

CURRICULUM VITAE

Jionghua (Judy) Jin

Professor

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□ Education

- Ph.D.** January 1999, Department of Industrial & Operations Engineering, University of Michigan, Ann Arbor, MI.
M.S. March 1987, Department of Mechanical Engineering, Southeast University, Nanjing, China.
B.S. July 1984, Department of Mechanical Engineering, Southeast University, Nanjing, China.

□ Employment

- September 2011-present Professor with tenure, Department of Industrial & Operations Engineering, University of Michigan, Ann Arbor, MI.
September 2012-present (25%), Professor & Director of Manufacturing Program, Integrative Systems and Design Division (ISD), University of Michigan, Ann Arbor, MI.
September 2010-2012 (20%), Director of Program in Manufacturing and Co-Director of Global Automotive and Manufacturing Engineering program (GAME) in Interdisciplinary Graduate Degree Programs (InterPro), University of Michigan, Ann Arbor, MI.
July 2005–August 2011
Associate Professor with tenure, Department of Industrial & Operations Engineering, University of Michigan, Ann Arbor, MI.
July 2000– June 2005
Assistant Professor, Department of Systems and Industrial Engineering, University of Arizona, Tucson, AZ. (promoted to Associate Professor with tenure before moving to UM)
January 1999–June 2000
Adjunct Assistant Professor/Research Investigator, Department of Industrial & Operations Engineering, University of Michigan, Ann Arbor, MI.
January 1996–January 1999
Graduate Student Research Assistant, Department of Industrial & Operations Engineering, University of Michigan, Ann Arbor, MI.
March 1994–December 1995
Research Investigator, Department of Mechanical Engineering, University of Michigan, Ann Arbor, MI.
June 1993–December 1993
Visiting Scholar, Department of Mechanical Engineering, Concordia University, Montréal, Canada.
March 1987–March 1994
Lecturer, Department of Mechanical Engineering, Southeast University, Nanjing, China.

Affiliated with MINDS (Michigan Institute for Data Science) and CHEPS (The Center for Healthcare Engineering and Patient Safety).

□ Honors and Awards

- Distinguished Professor Award, presented by Novelis, 2015.
- Elected Fellow of Institute of Industrial Engineering (IIE), 2015.
- Richard C. Wilson Faculty Scholar, Department of Industrial and Operations Engineering, University of Michigan (January 2015–December 2016).
- Faculty Achievement Award, Department of Industrial and Operations Engineering, University of Michigan, 2013.
- Elected Fellow of American Society of Mechanical Engineers (ASME), 2012.
- Elected Senior Member of International Statistics Institute (ISI), 2012.
- Elected Vice President of The Institute for Operations Research and the Management Sciences (INFORMS) for International Activities, January 2010~December 2013.
- Elected President of Quality Control and Reliability Engineering Division of Institute of Industrial Engineers (IIE), May 2007~May 2008.
- Elected Chairperson of Quality, Statistics, and Reliability (QSR) subdivision of INFORMS, 2006.
- PECASE Award (Presidential Early Career Award for Scientists and Engineers), 2004.
- NSF CAREER Award from National Science Foundation, 2002.
- Forging Achievement Award from Forging Industry Educational and Research Foundation, 2007.
- Excellence at the Student Interface Award from College of Engineering and Mines, University of Arizona, 2001.

