ALOK R. CHATURVEDI
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Purdue University
West Lafayette, Indiana 47907

EDUCATION

Ph.D.,	MIS/Computer Science, University of Wisconsin-Milwaukee, 1989.
M.S,	MIS/Computer Science, University of Wisconsin-Milwaukee, 1985.
B.E.,	Mechanical Engineering, Birla Institute of Technology, Ranchi, India, 1980.

AFFILIATIONS

Purdue University

2006 -	Professor, Krannert School of Management
2006 -	Professor, Department of Computer Sciences (Courtesy)
2012 -	Director, Institute for Social Empowerment through Entrepreneurship and Knowledge (ISEEK)
2014 - 2016	Global Affairs Fellow for Policy, Global Policy Research Institute
2004 - 2006	Associate Professor, Department of Computer Sciences (Courtesy)
2003 - 2007	Director, Purdue Homeland Security Insitute
2001 - 2012	Director, Purdue e-Business Research Center Director, Indiana Consortium for e-Business Research
1993 - 2006	Associate Professor, Krannert Graduate School Management
1988 - 1993	Assistant Professor, Krannert Graduate School Management

Institute for Defense Analyses

10/95 - 2005	Adjunct Research Staff Member, Institute for Defense Analyses, Alexandria, Virginia. IDA is a federally funded research and development center (FFRDC), whose purpose is to promote national security and the public interest.

Simulex Inc.

1999 - 2013	Founder, Chairman, and Chief Executive Officer.

RESEARCH INTERESTS

Technologies for Social Empowerment; Mobile and Serious Gaming; Predictive Analytics; Counterterrorism, Preparedness and Response; Bio-terrorism and Individual-based Computational Epidemiology; Synthetic Environment for Analysis and Simulation (SEAS); Grid Computing; Electronic Commerce; Computational Models of Human Behavior and Artificial Agents; Machine Learning and Evolutionary Computing; Enterprise Integration and Enterprise Information Systems Strategy.

INSTITUTE FOR SOCIAL EMPOWERMENT THRU' ENTREPRENEURSHIP AND KNOWLEDGE (ISEEK)

Founded the institute for social empowerment through entrepreneurship and knowledge (ISEEK). ISEEK's mission is to create massively scalable resources that will empower impoverished people from around the globe to identify and achieve their personal, social, and financial goals and raise themselves out of poverty through entrepreneurship. ISEEK along with its partners create comprehensive, contextually and culturally relevant games and deliver customized curricula using innovative Information and Communication Technologies (ICT) designed to reach and support those with the least access to education and opportunity. ISEEK's research, learning, and engagement initiatives include:

- Develop a platform for self learning that hosts massively multi-player, multi-instance, multi-language games and deliver them on mobile devices;
- Provide immersive learning opportunities to undergraduate and graduate students;
- Work with State of Jharkhand and IIM Ranchi to develop, implement, and test a sustainable, repeatable and scalable model to raise 1500 sub-subsistence level population out of poverty.

PURDUE POLICY RESEARCH INSTITUTE (GPRI)

As the Global Affairs Fellow, Dr. Chaturvedi was responsible for directing PPRI's academic activities. Specifically, through interdisciplinary research, data-driven policy analysis, education and outreach PPRI bridges the gaps in understanding among the academic, policymaking communities, and the public. Dr. Chaturvedi developed programs to:

- *Prepare students* by training them in technologies, tools, and processes for data-driven analysis for policy; creating opportunities for internships and interaction with leaders from corporations, government agencies, and think tanks.
- *Mentor faculty* through Purdue Policy Network and Shaping the Conversation thematic dinners.
- *Create resources* such as databases for policy analysis, Purdue policy methodology, and courses and certificate programs in policy analysis
- *Build partnerships* with national and international think tanks such as RAND Corporation, Chatham House for collaborative activities.

AWARDS AND RECOGNITIONS

Outstanding Commercialization Award for Purdue Faculty (2007) – in recognition for his role in the development of the Synthetic Environments for Analysis and Simulation (SEAS) technology, which seeks to explain how governments, companies, organizations and the public respond to certain situations, including terrorism. The award honors the recipients for their discoveries that have resulted, or may soon result, in commercial applications that benefit society.

Federal 100 (2007) – awarded to top executives from government, industry and academia who had the greatest impact on the government information systems community in 2006.

Sagamore of the Wabash (2005) awarded by the Governor of Indiana for his services to the State of Indiana. Sagamore of the Wabash is the highest civilian award in the State of Indiana.

2005 National Training and Simulation Association's (NTSA) award for best Simulation for Analysis in all of Department of Defense for Synthetic Environments for Analysis and Simulation (SEAS).

SEAS featured in a National Science Foundation report as a success story of taking a fundamental research to wide acceptance within the Department of Defense.

SEAS featured in *Inside the Pentagon* publication, Nov. 2, 2006.

SEAS Featured in *Federal Computer Weekly*, Nov. 6, 2006.

SEAS Featured in the *Register*, June 23, 2007.

RESEARCH GRANTS

PI, "Dynamic Data Driven Operator Error Early Warning System," four-year, $1.2M proposal submitted to Air Force Office of Scientific Research. Collaborators: Doug Adams, Sunil Prabhakar, Tahira Reid, and Robert West (Iowa State University), 2014-2017. Funded **$300,000** for Year 1.

PI, "Human Behavior Modeling for National Cyber Range," **$60,000** grant from DARPA, 2009.

PI, "CSR--CSI: Composing Large-Scale Synthetic Environments through Self-Assembly of Heterogeneous Simulations," **$325,000** grant from the National Science Foundation, 2007-2010.

PI, "Center for Computational Homeland Security," **$2,200,000** grant from Indiana 21st Century Research and Technology Fund (co-PIs: Coyle, Dark, Engi, and Mehta)

PI, 'Synthetic Environment for Continuous Experimentation," **$1,178,000** ITR grant from National Science Foundation (co-PIs: R. Aliprantis, E. Houstis, S. Mehta, J. Busemeyer, R. Bartlett, M. Ward, S. Mittal, and D. Dolk).

PI, 'Synthetic Environment for Continuous Experimentation," **$1,350,000** grant from Joint Program Executive Office for Chemical/Biological Defence (co-PIs: R. Aliprantis, E. Houstis, S. Mehta, J. Busemeyer, R. Bartlett, M. Ward, S. Mittal, and D. Dolk).

PI, "Air Traffic Management Research for the 21st Century and Beyond," **$90,000** grant from e-enterprises Center (co-PIs: M. Rotea, D. Andrisani, T. Carney, M. Nolan, and S. Mehta), 2003.

PI, "Scalable Enterprise Systems Phase II: Agent Based Scalable Enterprise System for Enterprise Co-Design," **$500,000** grant from National Science Foundation, 2001.

PI, "ICER: Indiana Consortium for e-business Research," **$1,000,000** grant from Indiana State 21st Century Research and Technology Fund, 2001

PI, "Neptune: NAVAIR Supply Chain Modeling and Simulation," **$120,000** grand from Office of Naval Research, 2001.

Co-PI, "Behavior Based Artificial Agents for Information Security," **$60,000** grant from the Center of Education and Research in Information Assurance and Security (CERIAS), Purdue University, 2001 (co-PIs Mukul Gupta, Shailendra Mehta, and Bharat Bhargava).

PI, "An Agent-based Modeling Framework for Scalable Interdependent Markets and Organizations" **$100,000** National Science Foundation, 2000.

