Curriculum Vitae

David Enke

Curators' Distinguished Teaching Professor
Engineering Management and Systems Engineering
Missouri University of Science and Technology
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Education

Ph.D. Engineering Management, Chancellor's Fellow
University of Missouri - Rolla (now Missouri University of Science and Technology), 1997; Specialization: Finance and Computational Intelligence

M.S. Engineering Management, Chancellor's Fellow
University of Missouri - Rolla, 1994

B.S. Electrical Engineering, Summa Cum Laude
University of Missouri - Rolla, 1990

Areas of Interest/Specialization

Investment, Portfolio Management, Derivatives, Financial Risk Management, Enterprise Risk Management, Financial Institutions, Financial Management, Financial Engineering, Intelligent Systems, Computational Intelligence, Artificial Neural Networks, Quantitative Finance, Price and Volatility Forecasting, Trading Strategies, Portfolio Management, Student Investment Funds, Cryptocurrencies, and Decentralized Finance

Professional Experience

- Curators' Distinguished Teaching Professor, Department of Engineering Management and Systems Engineering, Missouri University of Science and Technology, September, 2020 to present

- Professor, Department of Engineering Management and Systems Engineering, Missouri University of Science and Technology, January, 2012 to August 2020

- Chair, Department of Engineering Management and Systems Engineering, Missouri University of Science and Technology, January, 2012 to July, 2015

- Associate Professor and H. Michael and Laurie Krimbill Faculty Fellow of Finance, Department of Finance and Operations Management, The University of Tulsa, August, 2007 to April, 2011

- Chair, Department of Finance and Operations Management, The University of Tulsa, May, 2011 to December, 2011

- Associate Professor of Engineering Management and Systems Engineering, University of Missouri - Rolla (now Missouri University of Science and Technology), September, 2006 to July, 2007

- Assistant Professor of Engineering Management and Systems Engineering, University of Missouri - Rolla, August, 2000 to August, 2006

- Assistant Professor of Systems Science & Industrial Engineering, Binghamton University - State University of New York, January, 1999 to July, 2000

- Assistant Professor of Industrial and Manufacturing Systems Engineering, University of Michigan – Dearborn, August, 1998 to December, 1998

- Post-Doctoral Fellow - University of Missouri - Rolla, September, 1997 to July, 1998

- Graduate Research and Teaching Assistant, University of Missouri - Rolla, January, 1993 to August, 1997

- McDonnell Douglas Corporation, St. Louis, MO - May, 1990 to December, 1992

Honors and Awards

- Teaching Commendation Letter for the Fall 2017 and Spring 2018 semesters
- Second Runner-Up for Best Paper - Best Application for "Time Series Classification using Deep Learning for Process Planning: A Case from the Process Industry," *Complex Adaptive Systems Conference*, 2017
- Winner Best Paper - Best Application for "Using Neural Networks to Forecast Volatility for an Asset Allocation Strategy based on the Target Volatility," *Complex Adaptive Systems Conference*, 2016
- Second Runner-Up for Best Paper - Best Application for "Volatility Forecasting using a Hybrid GJR-GARCH Neural Network Model," *Complex Adaptive Systems Conference*, 2014
- Second Runner-Up for Best Paper - Best Application for "A New Hybrid Approach For Forecasting Interest Rates," *Complex Adaptive Systems Conference*, 2012
- Nominated for the University of Tulsa Collins College of Business Excellence in Teaching Award, 2009
- First Runner-Up for Best Paper - Novel Smart Engineering Systems for "Stock Trading Based on Neural Network Modeling and Fuzzy Technical Indicators," *Artificial Neural Networks in Engineering Conference*, 2007
- Second Runner-Up for Best Paper - Novel Smart Engineering Systems for "Optimal Asset Allocation Using Reinforcement Learning: A Case Study" *Artificial Neural Networks in Engineering Conference*, 2005
- Winner – Ted Eschenback Best Engineering Management Journal Paper for 2004 for "Valuation for the Strategic Management of Research and Development Projects: The Deferral Option," *Engineering Management Journal*, 2004
- First Runner-Up for Best Paper - Theoretical Developments in Techniques for "A Competitive Neural Network Architecture for Directing Attention within Artificial Vision Systems," *Artificial Neural Networks in Engineering Conference*, 1999
- 6 UMR Outstanding Faculty Teaching Award, University of Missouri - Rolla, 1997, 2002, 2004, 2005, 2006, 2007
- 3 School of Engineering Outstanding Teaching Awards, University of Missouri - Rolla, 2004, 2005, 2006
- 3 Outstanding Teaching Award for Distance Education Instructors, University of Missouri - Rolla, 2004, 2005, 2006

Teaching Experience / Courses Taught

Missouri S&T (2012-present)
- Average student teaching evaluation: **3.54/4.00 (3.64/4.00 from 2017-2020)**
  - Advanced Financial Management (3.46/4.00 average student evaluation)
  - Financial Engineering (3.45/4.00)
  - Financial Risk Management (3.41/4.00)
  - Intelligent Investing (3.67/4.00)
  - Investment (3.80/4.00)

The University of Tulsa (2007-2011)
- Average student teaching evaluation: **4.75/5.00 (equivalent to 3.80/4.00)**
  - Derivative Securities (4.90/5.00 average student evaluation)
  - Enterprise Risk Management (4.85/5.00)
  - Financial Management (4.62/5.00)
  - Portfolio Management (4.76/5.00)
  - Risk Management (4.67/5.00)
  - Student Investment Fund (4.85/5.00)

The University of Missouri-Rolla / Missouri S&T (2000-2007)
- Average student teaching evaluation: **3.63/4.00**
  - Advanced Engineering Economy (3.54/4.00 average student evaluation)
  - Advanced Financial Engineering (3.90/4.00)
  - Economic Analysis for Systems Engineering Projects (3.60/4.00)
  - Economic Decision Analysis (3.41/4.00)
  - Financial Engineering (3.61/4.00)
  - Financial Risk Management (3.62/4.00)
  - Introduction to Intelligent Systems (3.70/4.00)
  - Investment (3.52/4.00)

Binghamton University (1999-2000)
- <u>Note</u>: at the time, Binghamton University did not use a 4.0 or 5.0 evaluation system, but instead had 30 questions without a single measure of teaching performance being calculated
  - Design of Experiments
  - Probability and Statistics
  - Systems Analysis & Variability I (Systems Theory, Discrete Math, Probability & Statistics)
  - Systems Analysis & Variability II (Design of Exp., Statistical Process Control, Reliability)

University of Michigan – Dearborn (1998)
- <u>Note</u>: teaching evaluations were not received/provided for this single semester
  - Management Information Systems
  - Probability and Statistics

Working Journal Papers

1. Enke, D., and P. Codjoe, "Stock Return Prediction using Short- and Long-term Price Momentum and Reversal Effects," working paper.