Best Paper Awards

- Best Paper Award from the 11th International Conference on Frontiers of Design and Manufacturing (ICFDM) 2014. For paper “Real-time Within-cycle Monitoring of Nonlinear Profile Signals”, May 23-25, 2014, Nanjing, China.
- Best Application Paper Award from IIE Transactions, 2012. For paper “Characterization of Nonlinear Profiles Variations using Mixed-Effect Models and Wavelets,” IIE Transactions on Quality and Reliability Engineering, Vol. 43, 275–290.
- Best Paper Award from Industrial Engineering Research Conference, 2009. For paper “Blind Identification of Individual Source Signals from Aggregated Sensor Measurement,” May 31-June 2, 2009, Miami, FL.
- Best Paper Award from Industrial Engineering Research Conference, 2008. For paper “Optimal Sensor Allocation for System Abnormality Detection by Integrating Causal Models and Set-Covering Algorithms,” May 17-21, 2008, Vancouver, Canada.
- Best Paper Award from Industrial Engineering Research Conference, 2007. For paper “Multiscale Monitoring of Autocorrelated Processes Using Wavelets,” May 19-23, 2007, Nashville, TN, pp. 428-433.
- Best Paper Award from IIE Transactions, 2006. For paper “Online Automatic Process Control Using Observable Noise Factors for Discrete-part Manufacturing,” IIE Transactions on Quality and Reliability Engineering, Vol. 36, No. 9, pp. 899-911.
- Best Paper Award from Industrial Engineering Research Conference, 2006. For paper “Causation-Based T^2 Decomposition for Multivariate Process Monitoring and Diagnosis,” May 20-24, 2006, Orlando, FL.

- Best Paper Award from IIE Transactions, 2005. For paper “Cost-Variability-Sensitive Preventive Maintenance Considering Management Risk,” IIE Transactions on Quality and Reliability Engineering, Vol. 35, pp. 1091-1101.
- Best Paper Award from American Society of Mechanical Engineers, 2000. For paper “Process-oriented Tolerance Synthesis for Multistage Manufacturing Processes,” Proceedings of IMECE 2000, Nov. 5-10, 2000, Orlando, FL.

□ Grants and Contracts

1. *Warrior Injury Assessment Manilin (Wiaman)*, Defense, Department of Army, **J. Jin**, \$146,594 the subaccount of M000689, January 2014–February 2017.
2. *Modeling and Inference of Multi-stream Sensing Data in Complex Manufacturing Processes*, (PI: **J. Jin**) NSF, \$336,000, September 2012–August 2016.
3. *GOALI: Engineering-Driven Modeling of Multi-Resolution Data for Surface Variation Control*, (PI, H. Wang, Co-PIs: J. Hu, and **J. Jin**), NSF, \$299,998, September 2013–August 2016.
4. *Optimizing Vehicle Layout to Maximize Occupant Accommodation*, (PI, R. Matter, Co-PI: **J. Jin**), US Army Tank Automotive Research Development Engineering Center (TARDEC), ARC sub-award, \$199,494, June 2014 – November 2015.
5. *Discretionary Cooperative Agreement to Support Biomechanical Research, Department of National Highway Traffic Safety Administration*, **J. Jin**, \$110,484 the subaccount of F024982 of Award DTNH22-10-H-00288, January 2014–April 2015.
6. *UGV System Reliability Modeling & Improvement*, (PI, J. Jin, Co-PI: G. Ulsoy), US Army Tank Automotive Research Development Engineering Center (TARDEC), ARC sub-award, \$89,998, January – December 2013.
7. *IPPM: In-Line Piercing Process Monitoring For Seamless Tube Manufacturing*, (PI: **J. Jin** subcontract from OGT), NSF SBIR Phase-II and OG Technologies (OGT), \$500,000, January 2011 – May 2013, J. Jin’s subcontract from OGT \$199,949.
8. *Leak Test Optimization for Prismatic Components*, (PI: **J. Jin**) General Motors, \$103,022, September 2010 – September 2011.
9. *Design Tools to Optimize Vehicle Ingress/Egress for Small Cars* (PI: Matthew Reed, Co-PI: **J. Jin**) Ford Motor Company), September 2010 – June 2013, J. Jin’s share \$60,000.
10. *NSF-GOALI: Modeling Product Variety Induced Manufacturing Complexity for Assembly System Design*, (PI: J. Hu, Co-PI: **J. Jin**) National Science Foundation, \$349,767, September 2008 – May 2013, J. Jin’s share \$154,260.
11. *GM Collaborative Research Lab - Advanced Vehicle Manufacturing*, (PI: J. Hu, Co-PIs: E. Kannatey-Asibu, **J. Jin**) General Motor, \$2,293,060, January 2009 – December 2013, J. Jin’s share \$375,000.
12. *Sensor-based Prognostics and Predictive Process Control for Hot Deformation Processes*, (PI: **J. Jin**) Michigan 21st Century Job Fund, total \$1,459,100, January 2008 – August 2010.
13. *Engineering-Driven Wavelet Analysis of Cyclic Functional Data for Multiple Embedded Operation Diagnosis* (PI: **J. Jin**) National Science Foundation, \$251,532, September 2005 – June 2010.
14. *Cyclic Waveform Signal Analysis for Monitoring and Diagnosis of Powertrain Manufacturing Systems*, (PI: **J. Jin** for IOE subaccount), NSF-ERC on Reconfigurable Manufacturing Systems, J. Jin’s share \$150,000, September 2007 – June 2011.