PI, "DoD Acquisition Policy Live Cases, **$131,000** grant from the US Navy, 1999.

PI, "Information Security Policy for e-Commerce in the Financial Sector," **$50,000** grant from the Center for Education and Research in Information Assurance and Security (CERIAS), Purdue University, West Lafayette, IN 47907, 1999. (co-PIs S. Mehta and M. Gupta).

PI, "Web-based 3D Modeling and Visualization for Supply-Chain Forecasting," (co-PI Gordon Wright), funded **$100,000** by SAP America, 1998.

PI, "Database and User Interface Design for the Synthetic Environments for National Security Estimates," Funded **$20,000** by Institute for Defense Analyses, 1998.

PI, "Interagency Information Wargame," Funded **$20,000** by the Presidential commission on Critical Infrastructure Protection, 1997.

PI, "Synthetic Environments for Analysis and Simulation," (co-PIs Shailendra Mehta and Chandrajit Bajaj), funded **$253,000** equipment grant from Intel, 1997.

PI, "Economics of Software Renting and Superdistribution," over $**11,000** grant from Purdue Research Foundation, 1997-98.

PI, "Center for Computational Image Analysis and Visualization," charter member, funded $**100,000** a year recurring through Purdue University research Reinvestment program.

PI, "3-D Fax," (with C.L. Bajaj) funded **$23,000** by AT&T Foundation, 1995.

PI, "Measuring the Effectiveness of Distance Learning," funded **$36,000** by PictureTel, 1994.

PI, "Real-Time and Multimedia Transaction Processing for Enterprise Integration," funded **$10,200** by Purdue Research Foundation, 1994.

PI, "Computational Ecology and Organizational Design," funded **$49,999** by IBM, 1993.

Co-PI, "Enhanced Teaching and Learning Effectiveness Using Technology Based Delivery," funded **$1,200,000** for five years by Ameritech, 1993.

PI, "Virtual Collocation and Navigation through Virtual Environments," (co-PI C.L. Bajaj), funded **$30,000** by CMME, Krannert School of Management, Purdue University, 1993.

PI, "Workgroup Computing," funded **$4,500** by Microsoft, 1993.

PI, "Key Information Systems Management Issues in Developing Countries: Differences in the Indian and US Contexts." Research funded by the Center for International Business and Economics Research (CIBER), Krannert Graduate School of Management, Purdue University, funded by CIBER, 1993.

PI, "Model Management Systems in Business: An Empirical Study," (co-PIs G. Wright and Radha Mookerjee) a Research Grant of **$10,000** from AT&T-GIS, January 1992 - December 1992.

PI, "An Architecture for Cooperative Control in Computer Integrated Manufacturing," (with Rakesh Gulati). Research funded by a dissertation fellowship to Rakesh from the Center for the Management of Manufacturing Enterprises, Krannert Graduate School of Management, Purdue University, 1992.

PI, "An Architecture for Manufacturing Enterprise Integration," (co-PI D.L. Nazareth), Research funded by a Grant from the Center for the Management of Manufacturing Enterprises, Krannert Graduate School of Management, Purdue University, 1992.

PI, "Neural Nets for Scheduling Algorithm Selection" (co-PI K. Altinkemer & E. Tunc), Research funded by a Grant from the Center for the Management of Manufacturing Enterprises, Krannert Graduate School of Management, Purdue University, 1992.

PI, "Expert System Problem Selection: An Innovation Management Perspective," (co-PI Carol Brown) a Research Grant of $2,000 from the Center for the Management of Manufacturing Enterprises, Krannert Graduate School of Management, Purdue University, 1990.

PI, "A Hybrid Model for FMS Scheduling: Integrating Simulation and Machine Learning," a Research Grant of $3,500 from the Center for the Management of Manufacturing Enterprises, Krannert Graduate School of Management, Purdue University, 1989.

GRANTS APPROVED

PI, "Dynamic Data Driven Operator Error Early Warning System," phase 2 proposal submitted to Air Force Office of Scientific Research. Collaborators: Doug Adams, Sunil Prabhakar, Tahira Reid, and Robert West (Ball State University).

"Internet of Things Reference Model for Brilliant Manufacturing,"Co-PI, General Electric; 1-month AY support, 2015-16.

Mandela Washington Fellowship, Co-PI on the project led by College of Engineering, June-July 2016.

PATENTS

US Patent 1165.005US1. Synthetic Environment, A broad patent with 27 claims.

US Provisional Patent 1165.034PRV, Personal Participatory Programming: The Next Generation Education and Entertainment System.

REFEREED PUBLICATIONS

Chaturvedi, A,. Chaturvedi, R., and Armstrong, B. "Securing the Food Supply Chain: Understanding Complex Interdependence through Agent-Based Simulation." *Health and Technology*: Vol. 4, Issue 2, pp 159-169; June 2014.

Chaturvedi, R., B. Armstrong, A. Chaturvedi, D. Dolk, and P. Drnevich, "Got a Problem? Agent-based modeling becomes mainstream," *Global Economics and Management Review,* Vol 18:2, pp 33-39, 2013.

Chaturvedi, A. R., Dolk, D. R; Drnevich, P. L., "Design Principles for Virtual Worlds," *MIS Quarterly,* Vol. 35, No. 3, pp 673-684, 2011.

Shawn C. M^{c}Kay, Alok Chaturvedi, Douglas E. Adams, "A Process for Anticipating and Shaping Adversarial Behavior," *Naval Research Logistics,* Vol. 58, No. 3, pp 255-280, 2011.

Moskowitz, H., Drnevich, P., Ersoy, O., Altinkemer, K., & Chaturvedi, A. Using Real-Time Decision Tools to Improve Distributed Decision Making Capabilities in High-Magnitude Crisis Situations. *Decision Sciences* Vol. 42, No. 2, 477-493, 2011.

Gupta, Mukul, Chaturvedi, Alok, Mehta, S., "Economic Analysis of Tradeoffs between Security and Disaster Recovery," *Communications of the Association for Information Systems,* Vol. 28, Article 1, 2011.

Linton, R., Abbey, N., McSwanne, D., Kastner, J., Bhatt, T., Hodge, S., Getty, K., Maier, D., Kastner, C., Chaturvedi, A., and Woodley C., Use of Stakeholder-Driven, DACUM Process to Define Knowledge Areas for Food Protection and Defense, *Journal of Homeland Security and Emergency Management*," Vol. 8, No. 2, Article 6, 2011.

Drnevich, P., T. Brush, and A. R. Chaturvedi, "Examining the Implications of Process and Choice For Strategic Decision Making Effectiveness," *International Journal of Decision Support System Technology*, Vol. 2, No. 3, pp 1-15, 2010.

Mahulkar, V., McKay, S., Adams, D. E., and Chaturvedi A. R. "System of Systems Modeling and Simulation of a Ship Environment with Wireless and Intelligent Maintenance Technologies," *IEEE Transactions on System, Man & Cybernetics, Part A*, Vol. 39:6, pp. 1255-1270, Nov. 2009.

Drnevich, P., Chaturvedi, A., Mehta, S., and Ramanujam, R. "Affiliation or Situation: What Drives Strategic Decision Making in Crisis Response?" *Journal of Managerial Issues*, Vol 18:3, Summer 2009.

Bandyopadhyay, S., Barron, J., and Chaturvedi, A., "Capacity and Entry Issues in Online Exchanges," *European Journal of Operational Research*, Volume 185, Issue 2, pp 849-863, March 2008.

