

Jane E. Oppenlander

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Employment

Scientist, Bechtel Marine Propulsion Corporation - Knolls Atomic Power Laboratory, Schenectady, NY, Sept. 1981-present.

- **Leadership Activities**

- Lead a team of eight IT professionals developing and applying business case analysis and portfolio rationalization methods to enterprise software assets. Identified software applications for consolidation with resulting cost savings.
- Lead a team of eight IT professional selecting metadata standard for enterprise-wide information management.
- Lead a multidisciplinary team of four scientists and engineers developing simulation software and conducting parametric studies for thermophotovoltaic energy conversion system design. Produced industry leading 80 watt demonstration system. Seven publications resulted.
- Instructor for introductory statistics and design of experiments courses.
- Developed and taught business case analysis for IT management course.
- Enterprise-wide consulting in statistics, business analytics, simulation, operations research, and patenting.

- **Technical Activities**

- Expert system for eddy current data interpretation including reasoning with uncertainty and machine vision capabilities. System resulted in reduced time to complete system inspections and consistent, high-quality evaluation of signals. Three US and three international patents resulted.
- Rule-based expert system to schedule complex sequences of student training.
- Simulations studies to evaluate local area network design, manufacturing facility layouts, manpower planning, and warehouse logistics.
- Reliability studies for design of manufacturing facility.
- Software development for signal processing applications.

Participating Professor of Management (Adjunct 1988-2007), School of Management, Union Graduate College, Schenectady, NY. Teaching graduate courses in statistics, management information systems, and computer simulation. June 1988 - present.

Adjunct Assistant Professor of Empirical Bioethics, The Bioethics Program, Union Graduate College (Schenectady, NY) and Mount Sinai School of Medicine (New York, NY). Teaching graduate courses in statistics and empirical research methods. January 2008 - present.

Visiting Associate Professor, MBA Program, State University of New York - Empire State College, Saratoga Springs, NY. Development and teaching of web-based managerial decision making, operations management, and management information systems courses for distance learning MBA program. September 1999 – August 2005.

Graduate Teaching Fellow, Department of Mathematics, University of Vermont, Burlington, VT. Taught two calculus courses per semester. September 1980 - June 1981.

Software Engineer, Simmonds Precision Products, Inc., Vergennes, VT. Computer programming for aerospace applications. June 1979 - September 1980.

Education

Doctor of Philosophy, Administrative and Engineering Systems, 1986, Graduate Management Institute, Union College, Schenectady, NY. Dissertation - *Statistical Modeling and Simple Robust Estimators for Lower Percentiles in the Context of Life Data Analysis*.

Master of Science in Statistics, 1981, **Bachelor of Science** in Education, 1979, **Bachelor of Arts** in Mathematics, 1979, University of Vermont, Burlington, VT.

Certified Six Sigma Green Belt, Knolls Atomic Power Laboratory, Lockheed Martin Corporation, May 2008.

Consulting

Graduate Management Admissions Council, McLean, VA. Development of items for statistics assessment test for MBA programs. 2007.

Trans/Op, Inc., Williston, VT. Statistical analysis, operations research, and software development for traffic engineering and urban planning applications. September 1979 - 2005.

Departments of Critical Care - Albany Medical Center, Albany, NY, and **Ellis Hospital**, Schenectady, NY. Data analysis and experiment design for clinical research projects. 1986-1994.

Book

Schmee, J. and J.E. Oppenlander, *JMP Means Business: Statistical Models for Management*, SAS Press, forthcoming, 2010.

Invited Publication

Hahn, G.J., N. Doganaksoy, R. Lewis, J.E. Oppenlander, and J. Schmee, "Statistical Literacy: A Short Course," Joint Statistical Meetings, Vancouver, BC, August 2010.

Refereed Publications

Hahn, G.J., N. Doganaksoy, R. Lewis, J.E. Oppenlander, and J. Schmee, "Numbers in Everyday Life: A Short Course for Adults," *AmStat News*, American Statistical Association, February 2009.

Oppenlander, J.C. and J.E. Oppenlander, "Simulation of Left-turn Storage Lengths without Separate Signal Phase" *ITE Journal*, Institute of Transportation Engineers, May 2002.

