power plants", *Proceedings of the 13th International Conference on Nuclear Engineering*, May, 2005.
- Galenko, A., D. Morton, E. Popova, E. Kee, R. Grantom, and A. Sun, "Operational level models and methods for risk informed nuclear asset management", *Proceedings of the American Nuclear Society International Topical Meeting on Probabilistic Safety Assessment*, November 2005.
- Yu, W., E. Popova, E. Kee, and A. Sun, "Equipment data development case study - Bayesian Weibull analysis", *Proceedings of the South Central SAS Users Group 14th Annual Conference*, Editor: Thomas J. Winn, Jr., , p. 408-450, November 2004.
- Popova, E. and D. Morton, "Adaptive stochastic manpower scheduling", *Proceedings of the 1998 Winter Simulation Conference*, D. J. Medeiros et al. (eds.), pp. 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, pp. 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, pp. 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, pp. 214 – 223, 1994.

C. Other Major Publications

- Landsberger, S., S. Biegalski, E. Popova, and K. Foltz-Biegalski, "New nuclear and radiation engineering undergraduate certificate for industry and nuclear regulatory commission educational training", Proceedings of the 2009 Conference on Nuclear Training and Education (CONTE), February 2009.
- Galenko, A., E. Popova, D. Morton, P. Damien, and E. Kee, "Reducing cost and increasing reliability at nuclear power plants", NSF-CMMI Grantees Conference, January 2008.
- Galenko, A., E. Popova, D. Morton, P. Damien, and E. Kee, "Optimal replacement schedule for a system of N items under finite horizon and stochastic dependencies", NSF-DMII Grantees Conference, July 2006.
- Morton, D., F. Pan, D. Papageorgiou, and E. Popova, "Stochastic network interdiction of nuclear material smuggling", NSF-DMII Grantees Conference, 2005.

D. Books, Chapters of Books; Editor of Books

- Popova, E., D. Morton, P. Damien, and T. Hanson, "Bayesian analysis and decisions in nuclear power plant maintenance", in The Oxford Handbook of Applied Bayesian Analysis, Tony O'Hagan & Mike West (eds.), Oxford University Press, to appear March 2010.
- Popova, E., and I. Popova, "Replacement strategies", in Encyclopedia of Statistics in Quality and Reliability, Ruggeri F., Faltin F., Kenett R. (eds.), John Wiley & Sons, Ltd., Chichester, UK, pp. 1647-1653, 2008.
- Morton, D. and E. Popova, "Monte Carlo simulations for stochastic optimization", in Encyclopedia of Optimization, C. A. Floudas and P. M. Pardalos (eds.), III, pp. 439 – 447, Kluwer Academic Publishers, 2001.

E. Papers under review

- Wang, F., R. B. Machedehl , and E. Popova, "Towards Monte Carlo simulation based mechanistic-empirical prediction of asphalt pavement performance", Journal of Transportation Engineering, conditionally accepted.
- Amaral, M.R.S., M. Lima, and E. Popova, "Semi-parametric estimation of cointegrated VARMAX models: a combined maximum likelihood and subspace methods approach", Journal of Time Series Analysis, under first revision, 2009.
- Dimitrov, N., D. P. Michalopoulos, D. P. Morton, M. V. Nehme, F. Pan, E. Popova, E. A. Schneider, and G. G. Thoreson, "Network deployment of radiation detectors with physics-based detection probability calculations", Annals of Operations Research, conditionally accepted.
- Popova, I. and E. Popova, "Estimation of performance and execution time effect on high frequency statistical arbitrage strategies", Journal of Portfolio Management, submitted, 2009.
- Nanzer J., E. Popova, and R. Rogers, "Real time detection of self-luminous objects using total power and correlation radiometry", IEEE Transactions on Geoscience and Remote Sensing, submitted 2009.

