

ARIZONA STATE UNIVERSITY
INDUSTRIAL ENGINEERING DEPARTMENT

TERESA WU
ASSISTANT PROFESSOR

Education

2001 Ph.D. - University of Iowa
1995 M.S. - Beijing University of Aeronautics & Astronautics
1992 B.S. - Beijing University of Aeronautics & Astronautics

Academic Experience

2001- Assistant Professor, Department of Industrial Engineering,
Arizona State University, 2001 – Present

Industrial Experience

1995-1998 Software Engineer and System Administrator, Beijing
Aviation Simulator Co.

Principal Areas of Teaching and Research

Teaching: * Information System Engineering
 * Distributed Information System

Research: * Collaborative Product Development
 * Distributed Decision Making
 * Supply Chain Modeling
 * Distributed Information System Development

Scientific and Professional Societies

Institute of Industrial Engineers (IIE)
Society of Manufacturing Engineers (SME)
Institute for Operations Research and the Management Science (INFORMS)
American Society of Engineering Education (ASEE)

PUBLICATIONS

Refereed Archival Journal Papers (students in bold)

1. Wu, T., Blackhurst, J. "A Modeling Methodology for Supply Chain Synthesis and Disruption Analysis", *International Journal of Knowledge-Based & Intelligent Engineering System*, Vol. 9, No. 2, pp. 93-106, 2005.
2. Wu, T., O'Grady, P., "A Network Based Approach to Integrated Supply Chain Design", *Production Planning and Control*, Vol 16, No. 5, pp. 444-453, July 2005.
3. Kwon, Y.J., Wu, T., "Real-time Machining Quality Inspection for Design for Manufacturing", *Journal of Advanced Manufacturing Systems*, Vol. 4, No. 1, pp. 21- 36, June 2005.
4. Blackhurst, J., Wu, T., and O'Grady, P., "Petri Net based Decision Support for Supply Chain, Product and Process Design Decisions", *Journal of Operations Management*, Vol. 23, Issues 3-4, pp. 325-343, April 2005.
5. Wu, T., Ye, N. and **Zhang, D.W.**, "Comparison of Distributed Methods for Resource Allocation", *International Journal of Production Research*, Vol. 43, No. 3, pp. 515-536, 2005.
6. Wu, T., **Xie, N.**, Blackhurst, J., "Design and Implementation of Distributed Information System for Collaborative Product Development", *ASME Transactions: Journal of Computing and Information Science in Engineering*, Vol. 4, No. 4, pp. 281-293, Dec., 2004.
7. Tseng, T-L, Jothishankar, M. C. and Wu, T., "Quality Control Problem in Printed Circuit Manufacturing – a Rough Set Based Approach", *Journal of Manufacturing Systems*, Vol. 23, No. 1, pp. 56-72, 2004.
8. Kwon, Y.J., Wu, T., Saldivar, J.O., "SMWA: A CAD-Based Decision Support System for the Efficient Design of Welding", *International Journal of Concurrent Engineering: Research and Application*, Vol. 12, 295-304, 2004.
9. Wu, T., O'Grady, "A Methodology for Improving the Design of a Supply Chain" *International Journal of Computer Integrated Manufacturing*, Vol. 17, No. 4, pp. 281-293, June, 2004.
10. Jothishankar, M. C., Wu, T., Johnie, R. and **Shiau, J-Y.**, "Case Study: Applying Data Mining to Defect Diagnosis", *Journal of Advanced Manufacturing Systems*, Vol. 3, No. 1, pp.69-83, 2004.
11. Wu, T., O'Grady, "An extended Kalman Filter for Collaborative Supply Chains", *International Journal of Production Research*, Vol. 42, No. 12, pp. 2457-2475, June 15, 2004.
12. Blackhurst, J., Wu, T., and O'Grady, P., "A Network-based approach to modeling uncertainty in a supply chain", *International Journal of Production Research*, Vol. 42, No. 8/15 pp. 1639-1658, April, 2004.
13. Wu, T., O'Grady, "A Network Based Approach to Integrated Enterprise Concurrent Engineering", *Journal of Advanced Manufacturing Systems*, Vol. 2, No. 2, pp. 187-200, Dec., 2003