2. Enke, D., and P. Wiles, "Risk Arbitrage of the Soybean Futures Complex," working paper.

Publications in Refereed Journals

1. Zhong, X., and D. Enke, "Predicting the Daily Return Direction of the Stock Market Using Hybrid Machine Learning Algorithms," *Financial Innovation*, Vol. 5, No. 24 (2019): 1-20.

2. Subhash, S., and D. Enke, "Hedge Fund Replication Using Strategy Specific Factors," *Financial Innovation*, Vol. 5, No. 11 (2019): 1-19.

3. Kim, Y.M., and D. Enke, "A Dynamic Target Volatility Strategy for Asset Allocation using Artificial Neural Networks," *The Engineering Economist*, Vol. 63, No. 4 (2018): 273-290.

4. Zhong, X., and D. Enke, "A Comprehensive Cluster and Classification Mining Procedure for Daily Stock Market Return Forecasting," *Neurocomputing*, Vol. 267 (2017): 152-168.

5. Lee, S., D. Enke, and Y. Kim, "A Relative Value Trading System based on a Correlation and Rough Set Analysis for the Foreign Exchange Futures Market," *Engineering Applications of Artificial Intelligence*, Vol. 61 (2017): 47-56.

6. Zhong, X., and D. Enke, "Forecasting Daily Stock Market Return Using Dimensionality Reduction," *Expert Systems with Applications*, Vol. 67 (2017): 126-139.

7. Kim, Y.M., W. Ahn, K.J. Oh, and D. Enke, "An Intelligent Hybrid Trading System for Discovering Trading Rules for the Futures Market using Rough Sets and Genetic Algorithms," *Applied Soft Computing*, Vol. 55 (2017): 127-140.

8. Chiang, W.C., D. Enke, T. Wu, and R. Wang, "An Adaptive Stock Index Trading Decision Support System," *Expert Systems with Applications*, Vol. 59 (2016): 195-207.

9. Kim, Y.M., and D. Enke, "A Rule Change Trading System for the Futures Market using Rough Set Analysis," *Expert Systems with Applications*, Vol. 59 (2016): 165-173.

10. Mehdiyev, N., and D. Enke, "Interest Rate Prediction: A Neuro-Hybrid Approach with Data Preprocessing," *International Journal of General Systems*, Vol. 43, No. 5 (2014): 535-550.

11. Vejendla, A., and D. Enke, "Performance Evaluation of Neural Networks and GARCH Models for Forecasting Volatility and Option Strike Prices in a Bull Call Spread Strategy," *Journal of Economic Policy and Research*, Vol. 8, No. 2 (2013): 1-19.

12. Enke, D., and N. Mehdiyev, "Stock Market Prediction using a Combination of Stepwise Regression Analysis, Differential Evolution-Based Fuzzy Clustering, and a Fuzzy Inference Neural Network," *Intelligent Automation and Soft Computing*, Vol. 19, No. 4 (2013): 636-648.

13. Vejendla, A., and D. Enke, "Evaluation of GARCH, RNN, and FNN Models for Forecasting Volatility in the Financial Markets," *IUP Journal of Financial Risk Management*, Vol. X, No. 1 (2013): 41-49.

14. Kilicay-Ergin, N., D. Enke, and C. Dagli, "Biased trader model and analysis of financial market dynamics" *International Journal of Knowledge-based and Intelligent Engineering Systems*, Vol. 16 (2012): 99-116.

15. Chavarnakul, T., and D. Enke, "A Hybrid Stock Trading System For Intelligent Technical Analysis-Based Equivolume Charting," *Neurocomputing*, Vol. 72, Issue 16-18 (2009): 3517-3528.

16. Enke, D., and S. Amornwattana, "A Hybrid Derivative Trading System Based on Volatility and Return Forecasting," *The Engineering Economist*, Vol. 53, No. 3 (2008): 259-292.

17. Ovlia, V., D. Enke, and M. Davis, "The Effects of Congressional Elections on Future Equity Market Returns," *Global Journal of Business Research*, Vol. 2, No. 1 (2008): 1-15.

18. Chavarnakul, T., and D. Enke, "Intelligent Technical Analysis Based Equivolume Charting for Stock Trading using Neural Networks," *Expert Systems with Applications*, Vol. 34, No. 2 (2008): 1004-1017.

19. Enke, D., C. Tirasirichai, and R. Luna, "Estimation of Earthquake Loss due to Highway Damage in the St. Louis Metropolitan Area: Part II - Indirect Loss," *ASCE Natural Hazards Review*, Vol. 9, No. 1 (2008): 12-19.

20. Tirasirichai, C. and Enke, D., "Case Study: Applying a Regional CGE Model for Estimation of the Indirect Economic Loss due to Damaged Highway Bridges," *The Engineering Economist*, Vol. 52 (2007): 367-401.

21. Morrison, G., J.C. Little, Y. Xu, M. Rao, and D. Enke, "Gas Exposure History Derived from Material-phase Concentration Profiles," *Atmospheric Environment,* Vol. 41, No. 15 (2007): 3276-3286.

22. Amornwattana, S., D. Enke, and C. Dagli, "A Hybrid Options Pricing Model Using a Neural Network for Estimating Volatility," *International Journal of General Systems*, Vol. 36, No. 5 (2007): 558-573.

23. Enke, D., B. Chowdhury, G. Gelles, and E.K. Stanek, "Concepts on Market-Oriented Transmission Investment," *Journal of Power and Energy Systems*, Vol. 27, No. 4 (2007): 3653-3672.

24. Lewis, N., D. Enke, and D. Spurlock, "The Staging Option and Drug Development," *International Society of Pharmaceutical Engineering*, Vol. 25, No. 6 (2005): 58-66, 76-78.

25. Enke, D., and S. Thawornwong, "The Use of Data Mining and Neural Networks for Forecasting Stock Market Returns," *Expert Systems with Applications*, Volume 29 (2005): 927-940.

26. Lewis, N., D. Enke, and D. Spurlock, "Valuation for the Strategic Management of Research and Development Projects: The Deferral Option," *Engineering Management Journal,* Vol. 16, No. 4 (2004): 36-48.

27. Liao, S., H. Wiebe, and D. Enke, "An Expert Advisory System for the ISO 9001 Quality System," *Expert Systems with Applications*, Vol. 27, No. 2 (2004): 313-322.

28. Thawornwong, S., and D. Enke, "The Adaptive Selection of Financial and Economic Variables for Use With Artificial Neural Networks," *Neurocomputing*, Vol. 56 (2003): 205-232.

29. Thawornwong, S., D. Enke, and C. Dagli "Neural Networks as a Decision Maker for Stock Trading: A Technical Analysis Approach," *Journal of Smart Engineering Systems Design,* Vol. 5, No. 4 (2003): 313-325.