15. *Ground Robotics Research Center: Reliability and Manufacturing in Unmanned Ground Vehicles*, (Director, D. Tilbury, co-leaders of one project: G. Ulsoy and **J. Jin**) US Army Tank Automotive Research Development Engineering Center (TARDEC), \$500,000/year, J. Jin's share \$60,000 per year during August 2007~2012.
16. *NSF-IUCRC on Assembly Research (initial grant)*, (PI: K. Saitou, Co-PIs: H. Giles, G. Aydin, **J. Jin**, J. Hu) \$10,000, November 2008 – December 2009.
17. *Advanced Tonnage Analysis System for Forging Process*, (PI: J. Shi, Co-PI: **J. Jin**) National Science Foundation SBIR and OG Technologies, \$200,000, September 2006 – August 2008, J. Jin's share \$96,248.
18. *Development of a CAE Design Tool for Minimizing Door Seal Gap Variation by Optimizing Component and Sub-Assembly Locator Position & Orientation*, (PI: J. Shi, Co-PI: **J. Jin**) Ford Company, \$99,864, August 2006 – November 2007, J. Jin's share \$45,000.
19. *PECASE/CAREER: A Unified Methodology for Variation Management and Reduction in Multistage Manufacturing Processes* (PI: **J. Jin**) National Science Foundation, \$375,000, September 2002 – December 2008.
20. *Research Experience for Undergraduate Students (REU): Variation Modeling and Reduction in Complex Manufacturing Processes* (PI: **J. Jin**) National Science Foundation, \$12,000, September 2005 – December 2008.
21. *MURI: Predicting and Prescribing Human Decision Making Under Uncertain and Complex Scenarios* (PI: C. Smith, Co-PIs: R. Askin, T. Bahill, T. Connolly, **J. Jin**, A. Rapoport, S. Sen, Y. Son, F. Szidarovszky) Air Force Office of Scientific Research, \$3,987,238, July 2003 – June 2008, J. Jin's share 10% at UA during 2003~2005, transferred as a subcontract to UM \$157,020, 2006~2008.
22. *A New Venture to Expand Response Surface Methodology for Engineering Process Control* (PI: F. Tsung, Co-PIs: J. Shi, and **J. Jin**) Research Grant Council at Hong Kong HK \$558,000, October 2005 – September 2008.
23. *Dynamic Data Driven of Real Time Control of Factory Operations* (PI: **J. Jin**) NSF ADVANCE Program, \$20,000, January 2006 – December 2006.
24. *Hybrid Information Inference of Interference and Robust Analysis of Noisy Signals*, (PI: **J. Jin** at U.S.A. site), *U.S. Civilian Research & Development Foundation (CRDF) and Azerbaijan National Science Institute of Cybernetics*, \$34,375, September 2005 – September 2006.
25. *ATLAS-ITS: Integration and Deployment of Real-Time Adaptive and Learning Strategies for Intelligent Transportation Systems* (PI: P. Mirchandani, Co-PI: **J. Jin**, M. Hickman, F. Wang) Federal Highway Administration/Arizona Department of Transportation (FHWA/ADOT), \$793,615, July 2002–June 2005, J. Jin's share \$100,000.
26. *Travel Time Estimation of Urban Arterial Traffic Considering Multiple Accesses of Entering and Existing Streams* (PI: **J. Jin**) U.S. Department of Transportation, Bureau of Transportation Statistics (\$100,000) and Maricopa County, Arizona Department of Transportation \$45,000, total \$145,000, July 2001 – December 2003.
27. *Variability Identification, On-line Monitoring, and Control for Multistage Photovoltaic CIGS Manufacturing Process* (PI: **J. Jin**) Department of Energy and Global Solar Energy Inc., \$258,800, November 2001 – November 2005.
28. *Network Profile Modeling and Intrusion Detection* (PI: **J. Jin**) State of Arizona Information Technologies and Commerce Institute, \$8,226, March 2004–June 2004.
29. *Variation Propagation Modeling and Analysis for Multistage Manufacturing Processes* (PI: **J. Jin**) SME Education Foundation, \$15,000, July 2002 – December 2003.

