
Biographical Sketch

Name: Wayne Wakeland

Title: Associate Professor

Education.

Institution and location	Degree	Year	Field of study
Harvey Mudd College, Claremont, CA	BS	1972	Engineering
Harvey Mudd College, Claremont, CA	M. Eng.	1973	Systems Engineering
Portland State University, Portland, OR	PhD	1977	Systems Science

Research and Professional Experience

Positions and Employment

1976 - 1977 Research Associate, NSF Grant, Systems Science Ph.D. Program, Portland State University Portland, OR
1978 - 1984 Planning and Scheduling Manager; Corporate Forecaster, Tektronix, Inc., Beaverton, OR
1984 - 1987 MIS Director and Materials Manager, Photon Kinetics, Inc., Beaverton, OR
1987 - 1991 Director of Manufacturing, Magni Systems, Beaverton, OR
1992 - 1993 MRP Project Manager, Epson Portland Inc., Hillsboro, OR
1993 - 2000 Information Resources Manager, Leupold & Stevens, Beaverton, OR
1978 - 2000 Adjunct Professor, Systems Science Ph.D. Program, Portland State University, Portland, OR
2000 - Present Associate Professor, Systems Science Ph.D. Program, Portland State University, Portland, OR

Professional Memberships & Honors

1973 Letter of Commendation and NASA Certificate of Achievement for master's thesis, "Development and Digital Computer Implementation of a First-Order Vector Markov Birth-Death Model"
1983-1998 American Production and Inventory Control Society (APICS)
1983 Certification as Fellow in the field of Production and Inventory Management by APICS
1988-present Cascade Systems Society (co-founder and past president)
1998-present System Dynamics Society
2000 Outstanding Teaching Award from students of the School of Engineering and Applied Sciences
2000-present International Society for the Systems Sciences
2002 Outstanding Teaching Award from students of the College of Liberal Arts and Sciences
2003-present Society for Modeling and Simulation International
2003-present Society for Chaos Theory in Psychology & Life Sciences
2004 Outstanding Teaching Award from students of the College of Liberal Arts and Sciences
2004-present IEEE Engineering in Biology and Medicine Society and Systems, Man, and Cybernetics Society
2004-present Editorial Advisory Board, *Technological Forecasting & Social Change*
2005 Received "Best Abstract" award for ICCAI 2005 conference submission
2006-present Society for Complexity in Acute Illness

Recent Publications

Refereed Journal Articles

(in press) Setamanit S., W. Wakeland and D. Raffo, "Using simulation to evaluate global software development task allocation strategies." *Software Process Improvement and Practice*. 2007.

Hornero R., M. Aboy, D. Abasolo, J. McNames, W. Wakeland, B. Goldstein, "Complex analysis of intracranial hypertension using approximate entropy." *Critical Care Medicine*, 2006, vol. 34, no. 1, pp 87-95.

Sommers, J.A., J.C. Cullen, R.R. Sinclair, and W.W. Wakeland, "Dynamic systems and organizational decision making in nonprofits," *Journal of Applied Behavioral Science*, vol. 41, no. 4, 2005, pp 482-502.

Wakeland, W.W., B. Goldstein, L. Macovsky, J. McNames, "A Computer Model of Intracranial Pressure Dynamics during Traumatic Brain Injury that Explicitly Models Fluid Flows and Volumes," *Intracranial Pressure and Brain Monitoring, Acta Neurochirurgica Supplementum*, 2005, vol. 95, pp 321-326.

Wakeland, W.W., S. Shervais, and D.M. Raffo. "Heuristic Optimization as a V & V Tool for Software Process Simulation Models," *Software Process Improvement and Practice*, 2005, vol. 10, no. 3, pp 301-309.

Aboy, M., J. McNames, W.W. Wakeland, M. Ellenby, D. Hollemon, S. Lai, R. Chesnut, S. Durham, B. Goldstein, "Pulse and Mean Intracranial Pressure Analysis in Pediatric Traumatic Brain Injury," *Intracranial Pressure and Brain Monitoring, Acta Neurochirurgica Supplementum*, 2005, vol. 95, pp 307-310.

Liu, L., and W. Wakeland, "Combining Optimizer and Metamodeling for Rail Car Structural Optimization," *Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit*, vol. 219, no. 1, 2005, pp 1-10.

Wakeland W.W., R.H. Martin, D.M. Raffo, "Using Design of Experiments, Sensitivity Analysis, and Hybrid Simulation to Evaluate Changes to a Software Development Process: A Case Study," *Software Process Improvement and Practice*, vol. 9, no. 2, 2004, pp. 107-119.