Jaisingh, J., J. Barron, S. Mehta, and A. Chaturvedi, "Privacy and pricing personal information," *European Journal of Operational Research*, Volume 187, Issue 3, Pages 857-870, 2008.

Anderson, J., Chaturvedi, A., and Cibulskis, "Simulation tools for developing policies for complex systems: Modeling the health and safety of refugee communities," *Healthcare Management Science*, Volume 10, Number 4, pp 331-339, December, 2007

Busemeyer, J., Barkan, R., Mehta, S. and Chaturvedi, A., "Context Effects and Models of Preferential Choice: Implications for Consumer Behavior, *Marketing Theory*, Vol. 7, No. 1, pp. 39-58, 2007.

Mukul Gupta, Jackie Rees, Alok Chaturvedi, and Jie Chi, "Matching Information Security Vulnerabilities to Organizational Security Profiles: A Genetic Algorithm Approach," *Decision Support Systems*, Volume 41, Issue 3, March 2006, pp 592-603.

Bandyopadhyay, Barron, and Chaturvedi, "Competition among Sellers in Online Exchanges," *Information Systems Research*, Vol. 16, No. 1, pp 47-60, 2005.

Chaturvedi, A. Mehta, S., and Gupta, M.K., "Computational Experimentations in Market and Supply-chain Co-design," *Journal of Information Systems and E-Business Management*, Vol. 4, No. 1, pp 25-48, 2006.

Chaturvedi, Mehta, Dolk, and Ayer, "Artificial Labor Market," *European Journal of Operational Research*, No. 166, pp 694-716, 2005

Bose, I., Altinkemer, K., and Chaturvedi, A. , "Tradeoff Decisions in the Design of a Backbone Network using Visualization" *Decision Support Systems, 35 (2003) 335-351*.

Yue, Wei T. and Chaturvedi, Alok, "The Reward Based Online Shopping Community," *EM - Electronic Markets*, Vol. 10, No. 4, 2000.

Chaturvedi, A. R., Choubey A. K., and Roan, J. S., "Active Replication and Update of Content for Electronic Commerce." *International Journal of Electronic Commerce*, vol. 5, no 3, 2000.

Chaturvedi, A. R. and Mehta, S., "Simulations in Economics and Mangement: Using the SEAS Simulation Environment," *Communications of the ACM*, March 1999.

Chaturvedi, A. R., Choudhary, V., and Tomak, K., "Economic Benefits of Software Renting," *Journal of Organizational Computing and Electronic Commerce*, 1999.

Wright, G,, Chaturvedi, A.R., Mookerjee, R., and Garrod, S., "Integrated Modeling Environment in Organizations: An Empirical Study," *Information Systems Research*, vol. 9, no. 1, March 1998.

Altinkemer, K., Chaturvedi, A.R., and Kondareddy, S., "Business Process Reengineering and Organizational Process: An Exploration of Issues," *International Journal of Information Management*, 1998.

Chaturvedi, A. R., and Gupta, S., "SimDS: A Simulation Environment for the Design of Distributed Database Systems," *Database*, 1998.

Altinkemer, K., Chaturvedi, A. and Kondareddy, S., "Evolution of America's Infostructure," *Decision and Information Technologies*, vol 19, pp 483-498, 1994.

Altinkemer, K., Chaturvedi, A., and Gulati, R.K., "Information Systems Outsourcing: Issues and Evidence," *International Journal of Information Management*, vol 14, no 4, pp 252-268, 1994.

Chaturvedi, A.R., Choubey, A.K., and Roan, J.S., "Scheduling the Allocation of Data Fragments in a Distributed Database Environment: A Machine Learning Approach," *IEEE Transactions on Engineering Management*, vol 41, no.2, pp 194-207, 1994.

Chaturvedi, A.R. and Nazareth, D., "Investigating the Effectiveness of Conditional Classification: An Application to Manufacturing Scheduling, "*IEEE Transactions on Engineering Management*, vol 41, no.2, pp 183-193, 1994.

Chaturvedi, A.R., "FMS Scheduling and Control: An AI Approach to Achieve Multiple Decision Goals," *Expert Systems with Applications: International Journal*, vol. 6, pp. 267-286, 1993.

Chaturvedi, A.R., "Acquiring Implicit Knowledge in a Complex Domain," *Expert Systems with Applications: International Journal*, vol. 6. pp. 23-35, 1993.

Chaturvedi, A.R., Hutchinson, G. K. and Nazareth, D. "Supporting Complex Real-Time Decision Making through Machine Learning," *Decision Support Systems*, vol 9, pp. 1-21, 1993.

Mookerjee, V. & Chaturvedi, A.R., "A Blackboard Control Architecture for Model Management," *European Journal of Information Systems*, vol 2, no 1, 1993.

Chaturvedi, A.R., Hutchinson, G. K. and Nazareth, D. "A Synergistic Approach to Manufacturing Systems Control using Machine Learning and Simulation," *Journal of Intelligent Manufacturing*, Vol 3, pp. 43-57, 1992.

Chaturvedi, A.R., Hutchinson, G. K. and Nazareth, D. "A Synergistic Approach to Manufacturing Systems Control using Machine Learning and Simulation," Journal of Intelligent Manufacturing, Vol 3, pp. 43-57, 1992.

Jain, H.K. and Chaturvedi, A.R., "Expert System Problem Selection: A Domain Characteristics Approach," *Information and Management*, 17:4, 1989.

Chaturvedi, A.R. and G.K. Hutchinson, "Information Organization in Flexible Automation Systems," *Computers in Industry*, 9:4, 1988.

REFEREED CONFERENCE PROCEEDINGS

Janette J. Meyer, Wan-Lin Hu, Zhaosen Wang, Douglas E. Adams, Tahira Reid, Alok Chaturvedi, "Application of SHM Pattern Recognition to Assess Decision Making of Humans in the Loop," *Proceedings of the 10th International Workshop on Structural Health Monitoring*, Stanford University, September 1-3, 2015.

Wan-Lin Hu, Janette Meyer, Zhaosen Wang, Tahira Reid, Alok Chaturvedi, Douglas Adams and Sunil Prabhakar, "Dynamic Data Driven Approach for Modeling Human Error," *International Conference on Computational Science*, Reykjavik, Iceland, June 2015

Chaturvedi, A.; Armstrong, B.; Snyder, D.; Everson, P.; Cibulskis, M. & Foong, C. M. Integrating Planning and Experimentation. In *Proceedings of 2007 Spring Simulation Interoperability Workshop (SIW)*, March 25—27, 2007, Norfolk, VA, Paper 07S-SIW-070.

Chaturvedi, A.; Cibulskis, M.; Tham, Y. L.; Armstrong, B.; Snyder, D.; Everson, P. & Shreve, J. Integrating Planning and Experimentation. In *Proceedings of 12th International Command and Control Research and Technology Symposium (ICCRTS)*, June 2007, Paper 240.

Chaturvedi, A.; Foong, C. M.; Armstrong, B.; Cibulskis, M.; Shreve, J.; Snyder, D. & Everson, P. Integrating PMESII Planning & Experimentation for Wargaming. In *Proceedings of Modeling and Simulation World Conference (MODSIM)*, 2007, September 2007. Virginia Beach, VA.

Chaturvedi, A., "Society of Simulation Approach to Dynamic Integration of Simulations," *Winter Simulation Conference*, Monterey California, December 3-6, 2006.