30. *Autonomic Computing for Networked Systems and Service* (PI: **J. Jin**) State of Arizona Information Technologies and Commerce Institute, \$8,900, January – December, 2003.
31. *Internet-Based Data Mining and Customer Relationship Management Technologies* (PI: **J. Jin**) State of Arizona Information Technologies and Commerce Institute, \$15,000, January – December, 2002.
32. *Variation Propagation Modeling and Analysis for Multistage Manufacturing Processes* (PI: **J. Jin**) Faculty Grant from University of Arizona, \$5,000, September 2000 – December 2002.

□ Service/Outreach

- **Major committee assignments in the Department, College, or University (since joining University of Michigan in Sep. 2005)**

- Department level

- IOE Graduate Program Committee, 2005~2013.
 - IOE Safety Committee, 2014~present
 - IOE Curriculum Committee, 2006~present.
 - IOE Qualify Exam Coordinator in QCAP Area, 2007, 2012~present.

- College Level

- Elected Executive Committee Member of College of Engineering, 2014~2016.
 - Director of Manufacturing Program of Integrative Systems and Design Division (ISD) 2010~present (before 2012, ISD was named as InterPro.)
 - Co-director of Global Automotive and Manufacturing Engineering program (GAME) in Interdisciplinary Graduate Degree Programs (InterPro) (2010~2012)
 - CoE Council member for Program in Manufacturing of InterPro, 2009~2010.
 - CoE Internal Review Committee for InterPro, 2009~2010.

- University Level

- Executive Committee for CSCAR (Center for Statistical Consultation and Research), 2010~present

- **Service in Professional Societies**

- Elected Vice President, INFORMS for International Activities, January 2010~December 2013.
 - Elected President, Quality Control and Reliability Engineering Division (QCRE) of IIE (Institute of Industrial Engineers), May 2007~May 2008.
 - President-Elect, Quality Control and Reliability Engineering Division (QCRE) of IIE, 2006~2007.
 - Chair Elect, Quality, Statistics, and Reliability (QSR) Subdivision of INFORMS, 2005.
 - Board Member, Quality Control & Reliability Engineering Community (QCRE) of IIE 2004~2005.
 - Member, ASQ Brumbaugh Award Committee, 2008~present.
 - Member, INFORMS Subdivision Council, 2008~2009.
 - Member, INFORMS Marketing Strategy Committee, 2007~2008.
 - Elected Chairperson, Quality, Statistics, and Reliability (QSR) Subdivision of INFORMS, 2006.
 - Council Member, Quality, Statistics, and Reliability Subdivision (QSR) of INFORMS November 2003~2005.

- **Editorial Service**
 - Department Editor of *IIE Transactions on Quality and Reliability Engineering*, 2007~present.
 - Editorial Advisory Board of *Journal of Industrial and Production Engineering*, 2007~present.
 - Associate Editor of *Technometrics* 2009~2012.
 - Associate Editor of *Journal of Quality Technology* 2007~2009.
 - Associate Editor of *International Journal of Flexible Manufacturing Systems* 2005-2008.
 - Editorial Board of *IIE Transactions on Quality and Reliability Engineering* 2002~2007.
 - Co-Editors of Two Special Issues of *International Journal of Flexible Manufacturing Systems*, 2003 and 2004.