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GRANTS AND CONTRACTS: (Co-principal investigators (if any), title of grant, sponsoring agency, total dollar value, beginning and ending dates)

Co-Investigators	Title	Agency	Grant Total	Grant Period
Paul Damien	Collaborative research: Decision-dependent stochastic processes - inference and optimization	NSF	\$311,743	2009-2012
David Morton, Erich Schneider	ARI-MA: Interdicting smuggled nuclear material	NSF/DNDO	\$1,902,923	2007-2012
	Risk informed nuclear asset management	STPNOC	\$177,929	2003-2010
David Morton	Project asset management for electric power generation	EPRI	\$140,165	2006-2010
S. Landsberger, S. Biegalski, Kendra Foltz-Biegalski, Michael Krause	Development of a nuclear certificate for nuclear safety, nuclear security, and nuclear environmental protection within a Mechanical Engineering department	NRC	\$200,000	2007-2008
David Morton	CIEG Supplement: Parallel algorithms for project prioritization in electric power generation	NSF	\$15,000	2007-2008
Ralph Zinner, Paul Damien	Data mining combinations derived from the medicinal algorithmic combinatorial screen (MACS)	Tate Foundation	\$20,000	2007-2008
David Morton, Paul Damien	Risk informed nuclear asset management models and methods	NSF	\$370,340	2005-2009
	Maintenance program optimization	Standard Aero	\$10,000	2004
David Morton, William Charlton	Stochastic network interdiction models for homeland security	NSF	\$99,960	2002-2004
	Adaptive recursive filters for data mining	THECB/ARP	\$44,820	2000-2002
	Simulation and optimization techniques for designing and scheduling a manufacturing system under uncertainty	UT Austin	\$12,806	1998
	Designing a predictive preventive maintenance program for a system with several sources of uncertainty	THECB/ATP	\$101,750	1996-1998
Ron Matthews	Focus fleet study – propane QVM vehicles project	DOE	\$216,991	1996-1998
Valerie Tardif, David Morton	Building and validating models of operation processes at Southwestern Bell	Southwestern Bell	\$52,822	1996-1997
	Research Initiation Grant	UT Austin	\$5,000	1995-1997
	Special Equipment Grant	UT Austin	\$50,000	1995-1997

***ORAL PRESENTATIONS:** (List co-authors, title of presentation, where given, and dates)

A. Invited talks and seminars

"Bayesian semiparametric analysis for a single item maintenance optimization," Isaac Newton Institute, Cambridge University, United Kingdom, August 2007.
"Bayesian models and methods for reliability and risk assessment," UT Austin, Robotics Seminar, May 2007.
"Aspects of the American electricity markets," University of Itajuba, Brazil, March, 2006.
"Decision dependent randomness-estimation and control," UT Austin, ORIE seminar, November 18, 2005.
"Decision dependent randomness-estimation and control," CWRU, Cleveland, OH, December 8, 2005.
"Risk informed nuclear asset management", South Texas Project Nuclear Operating Company, May 2005
"Risk informed nuclear asset management-models and methods", EPRI webcast, August 2005
"Risk informed nuclear asset management", EDF, Paris, France, December 2004.

B. Contributed presentations

Morton D., E. Popova, and E. Schneider, "Interdicting smuggled nuclear material", Academic Research Initiative Grantees Conference, Washington D.C., April 2009.
Belyi D. and E. Popova, "Simulation based preventive maintenance optimization", INFORMS, Washington D.C., 2008.
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., Moiseyeva 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., Popova I., Galenko A., "Simulation of cointegrated returns for fund-of-funds construction under different risk measures," INFORMS, 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.
Kee E., Sun A., Rogers S., Popova E., Nelson P., Moiseyeva 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.
- 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
- 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.
- 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.
- 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.