Anderson, J., A. Chaturvedi, D. Lengachar, M. Cibulskis, "Modeling the Health of Refugee Camps: An Agent-based Computational Approach," *Proceeding of the 19th IEEE International Symposium on Computer-Based Medical System*, June 22-26, 2006, Salt Lake City, Utah.

Dev Niyogi, Gilbert L. Rochon, Krishna Madhavan, Rajarathinam Arangarasan, UC Mohanty, Alok Chaturvedi, Maruti Ram Ponaganti, Larry Biehl, Joseph E. Quansah and Hussam Nour. "Modeling, Visualization and Fusion of Archival Data to support Disaster Mitigation." *Geo-Informatics for Disaster Management (Gi4DM 2)*. Sept. 25-26, 2006, Goa, India.

Gilbert L. Rochon, Dev Niyogi, Krishna Madhavan, Rajarathinam Arangarasan, Alok Chaturvedi, Maruti Ram Ponaganti, UC Mohanty, Larry Biehl, Joseph E. Quansah and Hussam Nour. 'Toward Intelligent and Sustainable Archiving of Geo-Spatial Data," *International Society for Photogrammetry & Remote Sensing (ISPRS) International Symposium on Geospatial Databases for Sustainable Development.* Sept. 27-30, 2006, Goa, India.

Lin, L., Kwon, S., Sharma, G., Mahulkar, V., Gul, K., Adams, D., Chaturvedi, A., Wasynczuk, O., and Shroff, N., "Modeling and Simulating Wireless Networks in Ship System of Systems: A Two-Level Approach," 2006, *Military Communications Conference*, Washington, D.C.

Chaturvedi, A.R., Dolk, D.R., and Chaturvedi, R., Armstrong, B., Foong, C.M., "Understanding Insurgency Using Agent Based Computational Experimentation," Proceedings of *Agent 2005*, University of Chicago, October 2005.

Foong, C., Armstrong, B., Dilley, D., Grahn, J., Krull, K., Chaturvedi, A., Gore, J., Filatyev, S. "Towards Enabling A Distributed And Scalable Society Of Simulations." *2005 Spring Simulation Multiconference (SpringSim'05)* (2005).

Chaturvedi, A.R., Dehncke, R.W., and Snyder, D.R., "Simulating Non-Kinetic Aspects of Warfare," *Interservice/Industry Training, Simulation, and Education Conference (I/ITSEC)* 2004.

Adams, D., Smith, M., Chaturvedi, A., Rotea, M., Hoffman, C., Craig, B., Venkatsubramanian, V., Mahmassani, H., Pines, D., Meliopoulis, S., and Busemeyer, J., "Integrated Prognostic System of Systems Health Management," *Proceedings of the Minerals, Metals, & Materials Soceity (TMS) Conference*, New Orleans 2004.

Chaturvedi, A. R., Chaturvedi, R., and Dolk, D. R., "Agent Based Modeling of International System," *Agent 2004*, University of Chicago, 2004.

Drnevich, P.L., Chaturvedi, A., Mehta, S., and Ramanujam, R. "Affiliation or Situation? Preferences in Coordinated Interorganizational Response To Bio-Terrorism," *Proceeding of the Academy of Management Conference*, 2004

Drnevich, P.L., Chaturvedi, A., Mehta, S., and Brush, T., "Strategic Decision Making Process Effectiveness: The Role of Choice in Responses to Bio-Terrorism." *Proceedings of SMS Conference*, 2004, Porto Rico

Chi, J., Chaturvedi, A. R., Grama, A., and Mehta, S. R., "Oceanus: A Distributed Web-based Framework for Execution of Genetic Algorithms," *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO-2002)*, New York, New York, July 2002.

Jaisingh, Jeevan and Chaturvedi, Alok, "Privacy and the Value of Information in Adverse Selection Markets," *Proceedings of the 5th International Conference on Electronic Commerce and Research* (ICECR-5 2002), Montreal, Canada, Oct. 2002.

Jaisingh, Jeevan, Jack Barron, Chaturvedi, Alok, and Shailendra Mehta "Privacy on the Internet: An Economic Analysis," *Proceedings of the Americas Conference on Information Systems* (AMCIS 2002), Dallas, Texas, August 2002.

Yu, Liang and Chaturvedi, A., "Competition between B2B Electronic Marketplaces: Differentiation, Pricing Strategy and Industrial Structure" *Americas Conference on Information Systems*, Boston MA, August 3-5, 2001. Received best paper award.

Dolk, D.R., J Scholl, A Chaturvedi, J Dickieson, "Agent-Based Simulation and System Dynamics," *Proceedings of the 34th Annual Hawaii International Conference on System Sciences* (HICSS34), 2001.

Bandyopadhyay, S. and Chaturvedi, A., "Establishing a framework for market power in e-tailing: An empirical study," *Proceedings of the Hawaii International Conference on System Sciences* (HICSS34) 2001.

Chaturvedi, A. R., Gupta, M.K., Mehta, S. R., and Valeri, L., "Experimental Analysis of Information Security Management Issues for the Online Financial Services", *International Conference in Information Systems*, Brisbane, Australia, 2000.

Yue, W.T., Chaturvedi, A.R., and Mehta, S. R., "Is More Information Better? The Effect of Traders' Irrational Behavior on an Artificial Stock Market," *International Conference in Information Systems*, Brisbane, Australia, 2000.

Chaturvedi, A. R., Mehta, S. R., Gupta, M. K., and Valerie, L., "Information Security Issues for On-line Banking, *INET 2000*, The 10th Annual Internet Society Conference, Yokohama, Japan, 18-21 July 2000.

Chaturvedi, A. R., Mehta, S. R., Gupta, M. K., and Yue, W. T., "Agent-Based Simulation Approach to Information Warfare in the SEAS Environment" *HICSS minitrack on Agent-based Simulations*, January 2000.

Chaturvedi, A.R., Choudhary, V., and Tomak, K., "Effect of Network Externalities on Software Pricing", *HICSS Minitrack on Formal Aspects of Electronic Commerce*, January 1998.

Chaturvedi, A. R., Choudhary, V., and Tomak, K., “An Economic Model for Microrenting in Electronic Commerce,” *AIS Conference*, Indianapolis, August 15-17, 1997.

Chaturvedi, A. R. and Gupta, S., “Distributed Transaction Processing: Scalability and Networking Issues,” *Proceedings of the Association of Information Systems Conference*, Phoenix, Arizona, August 1996.

Chaturvedi, A. R., Garrod, S., and Lightner, N., “Visualization of Firms’ Diversification Strategy,” *Proceedings of the Association of Information Systems Conference*, Phoenix, Arizona, August 1996.

Bajaj, C.L., Chaturvedi, A. R., and Zhang, P., "Brokered Collaborative Infrastructure for CSCW," *Fourth Workshop on Enabling Technologies: Infrastructure for Collaborative Enterprises (WET ICE)*, April 20-22, 1995, Berkeley Springs, West Virginia, USA.

Chaturvedi, A.R. and Gulati, R.K., "Computational Ecology of Manufacturing Systems," *Workshop on Information Technologies and Systems*, Orlando, Florida 1993.

Chaturvedi, A. R., & Rich, J., "CSES: An Expert System for the design of Client/Server Computing,' *Proceedings of the Information Technology Management Group's Eleventh Annual Conference*, Atlanta, Georgia, August 5 - 9, 1993.