14. Wu, T., O'Grady, P., "Analyzing Large-scale Imprecise Concurrent Engineering Systems", *Journal of Chinese Institute of Industrial Engineers*, Vol. 20, No.3, pp.203-216, 2003.
15. Wu, T., Blackhurst, J., and O'Grady, P., "Integrated Enterprise Concurrent Engineering: A Framework and Implementation", *International Journal of Concurrent Engineering: Research and Applications*, Vol. 9, No. 2, pp 211-222, Sep., 2001.
16. Wu, T., O'Grady, P., "Trans: A System for Integrated Supply Chain Design", *International Journal of Agile Manufacturing*, Vol. 3, Issue 2, pp. 21-36, 2000.
17. Wu, T., O'Grady, P., "A Concurrent Engineering Approach to Design for Assembly", *International Journal of Concurrent Engineering: Research and Applications*, Vol. 7, No. 3, pp. 231-244, Sep. 1999.
18. Wu, T., Blackhurst, J., Shunk, D., **Appalla, R.**, "AIDEA: A Methodology for Supplier Evaluation and Selection in a Supplier-Based Manufacturing Environment", *International Journal of Manufacturing Technology and Management*, (to appear)
19. **Ganguly, S.**, Wu, T., "A Principle-Agent Model For Distributed, Collaborative Design Negotiation", *Journal of Design and Process Science: Transactions of the SDPS* (to appear)
20. Wu, T., Blackhurst, J., and O'Grady, P., "A Methodology for Supply Chain Disruption Analysis", *International Journal of Production Research* (to appear)

PUBLICATIONS

National Conference Proceedings Refereed Papers (students in bold)

1. **Ganguly, S.**, Wu, T., "A Principle-Agent Model For Distributed, Collaborative Design Negotiation", Proceedings of Integrated Design and Process Technology, IDPT-2005, pp. 890-896, June 12-17, Beijing, China.
2. **Xie, N.**, Wu, T., "VE4PD: a distributed information system for collaborative product development", Proceedings of SPIE on Intelligent Systems in Design and Manufacturing V, 25-35, Oct, 25-26, 2004, Philadelphia, USA
3. Wu, T., Blackhurst, J., "Modeling methodology for supply chain synthesis and disruption analysis", Proceedings of SPIE on Intelligent Systems in Design and Manufacturing V, 36-46, Oct, 25-26, 2004, Philadelphia, USA
4. Tseng, T-L., M.C. Jothishankar, Wu, T., Xing, G.M., Jiang, F.H., "Applying Data Mining Approaches for Defect Diagnosis in Manufacturing Industry", Proceedings of Industrial Engineering Research 2004 Conference, Houston, Texas, May 15-19, 2004
5. Wu, T., **Appalla, R.**, "An Effective Supplier Assessment Model", Proceedings of the 8th Annual International Conference on Industrial Engineering – Theory, Applications and Practice, Las Vegas, Nevada, USA, November 10-12, 2003, pp. 915-920
6. **Shiau, J-Y.**, Wu, T., Wolfe, P., "Data Quality in Data Conversion", Asia Pacific Industrial Engineering and Management Systems Conference, Taipei, Taiwan, Dec., 2002.
7. Blackhurst, J. and Wu, T., "Research Issues in Supply Chain Management", the 6th World Multiconference on Systematics, Cybernetics and Informatics, 491-496, 2002
8. Dong, J., Shunk, D., Wu, T., "Agent Based Enterprise Information System and its E-Marketplaces", the 6th world Multiconference on Systematics, Cybernetics and Informatics, 497-502, 2002
9. Schnell, T., Wu, T., (2000), "Applying Eye Tracking As Alternative Approach for Activation of Controls and Functions in Aircraft", *Proceedings of the 5th International Conference On Human Interaction with Complex Systems (HICS)*, April, 30 - May, 2, 2000, Urbana, Illinois, USA, pp 113.

PUBLICATIONS

National Conference Proceedings Reviewed Papers, Abstracts, and Presentations

1. "A Data Envelopment Analysis Model for Supply Chain Management",
INFORMS annual meeting, Nov. 17-20, 2002
2. "Market based methods for resource allocation", Jan 8-10, INFORMS 2003.