30. Enke D., K. Ratanapan, and C. Dagli, "Large Machine-Part Family Formation Utilizing a Parallell ART1 Neural Network," *Journal of Intelligent Manufacturing*, Vol 11, No. 6 (2000): 591-604.

31. Enke, D., K. Ratanapan, and C. Dagli, "Machine-Part Family Formation Utilizing an ART1 Neural Network Implemented on a Parallel Neuro-Computer," *International Journal of Computers Industrial Engineering,* Vol 34, No. 1 (1998): 189-205.

32. Enke, D., and C. Dagli, "Automated Misplaced Component Inspection For Printed Circuit Boards," *Computers and Industrial Engineering*, Vol 33, No. 1-2 (1997): 373-376.

Edited Books / Book Chapters

Edited Books

1. *Intelligent Engineering Systems Through Artificial Neural Networks*, Vol. 18, Edited by C. Dagli, D. Enke, K. Mark Bryden, H. Ceylan, and M. Gen, ASME Press, 2008.

2. *Intelligent Engineering Systems Through Artificial Neural Networks*, Vol. 17, Edited by C. Dagli, A. Buczak, M. Embrechts, D. Enke, and O. Ersoy, ASME Press, 2007.

3. *Intelligent Engineering Systems Through Artificial Neural Networks*, Vol. 16, Edited by C. Dagli, A. Buczak, M. Embrechts, D. Enke, and O. Ersoy, ASME Press, 2006.

4. *Intelligent Engineering Systems Through Artificial Neural Networks,* Vol. 15, Edited by C. Dagli, A. Buczak, M. Embrechts, D. Enke, and O. Ersoy, ASME Press, 2005.

5. *Intelligent Engineering Systems Through Artificial Neural Networks,* Vol. 14, Edited by C. Dagli, A. Buczak, M. Embrechts, D. Enke, and O. Ersoy, ASME Press, 2004.

Book Chapters

1. Enke, D., "Neural Network-based Stock Market Return Forecasting using Data Mining for Variable Reduction," Chapter III, *Artificial Neural Networks in Finance and Manufacturing*, edited by Kamruzzaman, Begg, and Sarker, 2006.

2. Thawornwong, S., and D. Enke, "Forecasting Stock Returns with Artificial Neural Networks," Chapter 3 in *Neural Networks in Business Forecasting*, edited by Peter Zhang, 2003: pp. 47-79.

3. Enke, D., K. Ratanapan, and C. Dagli, "Machine-Part Family Formation Implemented on a Parallel Neuro-Computer Utilizing an ART1 Neural Network," Chapter 9 in *Group Technology & Cellular Manufacturing: Methodologies and Applications*. Edited by A. K. Kamrani and R. Logendran, Gordon & Breach Publishers, Inc., 1999.

Proceedings Publications

<u>Conference Proceedings</u> (Refereed by Paper)

1. Mehdiyev, N., J. Lahann, A. Emrich, D. Enke, P. Fettke, and P. Loos, "Time Series Classification using Deep Learning for Process Planning: A Case from the Process Industry," *Procedia Computer Science*, Vol. 114 (2017): 242-249.

2. Kim, Y., and D. Enke, "Instance Selection Using Genetic Algorithms for an Intelligent Ensemble Trading System," *Procedia Computer Science*, Vol. 114 (2017): 465-472.

3. Mehdiyev, N., D. Enke, P. Fettke, and P. Loos, "Evaluating Forecasting Methods by Considering Different Accuracy Measures," *Procedia Computer Science*, Vol. 95 (2016): 264-271.

4. Kim, Y., and D. Enke, "Using Neural Networks to Forecast Volatility for an Asset Allocation Strategy based on the Target Volatility," *Procedia Computer Science*, Vol. 95 (2016): 281-286.

5. Wiles, P.S., and D. Enke, "Continuous Futures Contract Data for Computational Intelligence," Proceedings of the *2016 American Society of Engineering Management* conference, Concord, NC, October 2016.

6. Mehdiyev, N., J. Krumeich, D. Enke, D. Werth, and P. Loos, "Determination of Rule Patterns in Complex Event Processing Using Machine Learning Techniques," *Procedia Computer Science*, Vol. 61 (2015): 395-401.

7. Wiles, P.S., and D. Enke, "Optimizing MACD Parameters via Genetic Algorithms for Soybean Futures," *Procedia Computer Science*, Vol. 61 (2015): 85-91.

8. Almasi Monfared, S., and D. Enke, "Noise Canceling in Volatility Forecasting Using an Adaptive Neural Network Filter," *Procedia Computer Science*, Vol. 61 (2015): 80-84.

9. Wiles, P., and D. Enke, "A Hybrid Neuro-Fuzzy Model to Forecast the Soybean Complex," to be presented/published at the *American Society of Engineering Management 2015 International Annual Conference*, October 2015, Indianapolis, IA.

10. Agarwal, S., L. Pape, C. Dagli, N. Ergin, D. Enke, A. Gosavi, R. Qin, D. Konur, R. Wang, and S. Gottapu, "Flexible and Intelligent Learning Architectures for SoS (FILA-SoS): Architectural Evolution in Systems-of-Systems", *2015 Conference on Systems Engineering Research, Procedia Computer Science*, Vol. 44 (2015): 76-85.

11. Enke, D., and N. Mehdiyev, "A Hybrid Neuro-Fuzzy Model to Forecast Inflation," *2014 Complex Adaptive Systems*, Vol. 36 (2014): 254-260.

12. Wiles, P.S., and D. Enke, "Nonlinear Modeling using Neural Networks for Trading the Soybean Complex," *2014 Complex Adaptive Systems*, Vol. 36 (2014): 234-239.

13. Almasi Monfared, S., and D. Enke, "Volatility Forecasting using a Hybrid GJR-GARCH Neural Network Model," *2014 Complex Adaptive Systems*, Vol. 36 (2014): 246-253.

14. Subhash, S., and D. Enke, "Hedge Fund Replication using Liquid ETFs and Regression Analysis", *Proceedings of the 2014 Industrial and Systems Engineering Research Conference, Y. Guan and H. Liao, editors,* Montreal, Canada, 2014.

15. Enke, D., and N. Mehdiyev, "Type-2 Fuzzy Clustering and a Type-2 Fuzzy Inference Neural Network for the Prediction of Short-Term Interest Rates," *2013 Complex Adaptive Systems*, Vol. 20 (2013): 115-120.

16. Enke, D., and N. Mehdiyev, "Forecasting US Short-term Interest Rates using a Fuzzy Inference Neural Network," *ICAFS - 2012: Tenth International Conference on Applications of Fuzzy Systems and Soft Computing*, CD-ROM Proceedings, 2012.