Altinkemer, K. & Chaturvedi, A. R., "Neural Networks for Topological Design of Local Access Tree Networks," *Proceedings of the Telecommunication Systems Conference: Modeling and Analysis*, Vanderbilt University, Nashville, Tennessee, February 28 - March 3, 1993.

Chaturvedi, A. R and Gulati, R. K., "Adaptive Configuration Management for Manufacturing System Control," *Proceedings of the NSF Workshop on Intelligent, Dynamic Scheduling for Manufacturing Systems*, Cocoa Beach, Florida, January 25-27, 1993.

Chaturvedi, A. R and Gulati, R. K., "Cooperative Control Architecture," *Proceedings of the AAAI Workshop on Scheduling and Production Control*, San Jose, California, July 1992.

Chaturvedi, A.R., Hutchinson, G. K. and Nazareth, D. "FMS Scheduling Using Goal-Directed Conceptual Aggregation," *Proceedings of the Seventh IEEE Conference on Artificial Intelligence Applications*, Miami Beach, Florida, Feb 24-28, 1991.

Chaturvedi, A.R., "Expert System Problem Selection: An Innovation Management Perspective," Proceedings of the 1990 *ACM-SIGBDP International Conference on Trends and Directions in Expert Systems*, Orlando, Florida, 1990.

Chaturvedi, A.R. and G.K. Hutchinson, "FMS Scheduling: A Machine Learning Approach," *Proc. of AAAI-SIGMAN Workshop on Manufacturing Production Scheduling*, Detroit, Aug. 1989.

BOOKS

Amass, Bhunia, Chaturvedi, Peeta, Dolk, Attalah (Editors), *Advances in Homeland Security, Volume I: The Science of Homeland Security,* Purdue University Press, 2006.

Amass, Chaturvedi, Peeta (Editors), Advances in Homeland Security, Volume II: Guiding Future Homeland Security Policy- Directions for Scientific Inquiry, Purdue University Press, 2006.

BOOK CHAPTERS AND OTHER PUBLICATIONS

Yih, Y. and Chaturvedi, A., "Service enterprise modeling," in *Introduction to Service Engineering*, Salvendy, G., and Karwowski, W. (Editors), Wiley Press, 2009.

Chaturvedi, A.; Armstrong, B.; Snyder, D.; Everson, P.; Cibulskis, M. & Foong, C. M. Integrating Planning and Experimentation. In Proceedings of 2007 Spring Simulation Interoperability Workshop (SIW), March 25—27, 2007, Norfolk, VA, Paper 07S-SIW-070.

Chaturvedi, A.; Cibulskis, M.; Tham, Y. L.; Armstrong, B.; Snyder, D.; Everson, P. & Shreve, J. Integrating Planning and Experimentation. In Proceedings of 12th International Command and Control Research and Technology Symposium (ICCRTS), June 2007, Paper 240.

Chaturvedi, A.; Foong, C. M.; Armstrong, B.; Cibulskis, M.; Shreve, J.; Snyder, D. & Everson, P. Integrating PMESII Planning & Experimentation for Wargaming. In Proceedings of Modeling and Simulation World Conference (MODSIM), 2007, September 2007. Virginia Beach, VA

Alok Chaturvedi, Angela Mellema, Chih-Hui Hsieh, Tejas Bhatt, Mike Cheng, Eric Dietz, Simeon Stearns, "Decision Support for Security: A Mixed Reality Approach to Bio-terror Preparedness and Response," *Handbook on Decision Support Systems*, Burstein, F. and C. Holsapple (editors), Springer-Verlag, 2007.

Alok Chaturvedi, Angela Mellema, Sergei Filatyev and Jay Gore, "DDDAS for Fire and Agent Evacuation Modeling of the Rhode Island Nightclub Fire," *Lecture Notes in Computer Science*, Volume 3993/2006, Computational Science – ICCS 2006

Chaturvedi, A., R. Chaturvedi, M. Mulpuri, S. Mellema, "Modeling Stability and Reconstruction Operation using SEAS," *Cornwallis XI: Analysis for Civil-Military Transition*, April 2007.

Paul Drnevich, Alok Chaturvedi, and Shailendra Mehta, "Bio-terrorism Training Simulations: Implications for Effective Response," *Advances in Homeland Security, Volume II: Guiding Future Homeland Security Policy- Directions for Scientific Inquiry,* Amass, Chaturvedi, Peeta (Editors), Purdue University Press, 2006.

Chaturvedi, A.R., S. A. Filatyev, J. P. Gore, A. Hanna, J. Means, A. K. Mellema: Integrating Fire, Structure and Agent Models. *Lecture Notes in Computer Science*, *International Conference on Computational Science (2)* 2005: 695-702

Alok R. Chaturvedi, Jie Chi, Shailendra Mehta, Daniel R. Dolk, "SAMAS: Scalable Architecture for Multi-resolution Agent-Based Simulation. *Notes in Computer Science*, *International Conference on Computational Science, Volume 3038/2004,* 779-788

Bandyopadhyay, S., Chaturvedi, A., Barron, J, Rees, J, and Mehta, S., "Simulating Sellers' Behavior in a Reverse Auction B2B Exchange," in *Lecture Notes in Computer Science, Volume 2660/2003,* pp. 365-374.

WORKING PAPERS, ARTICLES UNDER REVIEW AND RESEARCH IN PROGRESS

Manuscripts Under Review

Chaturvedi, A., R. Chaturvedi, S. McKay, G. Pinczuk, "Determining Optimal Levels of Aerial Eradication of Opium in Afghanistan," *Naval Research Logistics, (Round 2)*

Chaturvedi, A.R., D. R. Dolk., and P. Drnevich, "Using Large-scale Agent-based Simulation for Business Analytics," *IEEE Transactions on Systems, Man, and Cybernetics*, 2013 (1st review)

Chaturvedi, A.R., D. R. Dolk., and P. Drnevich, "Convergence between Real and Virtual Worlds: Exploring Emergent Design in The Sentient World Simulation," *ACM Transactions on Modeling and Computer Simulation (TOMACS),* 2012 (1st review).

Barkataki, S., Aouam, T, and Chaturvedi, A., "Pricing and Capacity Decisions in a Shared System: A Laboratory Study, *Decision Support Systems 2013 (1st review)*

Barkataki, S., Aouam, T, and Chaturvedi, A., "Vendor Managed Inventory Systems in a Supply Chain with Demand Substitution," *Decision Support System 2013 (1st revision)*

Manuscripts Under Preparation

Chaturvedi, A.R., Ried, T., Hu, W. L., Adams, D., Meyer, J., Wang, Z. Prabhakar, S., "Dynamic Data-Driven Operator Error Early Warning System."

Chaturvedi A and R. Chaturvedi, "*Lessons from Afghanistan and Iraq*," book under preparation.

Chaturvedi, A.R., "Modeling Mission Assurance under Cyber Risk," *Information Systems Research.*

Chaturvedi, A.R., "Modeling the Impact of Cyber Attacks on a Firm's Reputation Risk," *Management Science.*

Chaturvedi, A.R., D. R. Dolk., and P. Drnevich, "Got a Problem? Agent Based Modeling becomes Mainstream," *Communications of ACM*.