Oppenlander, J.C. and J.E. Oppenlander, "Storage Requirements for Signalized Intersection Approaches - Uniform Arrivals," *ITE Journal on the Web*, www.ite.org, Institute of Transportation Engineers, November 1999. Also presented at Jornadas de Transporte y Vialidad, Merida, Venezuela, June 2000.

Oppenlander, J.C. and J.E. Oppenlander, "Storage Requirements for Signalized Intersection Approaches," *ITE Journal*, Institute of Transportation Engineers, February, 1996. Also presented at Jornadas de Transporte y Vialidad, Merida, Venezuela, June 2000.

Feustel, P.J., R.J. Perkins, J.E. Oppenlander, H.H. Stratton, and I.L. Cohen, "Feasibility of Continuous Oxygen Delivery and Cardiac Output Measurement by Application of the Fick Principle," *American Journal of Respiratory and Critical Care Medicine*, Vol. 149, 1994.

Oppenlander, J.C. and J.E. Oppenlander, "Storage Lengths for Left-turn Lanes with Separate Phase Control," *ITE Journal*, Institute of Transportation Engineers, January 1994.

Levy, A.J., J.E. Oppenlander, D.M. Brudnoy, J.M. Englund, K.C. Loomis, and A.M. Barsky, "Dodger, a Diagnostic Expert System for the Evaluation of Nondestructive Test Data," *Proceedings of Innovative Applications of Artificial Intelligence Conference*, American Association for Artificial Intelligence, July 1993.

Levy, A.J., J.E. Oppenlander, D.M. Brudnoy, J.M. Englund, K.C. Loomis, and A.M. Barsky, "Dodger, a Diagnostic Expert System for Eddy Current Evaluation," *Materials Evaluation* (special issue on eddy current testing), January 1993.

Oppenlander, J.C. and J.E. Oppenlander, "Design Lengths for Left-turn or Right-turn Lanes with Separate Signal Phases," *ITE Journal*, Institute of Transportation Engineers, July 1989.

Oppenlander, J.E., J. Schmee, and G.J. Hahn, "Simple Robust Estimators for Normal Distribution Tail Percentiles and Their Properties," *Communications in Statistics - Theory and Methods* (special issue on quantile estimation), September 1988.

Patents

Brudnoy, D.M., J.E. Oppenlander, and A.J. Levy, "Automated Detection and Location of Indications in Eddy Current Signals," US Patent 6,115,674, September 5, 2000.

Oppenlander, J.E., K.C. Loomis, D.M. Brudnoy, and A.J. Levy, "Automated Feature Detection and Identification in Digital Point-ordered Signals," US Patent 5,737,445, April 7, 1998, Japanese Patent 8,292174, November 5, 1996, French Patent 2,733,337, October 25, 1996. Canadian Patent 2,174,491.

Levy, A.J., J.E. Oppenlander, D.M. Brudnoy, J.M. Englund, and K.C. Loomis, "Expert System for Analyzing Eddy Current Measurements," US Patent 5,339,256, August 16, 1994.

Contributed Papers

Campbell, B., B. Gurau, R. Lewis, J.E. Oppenlander, D. Poeth, and J. Vollmer, "Naval Reactors Prime Contractor Team Perspective on Lithium Hydride for Use in a Space Shield," Space Technology and Applications International Forum, Albuquerque, NM, February 2006.

Oppenlander, J.C. and J.E. Oppenlander, "Simulation Model for Exclusive Left-turn Phasing," *Proceedings - Road Safety on Four Continents*, Warsaw, Poland, October 2005.

Oppenlander, J.E., J.L. Vell, L.R. Danielson, M.W. Dashiell, and D.M. DePoy, "Analysis of Thermophotovoltaic Networking Losses," Space Technology and Applications International Forum, Albuquerque, NM, February 2005.

Brown, E.J., S.R. Burger, L.R. Danielson, D.M. DePoy, J.M. Dolatowski, P.M. Fourspring, J.E. Oppenlander, J.R. Parrington, K.D. Rahner, W.F. Topper, and J.L. Vell, "Test Performance Results for an 80 Watt Thermophotovoltaic Energy System," Space Technology and Applications International Forum, Albuquerque, NM, February 2005.