17. Enke, D., and N. Mehdiyev, "A New Hybrid Approach For Forecasting Interest Rates," *2012 Complex Adaptive Systems*, Vol. 12 (2012): 259-264.

18. Enke, D., M. Grauer, and N. Mehdiyev, "Stock Market Prediction with Multiple Regression, Fuzzy type-2 Clustering, and Neural Networks," *2011 Complex Adaptive Systems*, Vol. 6 (2011): 201-206.

19. Wright T., and D. Enke, "Using Data Processing Algorithms and Neural Networks to Forecast One-Month Price Moves in the S&P 500 Index," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 18 (2008): 551-557.

20. Simpson, J., C. Dagli, A. Miller, S. Grasman, and D. Enke, "Development and Application of Abstract Relations Types for Use in Systems and Systems-of-Systems Design and Evolution," *2007 INCOSE Conference*, San Diego, California, June 2007.

21. Simpson, J.J., C.H. Dagli, A. Miller, S.E. Grasman, and D.L. Enke, "Development of Abstract Relation Types for Systems and System-of-Systems Evaluation", *CD Proceedings of CSER Conference on Systems Engineering Research*, March 14-16, 2007 Hoboken, New Jersey.

22. Meng, Y., and D. Enke, "Stock Trading Based on Neural Network Modeling and Fuzzy Technical Indicators," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 17 (2007): 255-260.

23. Hartman, J., and D. Enke, "Financial Engineering: The Savior or End of Engineering Economy?," *2007 ASEE Annual Conference and Exposition*, CD-ROM Proceedings, 2007.

24. Kilicay, N., D. Enke, and C. Dagli, "Analysis of System Behavior through Cognitive Architectures," *Proceedings of the International Conference on Artificial Intelligent* (2007): 55-62.

25. Hailin, L, C. Dagli, and D. Enke, "Short-term Stock Market Timing Prediction under Reinforcement Learning Schemes," *2007 IEEE Symposium on Approximate Dynamic Programming and Reinforcement Learning*, CD-ROM Proceedings, 2007.

26. Singh, A., and D. Enke, "Fuzzy-Neural Decision Maker For Technical Analysis Indicators Using Genetic Optimization of Fuzzy Function," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 17 (2006): 97-102.

27. Kilicay, N., D. Enke, S. Ramakrishnan, and C. Dagli, "Trader Behavior Under An Evolving Stock Market Environment," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 17 (2006): 773-778.

28. Amornwattana, S., and D. Enke, "Modeling and Analysis of Derivative Trading Using Stock Return Forecasting," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 17 (2006): 779-784.

29. Tirasirichai, C., and D. Enke, "Indirect Earthquake Loss Estimation Methodology for the St. Louis Metropolitan Highway Network," *2006 American Society of Engineering Management Conference*, CD-ROM Proceedings, 2006.

30. Chavarnakul, T., and D. Enke, "A Neuro-fuzzy System of Volume Adjusted Moving Averages for Intelligent Trading Decisions," *2006 American Society of Engineering Management Conference*, CD-ROM Proceedings, 2006.

31. Gokhale, M., D. Myers, and D. Enke, "Decision Making and Valuation Tools for Understanding Uncertainty in New Product Development," *2006 American Society of Engineering Management Conference*, CD-ROM Proceedings, 2006.

32. Kilicay, N., D. Enke, S. Ramakrishnan, and C. Dagli, "Behavior of Technical Trading Agents in a Simulated Stock Market," *2006 IERC Conference, CD-ROM Proceedings*, 2006.

33. Chavarnakul, T., and D. Enke, S. Ramakrishnan, and C. Dagli, "Stock Trading using Neural Networks and the Ease of Movement Technical Indicator," *2006 IERC Conference, CD-ROM Proceedings*, 2006.

34. Kilicay, N., C. Dagli, and D. Enke, "Multi-Agent Architectures for Analysis of Complex Adaptive Systems," *Seventh International Conference on Adaptive Computing in Design and Manufacture*, The Institute for People-centered Computation, IP-CC (2006): 185-190.

35. Shil, P., D. Enke, and S. Ramakrishnan, "Forecasting Out-of-the-Money Call Option Strike Prices for Bull Option Spreading Strategies," *2005 American Society of Engineering Management Conference*, CD-ROM.

36. Amornwattana, S., and D. Enke, "Neural Network Based Return Forecasting with Volatility Estimation for Derivative Trading," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 15 (2005): 681-690.

37. Chavarnakul, T., and D. Enke, "Stock Trading using Neural Networks and Volume Adjusted Moving Averages," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 15 (2005): 635-643.

38. Li, H., C. Dagli, and D. Enke, ""Optimal Asset Allocation using Reinforcement Learning: A Case Study," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 15 (2005): 645-650.

39. Kilicay, N., C. Dagli, and D. Enke, "A Study of Artificial Financial Markets," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 15 (2005): 625-634.

40. Tirasirichai, T. and D. Enke, "Using Neural Networks to Identify the Type of Market Trend for Choosing the Proper Technical Analysis Indicator," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 15 (2005): 651-659.

41. Dong, Y., D. Enke, and C. Dagli, "A Modified Trading Strategy Model Combining Neural Networks with the Bollinger Band Technical Indicator," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 15 (2005): 661-669.

42. Shil, P., E. Enke, S. Ramakrishan, "Forecasting the Sell Option Strike Price for a Bull Spread Stock Option Trading Strategy," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 15 (2005): 611-680.

43. Tirasirichai, C., S. Amornwattana, and D. Enke," The Economic Aspects of Power System Design," *2005 IERC Conference Proceedings on CD-ROM*, Atlanta, GA, 2005.

44. Thurau, R., D. Enke, and C. Dagli, "Development of an Integrated Facilities Management Baseline at a Federal Agency Using a Systems Engineering Approach," *2005 INCOSE International Symposium*, CD-ROM Proceedings, 2005.

45. Sampath Kumar, S.K., D. Myers, and D. Enke, "Valuation Approaches for Technology Transfer: A Review," *2004 American Society of Engineering Management (ASEM) Conference,* Conference Proceedings (2004): 613-620.

46. Mepokee, J., D. Enke, and B. Chowdhury, "Cost Allocation for Transmission Investment Using Agent-based Game Theory," *8th International Conference on Probability Methods Applied to Power Systems, 2004.*

47. Amornwattana, S., and D. Enke, "A Comparison of Methods for Derivative Trading using Stock Return Forecasting," *Intelligent Engineering Systems through Artificial Neural Networks,* Vol. 14 (2004): 741-746.

48. Chavarnakul, T., D. Enke, and R. Chafin, "An Application of Neural Networks with the Bollinger Band Technical Indicator for Stock Trading," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 14 (2004): 723-728.