PUBLICATIONS

Book Chapters

1. Wu, T. and Li, X. Y., "Data Storage and Management", The Handbook of Data Mining (edited by N. Ye), 393-407, Lawrence Erlbaum Associates Publisher, 2003.
2. Wu, T., Blackhurst, J., (2004 July) "Information Engineering", The Handbook of Industrial and System Engineering, edited by Adedeji Badiru (in press)

PUBLICATIONS

Other Publications: (students in bold)

1. Wu, T., Blackhurst, J., and O'Grady, P., (2005 Jan.) "Modeling the Operation of a Supply Chain", (resubmitted to *Computer and Industrial Engineering*)
2. Blackhurst, J., Wu, T., Craighead, C. W., (2005 August) "A Systematic Approach for Predicting Supply Chain Conflicts", (resubmitted to *OMEGA, the International Journal of Management Science*)
3. **Ganguly, S.**, Wu, T. and Blackhurst, J., (2005 August) "A Penalty Induced Mechanism for Distributed Collaborative Design Negotiation" (resubmitted to IIE Transactions)
4. **Shiau, J-Y.**, Wu, T., Wolfe, P., Roberts, C., (2004 Dec.) "Conflict Severity Analysis in Multi Agent System", (resubmitted to *IEEE Transactions on Systems, Man, Cybernetics Part A*)
5. Wu, T., Blackhurst, J., Shunk, D., **Appalla, R.**, Walker, D., (2004 Nov.) "An Augmented DEA for Supplier Evaluation and Selection", (submitted to *International Journal of Physical Distribution and Logistics Management*)
6. Wu, T., Blackhurst, J., **Chidambaram, V.**, (2004 August) "A Model for Inbound Supply Risk Analysis" (submitted to *Computers in Industry*)
7. Blackhurst, J., Wu, T., O'Grady, P., (2004 July) "Understanding the Effects of Perturbations on Supply Chain Performance" (submitted to *International Journal of Computer Integrated Manufacturing*)

PUBLICATIONS

Invited Presentations

1. "CDAR: A framework for Collaborative Product Development", April 25, 2003, Tucson, University of Arizona
2. "Design of Distributed Approaches to Resource Allocation in BMD System", July 10-11, Washington D.C., DoD, 2003

RESEARCH GRANT

Sponsored Research -External

Sponsor	Title	Investigators	Amount
U.S. Department of Education	Fabricating Environmentally Conscious (Benign) Manufacturing into Engineering Education	ASU: Teresa Wu (100%) UTEP: Bill Tseng, Rong Pan, Louis Everett	\$ 314,867 ASU part: \$60,000
IBM	Distributed Decision Support Framework for Adaptive Supply Chains	Teresa Wu (36%) Tom Callarman(32%) John Fowler (32%)	\$50,000
Intel Co.	Enabling Digital Collaboration	Dan Shunk (40%) Teresa Wu (40%) Tom Callarman(20%)	\$20,000
NSF	CAREER: Design and Implement Virtual Product Development Environment	Teresa Wu	\$ 400,000
NSF	REU – CAREER Supplement	Teresa Wu	\$12,000

RESEARCH GRANT

Pending Proposals

Sponsor	Title	Investigators	Amount
NSF	ALT-Collaborative Proposal: Enhancement in Online Learning through Immersive 3-D Augmented Reality, Agent-based Cyber Tutor, and QLINX Interactive Assessment Software for Remotely Operated Lab	ASU: Teresa Wu Drexel Uni.: Yongjing Kwon, Richard Chiou, Fredricka K. Reisman	\$399,838
NSF	Collaborative Proposal: Development of a Virtual Environment for Rapid Response GLOCAL Product Design	ASU: Mark Henderson, Teresa Wu, Anshuman Razdan UTEP: Bill Tseng, Rosiles Gerardo, Vladik Kreinovich	\$250,000
NSF	DDDAS – TMRP: Collaborative Research: Dynamic Data-Driven Supply Networks	ASU: John Fowler, Tom Callarman, Teresa Wu GIT: Leon McGinnis	\$2,000,000

RESEARCH GRANT

Unfunded Research Proposals

Sponsor	Title	Investigators	Amount
NSF	"A Quantitative Optimal Model for Allocating Safety Stock Inventory in a Generalized Supply Network"	Dan Shunk Teresa Wu	\$197,514
NSF PREMISE	"A Collaborative Product Realization System"	Teresa Wu Jong-I Mou Dan Shunk Mark Henderson	\$99,996
IMES FORD	"Managing Quality of Products in the Aftermarket Segment of the Automobile Supply Chain Using Improved Product Tracking Technology"	Phil Wolfe Teresa Wu	\$26,478.75
NSF GOALI	"Engineering Framework for Collaborative Product Development"	Teresa Wu M.C. Jothishankar	\$245,942
Rockwell Collins	"Proposal to Develop a Distance Education Module to Support Active Learning"	Teresa Wu	\$19,820
Rockwell Collins	"University Allocations Application"	Teresa Wu	\$25,000
ABOR	"Development of Learner-Centered Course Modules for Distributed Information System"	Teresa Wu	\$21,430
NSF	Collaborative Research: A Distributed Framework for Manufacturing Process Planning	ASU: Teresa Wu New Mexico State U.: Cecil, J	\$177,468