- **Service as Reviewer/Referee**
 - Referee and panel reviewer for NSF Proposals, 2001, 2002, 2003, 2004, 2008, 2009, 2010.
 - Proposal Reviewer for US-CRDF, 2006, 2007, 2008, 2009, 2011.
 - Referee for major technical journals:
 - *ASME Transactions on Manufacturing Science and Engineering*
 - *ASME International Mechanical Engineering Congress*
 - *ASME Journal of Dynamic Systems, Measurement, and Control*
 - *Computers & Industrial Engineering*
 - *European Journal of Operational Research*
 - *IEEE Transactions on Industrial Electronics*
 - *IEEE Transactions on Automation Science and Engineering*;
 - *IIE Transactions on Quality and Reliability Engineering*
 - *International Journal of Flexible Manufacturing Systems*
 - *Journal of Mechanical Systems and Signal Processing*
 - *Journal of Quality Technology*,
 - *Manufacturing and Service Operations Management*
 - *NAMRC Transactions*
 - *Naval Research Logistics*,
 - *Production and Operations Management*
 - *Quality and Reliability Engineering International*
 - *SME Journal of Manufacturing Systems*
 - *Technometrics*
 - *Transactions of North American Manufacturing Research Institution*

- **Conference Organization**
 - Program Committee**
 - Member, The Fourth International Conference on the Interface between Statistics and Engineering (The 4th ICISE), June 20-22 2016, University of Palermo, Italy
 - Member, The 1st Sino-US Research Conference on Quality, Analytics, and Innovations" at Shanghai, July 1-2, 2016.
 - Member, The Third International Conference on the Interface between Statistics and Engineering (The 3rd ICISE), December 15~17, 2014, City University of Hong Kong, Hong Kong.
 - Member, The Second International Conference on the Interface between Statistics and Engineering (The 2rd ICISE), 2012, Taiwan.
 - Co-Chair, The First International Conference on the Interface between Statistics and Engineering (The 1st ICISE), 2009, Beijing.

 - Cluster/Track Organizer**
 - Cluster Chair, INFORMS Annual Meeting, International Activities Cluster, Minneapolis,

October 5-9, 2013.

- Cluster Chair, INFORMS International Activities Cluster, INFORMS International Conference, Beijing, China, June 24-27, 2012.
- Cluster Chair, INFORMS International Activities Cluster, Annual INFORMS 2011 Conference, Charlotte, NC, November 13-16, 2011.
- Co-program Chair, the First International Conference on the Interface between Statistics and Engineering, Beijing, China, July 13-15, 2009.
- Co-Track Chair, Quality Control and Reliability Engineering Track (with 18 sessions) at Annual Industrial Engineering Research Conference 2007, Nashville, TN, May 2007.
- Cluster Chair, Quality, Statistics, and Reliability (QSR) cluster (with 36 sessions) at Annual INFORMS Conference, San Francisco, November 13-16, 2005.
- Co-Track Chair, Quality Control and Reliability Track (with 17 sessions) at Annual Industrial Engineering Research Conference, Atlanta, Georgia, May 14-18, 2005.
- Co-Cluster Chair, Quality, Statistics, and Reliability (QSR) cluster (with 23 sessions) at INFORMS Annual Conference, Denver, October 24-27, 2004.
- Co-Track Chair, Quality and Reliability Track at Annual Industrial Engineering Research Conference (with 22 sessions), Houston, May 16-18, 2004.