49. Mepokee, J., D. Enke, and B. Chowdhury, "Using Coalition Formation and Game Theory for Allocating Capital to New Transmission Investment," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 14 (2004): 729-734.

50. Mepokee, J., D. Enke, and C. Dagli, "Fuzzy Neural Network Models for Electrical Load Forecasting," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 14 (2004): 955-960.

51. Tirasirichai, C., D. Enke, and R. Chafin, "A Neural Network for Inflation Forecasting," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 14 (2004): 717-722.

52. Trinkle, D., and D. Enke, "Beating the House: A Study on Improving Bollinger Bands using Neural Networks," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 14 (2004): 699-704.

53. Ovlia, V., and D. Enke, "Financial Forecasting using a Neural Network Trained with the MACD Technical Indicator," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 14 (2004): 693-698.

54. Li, H., C. Dagli, and D. Enke, "Forecasting Series-based Stock Price Data using Direct Reinforcement Learning," *Proceedings of the IEEE International Joint Conference on Neural Networks,* Budapest, Hungary, Vol. 2 (2004): 1103-1108.

55. Murray, S., D. Enke, and S. Ramakrishnan, "Successfully Blending Distance Students into the On-Campus Classroom," *2004 ASEE Annual Conference & Exposition*, Salt Lake City, June 20-23, CD-ROM Proceedings.

56. Amornwattana, S., and D. Enke, "A Hybrid Option Pricing Model Using a Neural Network for Forecasting Volatility," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 13 (2003): 725-730.

57. Varma, P., and D. Enke, "Modeling Foveal Human Image Processing for Enhanced Contrast and Edge Detection of Images used in Artificial Vision Systems," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 13 (2003): 579-584.

58. Enke, D., "Real Options for Deregulated Electricity Markets," *2003 American Society of Engineering Management (ASEM)* Conference, Conference Proceedings (2003): 505-514.

59. Enke, D., "Experiences Teaching Engineering Economy through Distance Education," *Midwest American Society of Engineering Education (ASEE) Conference*, September 2003, Rolla, MO.

60. Thawornwong, S., D. Enke, and C. Dagli, "Genetic Algorithms and Neural Networks for Stock Trading Prediction and Technical Signal Optimization," *33rd Annual Meeting of the Decision Sciences Institute* in San Diego (2002): 776-781.

61. Bogullu, V.K., D. Enke, and C. Dagli, "Using Neural Networks and Technical Indicators for Generating Stock Trading Signals," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 12 (2002): 721-726.

62. Thawornwong, S., D. Enke, and C. Dagli, "Genetic Algorithms and Neural Networks for Stock Trading Prediction and Technical Signal Optimization," *33rd Annual Meeting of the Decision Sciences Institute* in San Diego (2002): 776-781.

63. Vaithianathasamy, S., and D. Enke, "Comparison of Hourly and Daily Neural Network Models For Forecasting Hourly Electric Load," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 11 (2001): 715-720.

64. Thawornwong, S., D. Enke, and C.H. Dagli, "Using Neural Networks and Technical Analysis Indicators for Predicting Stock Trends," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 11 (2001): 739-744.

65. Bogullu, V.K., D. Enke, and C. Dagli, "Intelligent Technical Stock Analysis Using Fuzzy Logic and Trading Heuristics," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 11 (2001): 313-318.

66. Hemsathapat, K., C. Dagli, D. Enke, "Neuro-Fuzzy-Genetic Architecture for Data Mining," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 11 (2001): 375-380.

67. Hemsathapat, K., C. Dagli, D. Enke, "Using a Neuro-Fuzzy-Genetic Data Mining Architecture to Determine a Marketing Strategy in a Charitable Organization's Donor Database," *2001 IEEE International Engineering Management Conference*, Albany, NY, October 2001.

68. Thawornwong, S., D. Enke, C.H. Dagli, "Neural Network Models for Classifying the Direction of Excess Stock Return," *32nd Annual Meeting of the Decision Sciences Institute* in San Francisco, November, 2001.

69. Thawornwong, S., D. Enke, "The Use of Data Mining, Neural Network Models, and Validation Techniques for Predicting Excess Stock Returns," *Second International ICSC Symposium on Advanced Computing in Financial Markets* in Bangor, Wales, U.K., May, 2001.

70. Disorntetiwat, P., C.H. Dagli, D. Enke, "Multiple Generalized Regression Neural Networks with a Gating Network for Global Stock Index Forecasting," *Second International ICSC Symposium on Advanced Computing in Financial Markets* in Bangor, Wales, U.K., May, 2001.

71. Enke, D. and S. Vaitianathasamy, "Electric Load Forecasting Using Trend Data and a Feed Forward Neural Network," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 10 (2000): 1019-1024.

72. Enke, D., S. Vaitianathasamy, and P. Diwe, "Factorial Design for Developing Feed Forward Neural Network Architectures," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 10 (2000): 109-114.

73. Enke, D., "A Connectionist Architecture of the Pulvinar Nucleus for Focusing Visual Attention on Salient Features," *Intelligent Engineering Systems Through Artificial Neural Networks*, Vol. 7 (1997): 29-35.

74. Enke, D.L., and C.H. Dagli, "Modeling the Amacrine Cells in the Primate Retina for Edge Detection and Contrast Enhancement of Images Provided to Artificial Vision Systems," *Intelligent Engineering Systems Through Artificial Neural Networks*, Vol. 6 (1996): 77-82.

75. Enke, D.L., H.C. Lee, A.M. Ozbayoglu, and A. Thammano, "An Application to Speaker Identification Using SimNet," *Intelligent Engineering Systems through Artificial Neural Networks*, Vol. 5 (1995): 69-76.

Conference Proceedings (Refereed by Abstract):

1. Mepokee, J., D. Enke, and B. Chowdhury, "Cost Allocation using Intelligent Agents for New Transmission Investment under Electricity Restructuring," *2003 North American Power Conference*, CD-ROM proceedings, Rolla, October 2003.

2. Enke, D., "Experiences Teaching Engineering Economy through Distance Education," presented at the *2003 Midwest American Society of Engineering Education (ASEE)* conference, Rolla, September 2003, CD-ROM.

3. Mepokee, J., D. Enke, and S. Thawornwong, "Applying Portfolio Management during Electricity Deregulation," *ICPR Americas Conference*, November 2002, CD-ROM.

4. Amornwattana, S., and D. Enke, "Using Real Options for Determining Scheduling Priority under Uncertainty," *ICPR Americas Conference*, November 2002, CD-ROM.

5. Somanchi, S., C. Dagli, and D. Enke, "Machine Part Family Formation Utilizing the Hausdorff-Voronoi Neural Network (HAVNET)," *ICPR Americas Conference*, November 2002, CD-ROM.