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PH.D. SUPERVISIONS COMPLETED: *(Name, *title, year, major dept, name of institution)*

Hsien-Chung Wu	Bayesian reliability analysis under fuzzy environment	1997	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Ta-Mou Chen	Maintenance policies under warranty period – from a statistical point of view	1998	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Boryana Dimova	Characterizing neighborhoods favorable to local search techniques	2004	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Alexander Galenko	Modeling stochastic dependencies and their impact on optimal decision making	2008	Operations Research and Industrial Engineering	Univ. of Texas at Austin

M.S. SUPERVISIONS COMPLETED: *(Name, year, major department, name of institution)*

Venkataraman, Srinivasan	Volatility estimation for high frequency stock prices during market closing	2008	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Degwekar, Sachin Pradeep	Solving a multi-period asset-liability management problem using multi-stage stochastic programming	2008	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Christopher Mark Smith	The learning of probability	2007	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Alexander Galenko	Operational models and methods for risk-informed nuclear asset management	2006	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Xiaobin Wang	Short-term load forecasting for industrial customers using time series methods	2006	Statistics	Univ. of Texas at Austin
Patrick J. Munson	Random variate generation for Bayesian nonparametric reliability analysis	2005	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Callaos Sanchez, Leonisol	Analysis of random walks on landscapes of combinatorial optimization problems using statistical sampling	2005	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Wei Yu	Basic factors to forecast maintenance cost and failure processes for nuclear power plants	2005	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Mariano Mezzatesta	The Markowitz mean-variance portfolio model and beyond	2004	Operations Research and Industrial Engineering	Univ. of Texas at Austin

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Anubhav Jain	Risk analysis of steel production risers for deepwater offshore facilities	2004	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Tai Shu	Order flow and stochastic clock of asset returns	2003	Statistics	Univ. of Texas at Austin
Fuad Hamza	A comparison of two methods of safety stock calculation	2002	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Laura Diane Pacher	A survey of Bayesian classification methods	1999	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Richard Eddie White	The effect of early lot release in a manufacturing system with a severe disruption	1999	Operations Research and Industrial Engineering	Univ. of Texas at Austin
Ali Abbas Bokhari	Design of electronic circuit card manufacturing line using event simulation	1998	Manufacturing Engineering	Univ. of Texas at Austin

PH.D. IN PROGRESS: *(List students names by category)*

A. Students admitted to candidacy

Dmitriy Belyi
Ali Koc
Inderjeet Singh

B. Post M.S. students preparing to take Ph.D. qualifying exam

Luana Marangon Lima
Wei Zhou

PH.D. COMMITTEES, MEMBER (LAST 5 YEARS)

Azambuja, Marcelo Menna B, Civil Engineering
Kranthi M Adusumilli, Operations Research & Industrial Engineering
Daniel Howard Bauer, Operations Research & Industrial Engineering
Burak Buke, Operations Research & Industrial Engineering
Bayraksan, Guzin, Operations Research & Industrial Engineering
Chen, Yang-Chi, Operations Research & Industrial Engineering
Kinney, Gary W. Jr., Operations Research & Industrial Engineering
Hyung Joo Lee, Chemical Engineering
McKinzie, Kaye, Operations Research and Industrial Engineering
Michalopoulos, Dennis P., Operations Research and Industrial Engineering
Bishwarup Mondal, ComNets and Systems
Nanzer, Jeffrey Allan, Electrical & Computer Eng
Nehme, Michael, Operations Research and Industrial Engineering
Pan, Fang, Operations Research and Industrial Engineering
Partani, Amit, Operations Research and Industrial Engineering
Rengarajan, Tara, Operations Research and Industrial Engineering
Balaji Sampath, Operations Research & Industrial Engineering
Shanan, David W., Mechanical Engineering

Mechanical Engineering

Vaculik, Stewart Andrew, Mechanical Engineering
Wu, Hui, Civil Engineering
Zarifoglu, Emrah, Operations Research & Industrial Engineering
Zhang Yang, Chemical Engineering

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, Manufacturing Engineering, Spring 1998, "Queuing network applications for Microsoft Excel".
Vinod Kumar Sitaraman, Operations Research and Industrial Engineering, Summer 1996, "Reduction in variance of mean cycle time of wafers in semiconductor manufacturing".