Chaturvedi, A.R., D. R. Dolk., and P. Drnevich, "Convergence between Real and Virtual Worlds: Exploring Emergent Design in The Sentient World Simulation," *Information Systems Research.*

Research in Progress

Hybrid Model for International Development

Mentor Investment Model for Social Impact

Factory on Wheels: Re-imagining the Labor Market

Continuous Monitoring and Intervention Model using ICT4D

Chaturvedi A and R. Chaturvedi, "Agent Based Simulation in the theatre of War: Lessons from Afghanistan and Iraq," book under preparation.

Modeling fast access long term memory in artificial agents.

Modeling mobility behaviors of artificial agents.

SYNTHETIC ENVIRONMENT FOR ANALYSIS AND SIMULATION (SEAS) EXERCISES

Cyber Security Wargame 1997-2012: The original information warfare game was developed in collaboration with the Institute of Defense Analyses (IDA), Alexandria, VA, in 1997. Since then we developed several of Cyber Security simulations and games, including – information assurance vs. disaster recovery trade-off modeling; mission assurance modeling; cyber intelligence and reputation risk.

Food Security and Defence 2005 – 2012: SEAS-FDS is a food defense simulation of a post harvest food supply chain developed using the Synthetic Environment for Analysis and Simulation (SEAS). SEAS-FDS is used to teach/train students/professionals in the concepts of resilience in food supply chain. SEAS-FDS enables one to learn by doing in a virtual, risk-free environment that replicates real situations by: (a) creating a synthetic economy that replicates the real marketplace and its entities, (b) using real and current data with high numbers of variables, (c) simulating critical interactions among entities (d) involving multiple human and artificial players (protagonists and antagonists), and (e) being flexible and adaptable to a wide range of contexts.

Measured Response 2002 (MR02), **MR 03, MR 04, MR 05**: Measured Response simulates a bio-terrorist attack during a major spectator event and the actions of the responders at the local, state, and federal levels. It used over 250,000 artificial agents to model the behavior such as mobility, emotions, and epidemiology of the citizens of United States. Measured Response is one of the first applications of distributed tera-scale computing that runs on two super computers, one at Purdue and the other at Indiana University, linked by i-Light gigabit network.

Senior officials and executives from the following agencies and companies participated: Office of Homeland Security, FBI, CDC, NIH, NSF, Institute for Defense Analyses, Sandia National Laboratory, National Guard, Coast Guard, Indiana Counter Terrorism and Security Council, Indiana State Department of Health, Indiana Department of Transportation, State Emergency Response Agency, Local Police and Fire Chieves, Mayor, Red Cross, IBM, Eli Lilly, Abbott Labs, Intel, and Ford.

August 2001: **RecruitSIM**: Conducted Strategic Planning Wargame for the Commanding General of US Army Recruiting Command and his Brigade Commanders at Fort Knox, Ky. During this exercise the brigade commanders investigated different recruiting strategies to meet the challenges that they will face in the future when the army transformation process in implemented.

May 2001: **Project Neptune**: Conducted a war game for US Naval Air Command, NAVAIR Base, Pax River, MD. This exercise highlighted the need for selecting the right e-business model in order to maintain the high level of readiness while dramtically lowering the inventory levels for both peace time and war time scenarios.

January 24, 2000: **FirmHandshake**: A recruiting and training game to help the US Army to formulate strategy for hiring, training, and retaining soldiers with high mental capability, Washington DC.

December 3, 1999: **Acquisition Live Case** at U.S. Navy Acquisition Center for Excellence, Washington DC. This exercise enabled the DoD leadership to explore the issues related to e-business.

PRESENTATIONS AND SEMINARS

"Behavior Analytics," King Abdullah University of Science and Technology, Jeddah, Saudi Arabia, November 2012

"Food Security and Defence," Battelle Lab and Ohio State University, Columbus Ohio, July 2012

"Modeling Global Food Security," Qatar Computing Research Institute, Doha, Qatar May 2012

"Reference World Information and Simulation Environment," University of Notre Dame, March 2012

"Political, military, Economic, Social, Information, and Infrastructure Modeling," NATO Workshop on Computational Modeling, Suffolk, VA, March 2007

"Service Oriented Architecture for Sentient World Simulation," JFCOM Workshop on Sentient World Simulation, September 2007

"Synthetic Environment for Homeland Security," US-Canada Border Trade Security Conference, Windsor Ontario Canada, October 2007

"Sentient World Simulation: A continuously running Model of the World," Indian Institute of Management, Bangalore, November 2007

"Role of Memory in agent based modeling," The Agent 2006 Conference on: Social Agents: Results and Prospects, Argonne National Laboratory -- The University of Chicago, Chicago.

"Validation and Verification of Agent-Based Modeling," Military Operations Research Society Conference, Laurel, Maryland, 2006.

"Validation for Computational Experimentation: Replication of Voilence in Maluku," Army War College, Carlisle, PA, August 27-28, 2004.

"Synthetic Environment for the Analysis of Social and Behavioral Impact of Terrorism and Counter Terrorism," ICATHS 2004, University of Connecticut, August 12-13, 2004.

"Individual Based Epidimiological Modeling Environment," Princeton University, July 2002.

"Measured Response: Simulating Co-ordination of Response to a Bio-terror Attack during a Major Spectator Event," NSF Conference on Delibrate Release of Biological Agents, DIMACS, Rutgers University, New Jersey, March 2002.

"Product, Market, and Supply-Chain Co-Design," invited speaker at e-business conference at University of Technology and Management at Rzeszow, Poland, May 9-11, 2001

"Business-to-business e-Commerce: The evolution of intermediaries in the PC Industry," Workshop on e-Business, Bloomington, Indiana, October 1999.

"Computational Models of Human Behavior: Experiments with Offensive and Defensive Cyber Crime Strategies," (with S. Mehta, M. Gupta, and L. Valarie), Aachen University, Germany, August 1999.

"Information Warfare using SEAS," Workshop on Information Warfare, Kings College, London, July, 1998.

"Business and Economic Simulation for Policy Development and Analyis," YUInfo Conference, Belgrade, March 1998.

"Visualization of Organizational Modeling," HCI Conference, San Francisco, CA August 1997.

"Scheduling of Transactions in a Real-Time TPS," INFORMS, Singapore, June 1995.

"Learning to Navigate in Virtual Environments," INFORMS, Singapore, June 1995.

“Navigation in Vitual Environments,” INFORMS Spring Meeting, Los Angeles, CA, 1995

"Information Systems Strategies for Transnational Corporations," sponsored by Confederation of Indian Industries (CII), New Delhi, India, November 1994.

"Competing Globally through Information Technology," sponsored by Tata Consulting Services, Calcutta, India, November 1994.

"Virtual Environments for Business Decision Making," Nijenrode University, The Netherlands, October 1994.

"Visualizing Manufacturing Schedules," ORSA/TIMS Joint National Meeting, Detroit, Oct. 1994.

"An Architecture for Cooperative Control in Computer Integrated Manufacturing," AAAI Workshop on Intelligent Scheduling, San Jose, CA July 1992.

"Improving FMS Schedules through Implicit Learning," Workshop on Learning-based Scheduling Paradigms, University of Florida, Gainsville, 1992.

"Neural Nets for Topological Design of Local Access Tree Networks," (with K. Altinkemer and Hari Sankar), TIMS/ORSA Joint National Meeting, Anaheim, CA, 1991. Organized and chaired a session on Machine Learning.

"Time-Invariant Fragmentation," TIMS/ORSA Joint National Meeting, Nashville, TN, May 1991.

"Conceptual Aggregation of Models," TIMS/ORSA Joint National Meeting, Las Vegas, May 1990.