6. Enke, D., "A Biologically Inspired Connectionist Architecture for Directing Attention to Salient Visual Field Objects," *IEEE International Conference on Systems, Man, and Cybernetics*, Vol. 2 (1997): 999-1004.

7. Enke, D., and C. Dagli, "Image Noise Reduction and Segment Completion by Modeling the Neural Interactions within and Between Area V1 and the LGN," presented at the *2nd International Conference on Computational Intelligence and Neuroscience*, North Carolina, March 1997.

8. Enke, D., and C. Dagli, "Modeling the Lateral Cortical Connections and Area V1 to LGN Feedback for Producing Segment Completion, Noise Reduction, and Attentional Effects," *SPIE Conference, Human Vision and Electronic Imaging II* (1997): 203-214.

9. Enke, D.L., and C.H. Dagli, "Modeling Biological Visual Processes for Improved Contrast Enhancement and Edge Detection of Artificial Vision Systems," *Applications and Science of Artificial Neural Networks II, SPIE Conference*, Vol. 2760 (1996): 346-357.

10. Enke, D.L., and C.H. Dagli, "Using a viewing window and the HAVNET neural network for the recognition of words within a document," *Applications and Science of Artificial Neural Networks, SPIE Conference*, Vol. 2 (1995): 841-848.

11. Ozbayoglu, M.A., H.C Lee, D.L. Enke, C.H. Dagli, and F. Ercal, "SimNet: An Unsupervised Neural Network Model for Clustering," *XVII National Conference on Operational Research and Industrial Engineering*, Ankara, Turkey, 1995.

Professional Presentations (no publication)

National and International Meetings

1. "Financial Engineering Research Opportunities after the Great Recession of 2008-2009," 2013 *American Society of Engineering Management Conference*, Minneapolis, MN, October 2013.

2. "Utilizing Distance Education Technology to Expand Engineering Management and Systems Engineering Education," *2013 Innovations in Mining Engineering Conference*, St. Louis, MO, September 2013.

3. "Computational Intelligence in Financial Engineering: Are there still opportunities given the current economic climate and changes in the markets and regulatory environment?," plenary talk given at the *Artificial Neural Networks in Engineering Conference*, November 2010.

4. "Cost Allocation for Transmission Investment Using Agent-based Game Theory", *8th International Conference on Probability Methods Applied to Power Systems,* 2004, with J. Mepokee and B. Chowdhury.

5. "A Biologically Inspired Connectionist Architecture of the Retina and Thalamocortical System," *Toward a Science of Consciousness 1998 – Tucson III*, April, 1998, The University of Arizona, Tucson, AZ.

6. "Modeling the Bidirectional Interactions Within and Between the LGN and Area VI Cells," *International Conference on Vision, Recognition, and Action*, May, 1997, Boston, MA, with C. Dagli.

Regional Meeting

1. "Forecasting Short-Term Stock Price Movement using a Supervised Learning Assisted Reinforcement Learning Architecture," *Southwest Finance Symposium*, March 30, 2007, University of Tulsa, Tulsa, OK.

Funded Research Proposals

External Funding at Missouri S&T, 2012-Present
1. "RT 109: Computational Intelligence Approach to System of Systems," *US Department of Defense, Stevens Institute of Technology: Systems Engineering Research Center*, $129,140, 01/01/2014 – 09/30/2014, Co-PI (10% effort).
2. "RT 44: Enterprise and System of Systems Modeling - Part 3 Extension (An Advanced Computational Approach to System of Systems Analysis & Architecting using Agent Based Behavioral Modeling)," *US Department of Defense, Stevens Institute of Technology: Systems Engineering Research Center*, $161,430, 03/01/2013 – 12/31/2013, Co-PI (15% effort).
3. "Applied Engineering Management Program - Masters of Science in Engineering Management," *King Saud University*, $483,399, 01/01/2012 – 07/31/2015, PI (50% effort).
4. "RT 44: Enterprise and System of System Modeling - Part 3," *US Department of Defense, Stevens Institute of Technology: Systems Engineering Research Center*, $103,300, 09/28/2012 – 05/31/2013, Co-PI (20% effort).

External Funding at University of Missouri - Rolla, 2000-2007
1. "Fellowship Program in Interdisciplinary Graduate Education in Energy Research Linked to Sound Public Policy Making," $797,875, *U.S. Department of Education*, 08/01/2004 – 07/31/2007, Co-PI (14% effort).
2. "Earthquake Mitigation Research Program of Highway Systems," $800,000, *Federal Highway Administration*, 02/01/2002 – 01/31/2004, Co-PI (3% effort).
3. "Electricity Deregulation in the State of Missouri," $20,000 (funding as part of a $70,000 gift grant from Ameren Corporation to the University of Missouri - Rolla), *Ameren/UE Corporation*, 9/1/2001 - 8/31/2002, PI (100% effort).
4. "Intelligent and Interactive Artificial Vision," $27,800, *Missouri Research Board*, 9/1/2001 - 8/31/2003, PI (100% effort).

External Funding at Binghamton University, 1999-2000

1. "Hybrid Load Forecasting Model," *New York State Gas and Electric*, 1/31/2000 - 7/28/2000, $97,997, Co-PI (50% effort).
2. "FlexJet Feeder Optimization," $19,930, *Universal Instruments Corporation*, 1/24/2000 - 6/30/2000, PI (100% effort).
3. "GSM Troubleshooting Knowledge Base," $11,662, *Universal Instruments Corporation*, 9/20/1999 - 1/21/2000, PI (100% effort).
4. "Load Forecasting," $34,718, *New York State Gas & Electric*, 7/1/1999 - 9/30/1999, Co-PI (50% effort).
5. "FlexJet Optimization," $11,708, *Universal Instruments Corporation*, 6/14/1999 - 8/27/1999, PI (100% effort).

Non-Funded Proposals: Over 40 proposals submitted to NSF, DOE, NIH, FHA, and private industry. See above for funded proposals.

Executive and Professional Development Course Taught

"Engineering Economics," Missouri Society of Professional Engineers (MSPE), 2003

Master's and Doctoral Committees

Chair for 8 M.S. and 9 Ph.D. students while at Missouri S&T / University of Missouri – Rolla, as well as a committee member on over 60 other graduate committees.