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.

POSTDOCTORAL SUPERVISION: VISITING SCIENTISTS

Pedro Paulo Balestrassi, 08/2005 – 12/2006
Joao Batista Turrioni, 02/2007 – 12/2007
Jose Arnaldo Barra Montevechi, 01/2008 – 04/2008
Carlos Eduardo Sanches da Silva, 08/2008 – 01/2009

OTHER STUDENTS SUPERVISION: VISITING DOCTORAL STUDENTS

Rafael Coradi Leme, 09/2006 – 12/2007
Paulo Eduardo Steele Santos, 10/2006 – 10/2007
Eduardo Guardia, 01/2009 – 12/2009

JOURNAL EDITORSHIPS AND EDITORIAL BOARDS:

Associate Editor, IIE Transactions of Operations Engineering, 1997 – now.
Associate Editor, Naval Research Logistics Quarterly, 2001 – 2004.

CONFERENCES ORGANIZED/CHAired:

Chair of the plenary sessions and member of the organizing committee, INFORMS 2010, Austin, TX.
Session chair, INFORMS, San Diego, CA, October 2009.
Track Chair, ICONE16, Orlando, FL, January 2008 - May 2008.
Session Chair, ICONE16, Orlando, FL, May 2008.
Session Chair, INFORMS, Seattle, WA, November 2007.
Session Chair, ASA, Seattle, WA, August 2006.
Session Chair, 14th International Conference on Nuclear Engineering, Miami, FL, July 2006.
Administrative chair for the National INFORMS meeting, Dallas, October 1997.
Cluster Chair of "Statistics and Reliability", INFORMS, Dallas, October 1997.

OTHER PROFESSIONAL ACTIVITIES

Panelist for the 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.
Reviewer for Reliability engineering and systems safety.
Reviewer for OR Letters

VITA: *(One-half page paragraph that can be used for general purposes)*

Dr. Elmira Popova graduated with an MS in Mathematics from the University of Sofia, Bulgaria in 1985, and a PhD in Operations Research from Case Western Reserve University, Cleveland, Ohio in 1995. She joined The University of Texas at Austin in 1995 as an Assistant Professor in the Department of Mechanical Engineering, Graduate Program in Operations Research and Industrial Engineering. In 2008 she was named a Fulbright Scholar and in 1999 she received the Cockrell School of Engineering's Halliburton/Brown & Root Young Faculty Excellence Award in teaching and research.

Dr. Popova specializes in stochastic processes, computational Bayesian statistics, and stochastic optimization. She is interested in reliability analysis and in design of optimal maintenance strategies for randomly failing systems. Since 2004 she has collaborated with the Risk Management Group at South Texas Project Nuclear Operating Company (STPNOC) on designing and developing a new risk-informed system for reliability estimation and preventive maintenance scheduling. The main objectives of this research are: to make optimal risk-informed decisions at both operational and executive management levels by taking into account budgets, internal project dependencies, outage durations, and regulatory safety constraints; to appropriately model and account for the uncertainty related to rates of return on investments, energy prices, failure mechanisms, and costs for replacement and spare parts; and, to provide decision-makers quantified feedback on decision-making performance. A preliminary version of the system is currently being tested by system engineers at STPNOC and is expected to be used in real-time production by the spring of 2010.

Dr. Popova spent two years on Wall Street, where she worked on developing new high-frequency trading strategies and asset allocation models. Her research in portfolio allocation was used to analyze and suggest allocations for pension plans, university endowments and high-net-worth individuals, with the largest single portfolio managed being \$6 billion. Dr. Popova continues to do research in quantitative finance such as statistical-arbitrage trading strategies, computing equity prices, and optimal asset allocation decisions. Her research has been funded by the National Science Foundation, the Department of Homeland Security, the Nuclear Regulatory Commission, the Department of Energy, the Electric Power Research Institute, STPNOC, and several other industrial sponsors.