Student Theses and Dissertations Supervised (August, 2001-present)

- a. Undergraduate Honor These Awarded
Antonio J. Moorehead (Co-advised with Dr. John Fowler, Graduated, May 2005)

- b. Masters Theses Awarded
Vellayappan Chidambaram (Graduated, Dec., 2003)
Rajendra Appalla (Graduated, May, 2004)
Nan Xie (Graduated, May 2005)

- c. Doctoral Dissertations Awarded
Jiun-Yan Shiau (Co-advised with Dr. Phil Wolfe, Graduated, Dec. 2002)

- d. Current Graduate Projects in Progress

Students	Degree
Darshit Parmar*	Ph.D
Sandipan Ganguly**	Ph.D
Andrew Feller***	Ph.D
Fan Li	Ph.D

* co-advise with Dr. Phil Wolfe

** co-advise with Dr. Keha Ahmet

*** co-advise with Dr. Dan shunk

PROFESSIONAL AND SCIENTIFIC SERVICE

Local Professional Committee

None

Scientific and Professional Society Memberships

Institute of Industrial Engineers (1999-present)

Society of Manufacturing Engineers (2002-present)

Institute for Operations Research and the Management Science (2002-present)

American Society of Engineering Education (2003-present)

Conference Activities

1. **Organizing Committee for NSF Career Proposal Workshop, 2004**
2. Session chair, Information System Management and Development 6th International Conference on Systematic, Cybernetics (2002)
3. Reviewer and Review Coordinator for
 - DTM-15 Conference, 2003
 - DTM-16 Conference, 2004
 - DTM-17 Conference, 2005
4. Program Committee for Intelligent Systems in Design and Manufacturing Conference, 2004

Journal Referee

1. **Editorial Board: International Journal of Electronic Business Management**
2. **Guest Editor: International Journal of Electronic Business Management special issue – Enabling Distributed Product Development in the Global Market**
3. **Reviewer for the following journals:**
 - International Journal of Modeling and Simulation (August, 2005)
 - International Journal of Electronic Business Management (May, 2005)
 - Simulation: Transactions of the Society for Modeling and Simulation International (March, 2005)
 - ASME Transactions: Journal of Computer and Information System Engineering (March, 2005)
 - OMEGA (March, 2005)
 - IEEE Transactions on Engineering Management (Jan., 2005)
 - International Journal of Manufacturing Technology and Management (Jan., 2005)
 - International Journal of Production Research (Dec., 2004)
 - Robotics and Computer Integrated Manufacturing (Nov., 2004)
 - International Journal of Computer Standards & Interfaces (May, 2004)
 - International Journal of Knowledge-Based Intelligent Systems (Feb., 2004)
 - Computers and Operation Research (Feb., 2004)

- Decision Support System (Dec., 2003)
- IEEE Transactions on Engineering Management (Sep. 2003)
- IEEE Transactions on Multimedia (Sep. 2003)
- IEEE Transactions on Robotics and Automation (May 2003)
- IEEE Transactions on Semiconductor Manufacturing (April 2003)
- Environment and Planning B (May 2002)
- China Science F (May 2002)

Proposal Reviewer

National Science Foundation, DMII

- SBIR, Sep. 2002
- ED, Dec. 2002
- MES, April, 2003

Other Services

1. Advisory Board Member for Consortium for Advanced Multi-Disciplinary Research International (CAMRI), 2003 – Present
2. Consultant for the Goodwin College, Drexel University on Curriculum Development

ARIZONA STATE UNIVERSITY COMMITTEE SERVICE

University

None

College

TA orientation facilitator (August, 2002)

Department

1. Publicity and Seminars Committee, IE, ASU (09/01 - 09/02)
2. Lab and Facility Committee, IE, ASU (09/02 – present)
3. Diversity Facilitator in TA Orientation, Fall, 2002
4. Course Coordinator for IEE305, IEE563
5. Department Chair Search Committee (08/03 – 05/04)
6. Service on Master's Thesis (M), Qualifying Exam (QE) and Dissertation (DC) Committee: Sung-Sik Kwak (QE), Venkatesh Selvaraj (M), Darshit Parmar (M), Zhibin Yang (M), Devamuhunthan Subburaj (M), Hari Balasubramania (M), Lei Yang (QE), Peter Cross (M)