Service Activities (Missouri S&T, 2012-present)

University/UM System
- ASEM Merritt Williamson Award Committee, Chair, 2020
- Campus Promotion and Tenure Committee, 2015-2017, 2020
- CaRE PhD Qualifier Exam Question for my ENG MGT 6213 course (2 students), 2020
- Chancellor's Faculty Advisory Panel on the Kummer School of Innovation, Entrepreneurship, and Economic Development, Member, 2020-2021
- Chief eLearning Office Search Committee, UM System, Member, 2019
- College of Arts, Sciences, and Business Third Year Review Committee, 2017, 2019, 2020
- College of Engineering and Computing Dean's Educator Award Committee, 2020
- College of Engineering and Computing Dean's Teaching Scholar Committee, Chair, 2017
- College of Engineering and Computing Third Year Review Committee, 2017-2018
- College of Engineering and Computing P&T Committee, 2015-2017, 2019-2021
- College of Engineering and Computing P&T Committee, Chair, 2020-2021
- College of Engineering and Computing P&T Committee, 3rd Year Review, 2020
- eLearning Online Faculty Advisory Committee, UM System Committee, 2018-2020
- eLearning Online Faculty Advisory Committee Mini-retreat, January 2020
- EMSE Post-tenure Award Review Process Committee, Member, 2020
- EMSE Promotion and Tenure Committee, Chair/Member, 2015-2020
- EMSE Strategic Planning Faculty Pillar Committee, Chair, 2020
- Faculty Advisory Council on Global Education, 2018-2020
- Faculty Conduct Committee, 2017-2019
- Faculty Tenure Policy Review Committee, 2017
- Global Learning Task Force/Advisory Panel, 2018-2020
- Intelligent Systems Center, Member, 2015-2020
- Intelligent Systems Center Graduate Student Paper Reviewer, 2017-2018, 2020
- Laboratory for Investment and Financial Engineering, Director, 2012-present
- Miner Immersion Lunch with EMSE Parents, Spring 2020
- Missouri S&T Campus P&T Policy Committee, 2018-2019
- Missouri S&T Career Fair Lunch Ambassador, Spring 2020
- Missouri S&T Global Learning Task Force/Advisory Panel, 2018-2020

- Missouri S&T Non-Tenure Track Review Committee, 2020-2021
- Missouri S&T Vice Provost of Global Learning Search Committee, 2020
- Online Faculty Advisory Committee, UM System Committee, 2018-2020
- Opportunities & Employer Relations (COER) Career Fair Lunch Ambassador, 2020
- Provost Search Committee, Member, 2013-2014
- Special Budget Task Force committee assigned by the Provost, Member, 2012
- University-wide Faculty Senate Tenure Representative, Alternate, 2017-2019
- Vice Chancellor for Global Learning Search Committee, Chair, 2014-2015
- Vice Provost for Undergraduate Studies Search Committee, Member, 2012-2013
- Vice Provost/Deans Transition Steering Committee, Co-Chair, 2014

Department
- Department Chair, EMSE, 2012-2015
- Director, Laboratory for Investment and Financial Engineering, 2012-present
- EMSE Executive Committee, Chair, 2012-2015
- EMSE Graduate Research Assistant Award Committee, Spring 2017
- EMSE Promotion and Tenure Committee, Chair/Member, 2015-2020
- EMSE Strategic Planning Committee, Chair, 2012-2015
- Engineering Management PhD Oral Exam, Participant/Reviewer, 2015-2018
- Engineering Management PhD Written Exam Question, 2015-2019
- Financial Engineering Association (FEA), Advisor, 2012-2015
- Systems Engineering PhD Oral Exam, Participant/Reviewer, 2015-2019

Service Activities (The University of Tulsa, 2007-2011)

University
- Mortar Board National College Honor Society, Faculty Co-Advisor for the TU Chapter, 2009-2011
- TU Graduate Council, Member, 2008-2011

College
- Article for the *Collins College of Business Magazine*, "Shining Light on the Financial Markets," 2009
- Collins College of Business Research & Faculty Development Committee, Member, 2010-2011
- Collins College Majors and Career Day, Finance Booth, 2010-11
- Graduate Business Programs Academic Policy and Review Committee, Member, 2007-2011
- MBA Core Committee, Member, 2008-2010
- MBA Curriculum Development Group, Member, 2008-2011
- Member, Review Committee, College of Business "Inspirational High School Teacher Prize", 2009

Department
- Department Chair, Finance and Operations Management, 2011
- Department Promotion and Tenure Committee, 2007-2011
- Faculty Search Committee, Member, 2008-2009, Chair, 2010-2011, 2011-2012
- Friends of Risk Seminar Series, Board Member and Chair, 2007-2011
- Visiting Faculty Search Committee, Member, 2007-2008

Service Activities (University of Missouri-Rolla, 2000-2007)

University
- Chancellor's Scholar Day Interviewer
- Graduate Teaching Assistant Evaluator
- ISC Graduate Student Seminar Series Coordinator
- Minority Engineering Faculty Orientation Program
- Rolla Day participant at the Capital, Jefferson City - Energy Display
- UMR Earth Day Celebration - Energy Pricing Display
- UMR MITE program - profit/loss simulation for students and banquet attendance
- UMR School of Engineering Awards and Recognition Committee, Member
- UMR School of Engineering Curricula Admissions and Academic Standards Committee, Member

College
- Faculty Advisor for the UMR "Hydrogen Fueling Station" Student Design Team
- School of Engineering Honors Committee, Member

Department
- Ad Hoc Engineering Management Strategy Committee, Member
- Ad Hoc Engineering Management Workload Committee, Member
- Alpha Iota Delta Honor Society, Faculty Advisor
- Director, Laboratory for Investment and Financial Engineering, 2002-2007
- EMSE Financial Engineering Association, Advisor
- EMSE Financial Management Association, Advisor
- EMSE Graduate Seminar Series, Coordinator
- Engineering Management Faculty Search Committee, Member, Chair
- Engineering Management Graduate Committee, Member
- Engineering Management Honors Committee, Member
- Engineering Management Smart Engineering Systems Lab Committee, Member
- Outstanding Teaching and Research Awards Committee, Chair
- Phone-a-thon participant for prospective EMSE students

Service Activities (Academic Professional Service)

Editorial Board, Conference Chair, Organizing Committee
- Co-Chair, Artificial Neural Networks in Engineering Conference, 2004-2008
- Co-Chair, Complex Adaptive Systems Conference, 2012-2017
- Editorial Board Member, The Engineering Economist, 2005-2011

- Organizing Committee, Artificial Neural Networks in Engineering Conference, 1998-2010
- Organizing Committee member, Complex Adaptive Systems Conference, 2012-2017
- Program Committee, IEE-INNS-ENNS Int. Joint Conference on Neural Networks, 2001-2005

Editorial Review (Conference, Grants)
- Grant Reviewer for NSIF BIO/DBI Program, 2005
- International Conference on Computational Intelligence in Economics & Finance, 2005
- International Joint Conference on Neural Networks, 2001-2007
- Journal Area Editor - Risk Management, *The Engineering Economist*, 2013-present
- Journal Guest Editor, "Special Issue on Financial Engineering," *The Engineering Economist*, 2007-2008, Published 2008, Volume 53, No. 3
- Missouri Research Board, Grant Review Panel, 2004
- Ohio University Internal Research Proposals, 2003, 2004, 2005
- Paper reviewer for the Artificial Neural Networks in Engineering Conference, 2004-2009
- Proposal Reviewer for the NSF DMII Program, 2004
- Social Sciences & Humanities Research Council of Canada proposal review, 2008