"Modeling the Extent of Knowledge in an Expert System," (with V. Mookerjee) TIMS/ORSA Joint National Meeting, New York, Oct. 1989.

"FMS Scheduling: A Machine Learning Approach," AAAI-SIGMAN, Detroit, Aug. 1989

"A Hybrid System for Scheduling," Expert Systems and the Leading Edge in P/OM Management Conference, Hilton Head, SC, May 1989.

"On Using Simulation to Test AI Models," (with G. K. Hutchinson) TIMS/ORSA Joint National Meeting, Vancouver, Canada. May 1989.

"CIM Technology Transfer: A Cross-Cultural Analysis," TIMS/ORSA Joint National Meeting, Washington DC, April 1988.

"Representation of Uncertain Data in Database Systems," TIMS/ORSA Joint National Meeting, Washington DC, April 1988.

"Information Flow in Automated Manufacturing Systems," National Bureau of Standards, Gaithersburg, Maryland, August 1987.

INVITED TALKS

"Strategy Mining for Behavior Anticipation and Shaping," The 3rd Gavriel Salvendy International Symposium on Frontiers in Industrial Engineering: Information Engineering,

"Saksham: Grassroots Entrepreneurship Program" Keynote talk at Colorado Innovation Summit (COIN 2015), August 24-26, 2015.

"Saksham in Bulgaria," Saksham Inauguration meeting in Sofia Bulgaria, July 9, 2015. Carlo Scarascia-Mugnozza, Agriculture Commissioner, EU was the chief guest.

"Inclusive Labor Policy for Saudi Arabia," Ministry of Labor, Kingdom of Saudi Arabia, Riyadh Jan 16, 2015.

Invited to seek at USAID conference on m-education, Washington DC, September, 2015.

Organized ISEEK workshops for government of Jharkhand, April, October, and December, 2015.

Invited to Speak at Technical University of Tallin, Estonia, "Technologies for Regional Peace and Social Integration," February 2014.

Invited to speak at Credit Suisse, New York City, New York, "Understanding Zero-Day Cyber Attack," October 2012.

Invited to speak at Goldman Sachs, New York City, New York, "Global Cyber Risk Intelligence," July 2012.

Invited to speak at University of California, San Diego, March 2011

Keynote speaker at Indiana Take Charge, Take Action, October 2010

Invited to speak at NATO Irregular Warfare Conference, Munich, Germany 2009

Invited talk at National Science Foundation Workshop on Dynamic Data Driven Application System, Arlington, VA, 2008.

Invited panelist at INFORMS 2006 conference, Pittsburgh, PA.

Invited Panelist at Workshop on Information Technology and Systems (WITS) 2006, Milwaukee, WI.

Invited Panelist for MORS 2006 Spring Symposium on Modeling and Simulation, Laurel, MD.

Invited talk at the Sentient World Simulation Workshop, Norfolk, VA 2006.

Invited talk at the Argonne National Lab.

Winter Simulation Conference, Monterey CA, 2006.

Invited talk at the Enterprise Resiliency Workshop, NASDAQ, New York, New York.

Invited talk at University of Pennsylvania.

Air Force Reseach Laboratory, Rome, New York.

Invited talk at the Military Operations Research Society (MORS) Conference.

Department of Human and Health Services, Science and Technology Advisor of the Secretary.

Invited talk at the Carlson School of Business, University of Minnesota,.

The National Academies, The Computer Science and Telecommunications Board at the National Academy of Science committee on Using Information Technology to Enhance Disaster Management, September 2005.

USAID, The Bureau for Democracy, Conflict, and Humanitarian Assistance (**DCHA**), 2004

Director of Center for Disease control (Bio-Defense), CDC, Atlanta, August 2003.

Council of Economic Advisors, Executive Office of the President, the White House, October 2003.

Assistant Secretary of the Army (Acquisition, Logistics & Technology), The Pentagon, 2003.

Director of the Office of Science and Technology Policy Office, Executive Office of the President, the White House, May 2002.

Science and Technology Advisor to Joint Forces Command, Suffolk, Va, 2002

Secretary of the Navy's Strategic Studies Group, The Pentagon, 2002.

Commanding General of the US Army Accession Command, Fort Knox, Ky, 2001.

EDITORIAL BOARD AND EDITORSHIP

Guest Associate Editor, MIS Quarterly

Editorial Board of Journal of the Association of Information Systems, 2003-2006

Guest Associate Editor of Management Science

Associate Editor, International Conference on Information Systems, 2003

JOURNALS REVIEWED FOR

MIS Quarterly

Information Systems Research

ORSA Journal of Computing

Decision Sciences

Decision Support Systems

Expert Systems with Applications: An International Journal

IEEE Computer

Journal of Intelligent Manufacturing

Management Science

IEEE Visualization

TEACHING INTERESTS

Enterprise Resiliency

Enterprise IT Strategies

IT for e-business

Internet and "Active" Systems Development

Enterprise Integration

Business Intelligence and Data-mining

Decision Support and Intelligent Systems

Agent based modeling of supply chain

COURSES TAUGHT

Data Driven Approach to Policy

Information Technology for e-business

Enterprise Integration with SAP

Synthetic Environments and Business Simulations

Virtual Environments and Business Visualization

Management of Enterprise Information Systems (at Undergraduate, MBA and Executive levels)

Doctoral Seminar on Visualization and Synthetic Enviroments, Information Economics, Machine Learning, Databases

Database Management Systems

Object-Oriented Analysis and Design for Client/Server Systems

Decision Support and Expert Systems

PH.D. STUDENTS ADVISED

Major Professor:

Evalyn Henderson (2006)
Sarad Barakataki (2005)
Liang Yu (Dec. 2004)
Jeevan Jaisingh (2003), HKIST

Mukul Gupta (2003), University of Texas, San Antonio
Shubhajyoti Bandyopadhyay (2002), University of Florida
Wei T. Yue (2002), University of Texas, Dallas.
Vidyanand Choudhary, (1998), University of California, Irvine
Nancy Lightner, (1998), University of South Carolina.
Samir Gupta, (1995), *ORIX Corporation*, New York, New York.
Radha Mookerjee, (Co-Chair) (1993), University of Texas, Dallas.
J.S. Roan, (1991), National Chung Cheng University, Taiwan.

Committee Member:

Sean McKay, Mechanical Engineering
Vishal Mahulkar, Mechanical Engineering
P. (Frank) Nitithamyong, Contruction Engineering and Management
Karen Tomak, MIS
Indranil Bose, MIS.
Paul Beckman, MIS.
S. Kondareddy, MIS.
B. Kim, MIS.
Peinan Zhang, Computer Science.
Rajesh Piplani, Industrial Engineering.
Scott Moses, Industrial Engineering.
James Chu, Industrial Engineering.
Charles Trappey, Consumer Sciences and Retailing.
Dan Worobetz, Management Science.

OTHER PROFESSIONAL ACTIVITIES

Technical lead for US Joint Forces Command's Sentient World Simulation (SWS) initiative (2005-2009). SWS, a continuously running, continually updated model of the world that will be supported by peta-scale computation and storage environment. Based on the Synthetic Environment for Analysis and Simulations (SEAS), SWS mirrors the real world in all its key aspects—Political, Military, Economic, Social, Information, and Infrastructure. SWS is designed to sense and react to actual events as they occur anywhere in the world and predict likelihood of future events and evaluate outcomes of courses of actions

Conceived and directed Measured Response exercises – Homeland Security Simulation at Purdue University. Organized MR 02, MR 03, MR 04, and MR 05.