Oppenlander, J.E., J.L. Vell, W.S. Gaes, D.M. Sigantoria, L.R. Danielson, and M.W. Dashiell, "The Use of Simulation for the Design and Analysis of Thermophotovoltaic Networks," *Proceedings of the 2nd International Energy Conversion Engineering Conference*, Providence, RI, August 2004.

Burger, S.R., E.J. Brown, K.D. Rahner, L.R. Danielson, J.E. Oppenlander, J.L. Vell, and D.M. Sigantoria, "Thermophotovoltaic Array Optimization," *Proceedings of the 2nd International Energy Conversion Engineering Conference*, Providence, RI, August 2004.

Baldasaro, P.F., M.W. Dashiell, J.E. Oppenlander, J.L. Vell, P.M. Fourspring, K.D. Rahner, L.R. Danielson, S.R. Burger, and E.J. Brown, "System Performance Projections for TPV Energy Conversion," *American Institute of Physics: Proceedings of the Sixth Conference on TPV Generation of Electricity*, Freiburg, Germany, June 2004.

Vell, J.L., J.E. Oppenlander, W.S. Gaes, D.M. Sigantoria, and L.R. Danielson, "Thermophotovoltaic Network Design: A Simulation Study," Space Technology and Applications International Forum, Albuquerque, NM, February 2004.

Oppenlander, J.C. and J.E. Oppenlander, "A Guideline for Determining Exclusive Left-turn Phasing," *Compendium of Technical Papers*, 72nd Annual Meeting, Institute of Transportation Engineers, August 2002.

Oppenlander, J.E., G.W. Charache, W.S. Gaes, M. LoCascio, J.L. Vell, and D.M. Sigantoria, "Thermophotovoltaic Network Design and Analysis," Monolithic Interconnected Module Research and Development Conference, Pittsburgh, October 2000.

Oppenlander, J.C. and J.E. Oppenlander, "Simulation of Intersection Approaches with Random and Uniform Arrival Patterns," *Proceedings - Road Safety on Three Continents*, Pretoria, South Africa, September 2000.

Oppenlander, J.C. and J.E. Oppenlander, "Simulation of Left-turn Storage Lengths without Separate Phase Control," *Compendium of Technical Papers*, 69th Annual Meeting, Institute of Transportation Engineers, August 1999. Also presented at Jornadas de Transporte y Vialidad, Merida, Venezuela, June 2000.

Oppenlander, J.E., "Design and Evaluation of a Reasoning with Uncertainty Capability in a Diagnostic Expert System," Institute of Management Sciences/Operations Research Society of America Joint National Meeting, Chicago, May 1993.

Oppenlander, J.C. and J.E. Oppenlander, "Design Lengths of Left-turn Lanes at Signalized Intersections with Separate Phases as Determined by Simulation," 7th Panamerican Congress on Traffic and Transportation Engineering, Caracas, Venezuela, September 1992.

Oppenlander, J.E., J. Schmee, and G.J. Hahn, "Some Simple Robust Estimators for Normal Distribution Percentiles," Joint Meeting of the American Statistical Association, The Biometric Society, and the Institute of Mathematical Statistics, Chicago, 1986.

Recognition

1999 Most Creative Invention Award, Knolls Atomic Power Laboratory, "A Highly Adaptive Method for Scheduling Student Training and Resources."

1993 Innovative Applications of Artificial Intelligence Award, American Association for Artificial Intelligence. "Dodger, a Diagnostic Expert System for the Evaluation of Nondestructive Test Data."

Winner of University of Vermont Bicentennial Songwriting Competition, "Universitas V. Montis," 1991. Adopted as alma mater of the University of Vermont.

Honorable mention, Invention of the Year, Knolls Atomic Power Laboratory, "Expert System for Analyzing Eddy Current Measurements," 1990.

Arion Music Award, University of Vermont, 1979.

Community Service

Member, Research Committee, CurePSP+ (The Society for Progressive Supranuclear Palsy), January 2008-present.

Co-director, Colonie, NY Town Band (October 2006-present) and Brass Choir (November 1995-present).

Member, Board of Directors, Guilderland (NY) Town Band, 2006-present.