Journal Manuscript Review
- Algorithmic Finance, 2015-2017
- Annals of Operations Research, 2010
- Applied Sciences, 2016-2017
- Applied Soft Computing, 2005-2011
- Artificial Intelligence Review, 2004-2008, 2017-2018
- Behavioral Finance Review, 2007
- Computational Management Science, Special issue on SVM's, 2005
- Connection Science, 2019
- Decision Science Institute Conference, 2001-2003
- Decision Support Systems, 2009-2011
- Economics and Business Letters, 2016-2017
- Economic Modelling, 2016-2017
- Electronic Letters, 2003-2007
- Expert Systems with Applications, 2015-2020
- Financial Innovation, 2018-2020
- IEE Proceedings: Vision, Image and Signal Processing, 2001-2007
- IEEE Access, 2018, 2020
- IEEE Computational Intelligence Magazine, 2018
- IEEE Systems Journal, 2010
- IEEE Transactions on Emerging Topics in Computational Intelligence, 2017
- IEEE Transactions on Engineering Management, 2005-2008
- IEEE Transactions on Systems, Man, and Cybernetics – Part C (Applications), 2010
- IIE Transactions on Operations Engineering, 2000-2006
- IIE Transactions on Data Mining and Web Mining, 2004-2006

- Information Sciences, 2004, 2008-2011, 2014
- Intelligent Systems in Accounting, Finance, and Management, 2008-2011, 2020
- International Journal of Banking, Accounting, and Finance, 2013
- International Journal of Data Analysis Techniques and Strategies, 2011
- International Journal of General Systems, 2004-2011, 2013
- International Journal of Forecasting, 2017-2018
- International Journal of Information Technology, 2018
- Journal of Behavioral and Experimental Economics, 2020
- Journal of Computational Management Science, 2004-2006
- Journal of Computational Methods in Sciences and Engineering, 2016-2017
- Journal of Economics and International Finance, 2011
- Journal of Fuzzy Systems, 2010-2011
- Journal of Integrated Computer-Aided Engineering, 2000-2005
- Journal of Smart Engineering Systems Design, 2001-2004
- Mathematics and Computers in Simulation, 2015-2017
- Mathematical and Computer Modeling, 2003-2005
- Mathematical Problems in Engineering, 2010-2011
- New Mathematics and Natural Computing, 2005-2006
- Neural Computing and Applications, 2016-2017, 2020
- Neural Networks, 2001-2005, 2013
- Neural Network World, 2010
- Neural Processing Letters, 2014
- Neurocomputing, 2015-2016
- Soft Computing, 2009-2011
- The Engineering Economist, 2006-2020

Books Reviewed
- Reviewer for the edited book "Neural Networks in Finance and Manufacturing", 2005
- Reviewer for the book "Advances in time series forecasting", Bentham Science, 2020
- Reviewer for the edited book, "Neural Networks in Business Forecasting", 2002
- Reviewer for the book, "Plausible Neural Networks for Biological Modeling", for the *Journal of Systems Science*, George Klir, editor, 2002
- Textbook review, Bussey and Eschenback, *Economic Analysis of Industrial Projects*, 3rd ed., 2013
- Textbook review for Newman's text *Engineering Economic Analysis*, 10th ed., 2008

Session Chairperson
- Artificial Neural Networks in Engineering Conference, 1994-1998, 2000-2008
- Complex Adaptive Systems Conference, 2012-2017
- International Conference on Computational Intelligence in Economics & Finance, 2005
- International Joint Conference on Neural Networks, 2001
- Midwest American Society of Engineering Education Conference, 2003
- Second International ICSC Symposium on Advanced Computing in Financial Markets, 2001

Discussant
- 33rd Annual Meeting of the Decision Sciences Institute in San Diego, 2002
- Second Int. ICSC Symposium on Advanced Computing in Financial Markets, Wales, U.K., 2001 Southwest Finance Symposium, discussant for the paper "Predicting Superior Returns from Model Parameter Estimations," 2009

Center and Laboratory Director / Member

- Center for Intelligent Systems, Research Investigator, Binghamton, 1999-2000
- EMSE Smart Engineering Systems Lab, Member, 2000-2007, 2012-2017
- Laboratory for Investment and Financial Engineering, Director, 2012-present
- Missouri Transportation Institute, Member, 2004-2007
- TU Williams Risk Management Center, Director, 2011
- UMR Energy Research and Development Center, Member, 2002-2007
- UMR/Missouri S&T EMSE Laboratory for Investment and Financial Engineering (LIFE), Director, 2002-2007, 2012-present
- UMR/Missouri S&T Intelligent Systems Center, Research Investigator, 2001-2007, 2015-2019

Professional Memberships

- American Finance Association (AFA), 2003-2011
- American Society of Engineering Education (ASEE), 1999-2007, 2013-2017
- American Society of Engineering Management (ASEM), 2000-2006, 2012-2019
- Association to Advance Collegiate Schools and Businesses (AACSB), 2009-2011
- Chartered Financial Analysts (CFA), 2007-2011
- Decision Sciences Institute (DSI), 1994-2000
- Eta Kappa Nu Electrical Engineering Honor Fraternity, 1988-present
- Financial Executives International (FEI), 2007-2011
- Financial Management Association (FMA), 2001-present
- Friends of Finance, 2007–2011
- Global Association of Risk Professionals (GARP), 2002-2007
- Institute of Electrical and Electronics Engineers (IEEE), 1986-1997
- Institute of Industrial and Systems Engineers (IISE), 1994-2007, 2012-2019
- International Association of Financial Engineers (IAFE), 2002-2007
- International Council on Systems Engineering (INCOSE), 2003-2007, 2012-2016
- International Neural Networks Society (INNS), 1995-1998
- Phi Eta Sigma Honor Fraternity, 1985-Present
- Professional Risk Managers International Association (PRMIA), 2002-2007
- Tau Beta Pi Engineering Honor Fraternity, 1988-present

Civic Activities

- Panel member, along with Jim Holloman of MidFirst Bank and Jake Dollarhide of Longbow Asset Management, discussing the 2008 economic crisis at the October 2008 Leadership Tulsa breakfast.

- Presentation of the paper "A Hybrid Options Pricing Model Using a Neural Network for Estimating Volatility" delivered to the faculty and students of the Business School and Mathematics Department at Pittsburg State, March 2009
- Rolla Rotary Club, Member, 2002 - 2007
- Spoke to the Tulsa Women's Investment Group on "Bonds and Fixed Income Securities," 2008
- Theta Tau Omega Casino Night Charity Fund Raiser, 2002