Member of a Virtual Institute for Advanced Modeling, involving eight research institutes world wide.

Organized the Workshop on Simulation Based Acquisition at the Institute for Defense Analyses, November 19, 1998, Washington D.C.

Co-chair for the Workshop on Synthetic Economies at the Institute for Defense Analyses, July 23-24 1997, Washington D.C.

Member of Program Committees of several IS conferences.

Offered a number of courses on Client/Server Computing and Object-Oriented Analysis and Design in Chicago, Milwaukee, and Washington D.C.

"Client/Server Computing: Using Information Technology Productively," a series of two-day workshops at Siemen's, Erlangan, Germany and at Bangalore, Bombay, and New Delhi, India, July-August 1992.

Organized the "Enterprise Integration: New Competitive and Organizational Landscapes," conference at Purdue University, September 20-21, 1993.

Cluster Chair for Artificial Intelligence Track for the TIMS/ORSA Joint National Meeting, Phoenix, Arizona, November 1-3, 1993.

Member of the Association of Computing Machinery, American Association for Artificial Intelligence, The Institute of Operations Research and Management Science (INFORMS).

HOMELAND SECURITY INSTITUTE ACHIEVMENTS

Organized Measured Response exercises in 2002, 2003, 2004, and 2005: over 100 people attended each of the event including the Undersecretary of Department of Homeland Security for Science and Technogy, Mr. Charles McQueary (2004 and 2005).

Developed a vision for Computational Homeland Security and presented it to:

- Purdue Center Directors
- Associate Deans and Department Heads

Organized Indiana-wide workshop on:

- Modeling and Simulation
- Sensors and Sensor Network
- Social and Behavioral Impact of terrorism

Interdisciplinary, Graduate Courses in Homeland Security: developed a campus-wide, interdisciplinary, Masters Area of Specialization in Homeland Security as well as a short-course certificate program.

Hoosier Readiness Challenge: developed and executed table-top and full-scale emergency response exercises for 2 homeland security districts in the State of Indiana.

Southern Indiana Bioterrorism Attack and Defense (SINBAD): provided a computational model and simulation in support of a full-scale exercise for Indiana DHS District 9 and the Louisville Metropolitan areas.

Muscatatuck Urban Training Center Project: Integrated a mobile C4ISR architecture into the Muscatatuck Urban Warfare Training Center used to track, trace, monitor, record, and evaluate military and homeland security full-scale exercises.

Desktop Drills to Test Pandemic Influenza Plans: tested the Pan Flu plans of each Indiana District using a web-based methodology.

Local Public Health Coordinator Pan Flu Drill and Tabletop Program: developed a complete pandemic exercise preparedness program for the Indiana State Department of Health, the 94 local public health departments and associated government agencies responding to a pan flu crisis.

Eta Sigma Iota: Started a National Homeland Security Student Organization

K-12 Educational Programs: developed a homeland security program at Penn-Harris-Madison School Corporation.

Research and discovery Support in Homeland Security: involved nearly 200 faculty across campus, from all disciplines, are now affiliated with PHSI. Funded projects total $5,387,585 and include awards to develop a Center for Computational Homeland Security (21st Century: $2.2M/Chaturvedi), Center for Security of Large Scale Systems (AFRL/PCKA: $1.1M/Wasynczuk), and the Center for Enhanced Techniques for the Detection of Explosives (Crane: $805,000/Kim).

Conferences

- Joint annual PHSI/Regenstrief Center for Healthcare Eengineering Conference
- Joint PHSI/Bioanalytical Systems Incorporated Conference

INTERDISCIPLINARY RESEARCH ACTIVITY

Dr. Chaturvedi is the Diector of Purdue's Institute for Social Empowerment through Entrepreneurship and Knowledge (ISEEK). ISEEK's mission is to create massively scalable resources that will empower impoverished people from around the globe to identify and achieve their personal, social, and financial goals and raise themselves out of poverty through entrepreneurship. ISEEK along with its partners will create comprehensive, contextually and culturally relevant entrepreneurship games and deliver customized curricula using innovative Information and Communication Technologies (ICT) designed to reach and support those with the least access to education and opportunity.

Project Saksham (meaning empowered in Hindi) is the first international project undertaken by ISEEK. The project is based in the state of Jharkhand in India. In Jharkhand, a large segment of the population lives below the subsistence level, especially those engaged in agricultural activities or hunter-gatherers living on forest resources. Increasingly, mineral resources, the pride of Jharkhand, have turned out to be a source of marginalization for many. Exploitative business practices such as timber poaching is usurping the livelihood of people, causing displacement and further destitution. Unless large businesses, NGOs, and academic institutions join together with the local and central government entities, the economic condition of the sub-subsistence population is bound to worsen. This context offers a unique

opportunity for a tripartite collaboration between academic institutions, industry and Government for the betterment of the society.

Dr. Chaturvedi was the founding Director of Purdue Homeland Security Institute. PHSI has our sub centers – Center for Computational Homeland Security; Center for the Security of Large Scale Systems; Center for Sensing Science and Technology;

Dr. Chaturvedi chaired the Purdue's CyberInfrastructure Advisory Committee. The report from the committee directly resulted in establishment of Cyber Center at Purdue Discovery Park.

Dr. Chaturvedi is the inaugral Director of Purdue e-Business Research Center.

Dr. Chaturvedi is the inaugral Director of Indiana Consortium for e-Business Research.

Dr. Chaturvedi is a charter member of Purdue's Computing Research Institute.

Dr. Chaturvedi is a charter member of Center for Wireless Systems and Applications

Dr. Chaturvedi is actively involved with Purdue's Center for Education and Research on Information Assurance and Security (CERIAS) on information security research and education.

Dr. Chaturvedi helped establish Purdue's Center for Computational Image Analysis and Visualization as a charter member.

EXTERNAL ACTIVITIES

Feb. 99 – Present Simulex, Inc.
As the Founder and the Chief Executive Officer of the company, Dr. Chaturvedi has developed one of the most advanced agent-based simulation environments. Simulex's clients list include: fortune 500 companies, an Asian wireless communication company, US Army Accession Command, Naval Air Command, and Joint Forces Command.

Jan 98 - Dec. 1998 SAP America
Help design and develop web-based visualization environment to run with SAP's Business Warehouse Products.

Aug 91 - Dec. 1997 Bell Atlantic, Freehold, New Jersey
Help design and develop client/server computing strategies.

May 91 - July 91 NCR Corporation, Dayton, Ohio
Helped define and develop vision, mission, and product concept for the Decision Enabling Services group.

HONORS

Appointed technical lead for US Department of Defense Sentient World Simulation initiative.

Invited to brief the Council of Economic Advisors of the White House.

Invited to brief the Director of Science and Technology Policy Office of the White House, May 2002.

Invited to brief the Strategic Studies Group of the Secretary of the Navy, Pentagon, September 2002.

Invited to brief the Science and Technology Advisor to Joint Forces Command, Suffolk, September 2002.

Invited to brief the Assistant Secretary of the Army (Science and Technology), Pentagon, February 2002.

Graduate School Dissertation Fellowship, 1986-87

Phi Kappa Phi, 1986

Beta Gamma Sigma, 1985

INTERESTS

Tennis, Cricket, Golf, and Bridge.