Peer-Reviewed Conference Publications

Wakeland, W., L. Macovsky, G. An, "A hybrid simulation model for studying acute inflammatory response," SpringSim 07, Norfolk, VA, March 26-29, 2007.

Wakeland, W., J. Fusion, "Complexity and sufficiency of equations used to model biomedical phenomena," proc. SCTPLS 16th Ann. Int'l Conf., Johns Hopkins Univ., Baltimore, August 2006.

Venkat, K. and W. Wakeland, "An agent-based model of Trade with distance-based transaction costs," SummerSim '06, July 2006.

Wakeland W. and K. Venkat, "Is Lean necessarily Green?" ISSS 2006, July 2006.

Venkat, K. and W. Wakeland, "Emergence of networks in distance-constrained trade," ICCS2006, June 2006.

Setamanit, S., W. Wakeland, and D. Raffo, "Exploring the impact of task allocation strategies for GSD using simulation," ProSim '06, Shanghai, China, May, 2006.

Setamanit, S., W. Wakeland, and D. Raffo, "Planning and improving GSD process using simulation," Int'l. Conf. on Software Engineering, Shanghai, China, May, 2006.

Venkat, K. and W. Wakeland, "Using simulation to understand and optimize a lean service process," SpringSim '06, Business and Industry Forum, Huntsville, AL, April, 2006.

Liu, L. and W. Wakeland, "Does more uniformly distributed sampling generally lead to more accurate prediction in computer experiments?" Proceedings of the 2005 Winter Simulation Conference, pp 2561-2571.

Wakeland, W., J. Fusion, and B. Goldstein, "A Tale of Two Methods—Agent-based Simulation and System Dynamics—Applied in a Biomedical Context: Acute Inflammatory Response," 6th European Congress of Systems Science. Paris, France. Sept., 2005.

Wakeland W., J. Fusion, B. Goldstein, "Estimation of subject-specific ICP dynamics models using prospective clinical data. Biomedicine 2005 Proc., Bologna, Italy. Sept. 2005, pp 57-66.

Bulbul, A. and W. Wakeland, "Introducing a holistic project management tool: Project Management Simulation Model (PMSM)," PICMET '05, August, 2005.

Chen, H., and W. Wakeland, "Applying system dynamics model in technology foresight: a case study of wireless VoIP in China," PICMET '05, August, 2005.

Cangur, O., B. Denouden, B. Reiff, and W. Wakeland, "Using Discrete System Simulation to Model the Lane County Criminal Justice System." PICMET '05, August, 2005.

Wakeland W. and M. Hoarfrost, "The case for thoroughly testing complex system dynamics models." Int'l System Dynamics Society Conf. Boston, MA. July 2005.

Wakeland, W.W., J. McNamers, B. Goldstein, "Calibrating an intracranial pressure dynamics model with annotated clinical data: a progress report," Annual International Conference of the IEEE Engineering in Medicine and Biology - Proceedings, San Francisco, California, 1-5 September 2004, pp. 746-749.

Liu, L., and W. Wakeland, "Using a sizing-optimizer to optimize topology and partial ground structure approach," AIAA-2004-4520, 10th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, vol. 4, 2004, pp 2420-2429.

Raffo, D.M., U. Nayak, S. Setamanit, W. Wakeland, "Using a software process simulation model to assess the impact of IV&V activities," Prosim '04 Workshop, Dublin, Ireland, May, 2004.

Liu L. and W. Wakeland, "Combining Sizing Optimizer and Metamodel Optimization for Structural Topology Optimization. Optimization Technology Conference, Breckenridge, Colorado, May 2004.

Wakeland, W.W., E.J. Gallaher, L.M. Macovsky, C.A. Aktipis, "A Comparison of System Dynamics and Agent Based Simulation Applied to the Study of Cellular Receptor Dynamics," 37th Annual Conference of the Hawaii International Complex System Society, January 2004, pp 1381-1390.

Recent Funded Research

2007-2008 "A Method for Improving Supply Chain Sustainability" Portland State University (PI).

2004-2005 "ARENA Model of Criminal Justice System," Lane Council of Governments (PI).

2003-2006 "Modeling Intracranial Pressure Dynamics in Pediatric Traumatic Brain Injury," Thrasher Research Fund (co-PI).

2003-2005 "Optimizing IV & V Costs and Benefits using Simulation," NASA (co-PI).