Session Organizer

- Organizer/Chair session of “Multi-stream Data Monitoring,” The Third International Conference on Interface Between Statistics and Engineering, Hong Kong, 15-17, 2014.
- Co-Organizer/Chair session of “Overview of INFORMS and Analytics Initiatives,” INFORMS International Conference, Beijing, China, June 24-27, 2012.
- Organizer session of “Variation Modeling and Monitoring for Complex Manufacturing Processes,” International Symposium on Business and Industrial Statistics (ISBIS), Bangkok, Thailand, June 17-20, 2012.
- Organizer session of “Advanced Statistical Analysis for High Dimensional Data,” The second International Conference on the Interface between Statistics and Engineering (ICISE), Tainan, Taiwan, June 25~27, 2012.
- Co-Organizer/Chair session of “Functional Data Analysis Methods and Applications,” INFORMS Annual Conference, Charlotte, NC, November 13-16, 2011.
- Co-Organizer/Chair session of “Advanced Multivariate Statistical Process Monitoring,” Annual INFORMS Conference, San Diego, 2009.
- Co-Organizer/Chair session of “Advanced Multivariate Statistical Process Monitoring,” Annual INFORMS Conference, San Diego, 2009.
- Co-Organizer/Chair of two sponsored sessions of “Advanced Multivariate Statistical Process Monitoring,” Annual INFORMS Conference, Washington DC, October 12-15, 2008.
- Co-Organizer/Chair of panel session “10 Years Anniversary for the QSR Section: Past, Current and Future,” Annual INFORMS Conference, Pittsburgh, November 5-8, 2006.
- Organizer/Chair of the QSR Best Student Paper Competition Session, Annual INFORMS Conference, Pittsburgh, November 5-8, 2006.
- Organizer/Chair of the session on “Integration of Multiscale Wavelet Analysis and SPC for Process Monitoring and Diagnosis,” Annual INFORMS Conference, Pittsburgh, November 5-8, 2006.

- Organizer/Chair of two sessions on “Integration of Multiscale Wavelet Analysis and SPC for Process Monitoring and Diagnosis,” Annual INFORMS Conference, Atlanta, October 19-22, 2003.
 - Organizer/Chair of the panel discussion session “Journal Editor’s View: Current Status and Future Trend in Quality, Statistics, and Reliability Research and Implementations,” Annual INFORMS Conference, San Jose, November 17-20, 2002.
 - Organizer/Chair of the session on “Quality and Productivity Improvement for Multistage Manufacturing Processes,” Annual INFORMS Annual Conference, San Jose, November 17-20, 2002.
 - Organizer/Chair of the mini-symposium on “Quality and Productivity Improvement for Information Intensive Complex Systems,” IEEE International Conference on Systems, Man and Cybernetics (SMC2001), Tucson, October 7-10, 2001.
 - Organizer/Chair of the session “Advanced Quality & Reliability Research & Implementations,” INFORMS Fall Conference, San Antonio, November 4-8, 2000.
 - Co-organizer/Chair of the session “Advanced SPC Methodologies & Implementations,” INFORMS Spring Conference, Salt Lake City, May 7-10, 2000.
 - Co-organizer/Chair of the session “Multivariate Statistical Quality Control: Methodology & Implementation,” INFORMS Spring Conference, Salt Lake City, May 7-10, 2000.
- **Membership in Professional Societies**
 - American Society of Mechanical Engineers (ASME), Fellow.
 - International Institute of Statistics (ISI), elected senior member.
 - American Society for Quality (ASQ), senior member.
 - Institute of Industrial Engineers (IIE), Fellow.
 - Institute for Operations Research and Management Science (INFORMS).
 - Society of Manufacturing Engineers (SME).
 - Institute of Electrical and Electronics Engineers (IEEE)

□ Educational Activities

Graduated Ph.D./Doctoral students at the University of Michigan

- Hadi Masoud, December 2015 (Chair)
Current position: Assistant Professor, Industrial Engineering Department, King Abdul-Aziz University Jeddah, Saudi Arabia
Dissertation: Analysis of Human Motion Data for Vehicle Ingress Discomfort Evaluation
- Chenhui Shao, December 2015 (Co-chair)
Current position: Postdoctor, University of Michigan
Dissertation: Sensor Fusion and Process Monitoring for Ultrasonic Welding of Lithium-Ion Batteries
- Weihong (Grace) Guo, July 2015 (Co-chair)
Current position: Assistance Professor, Rutgers, The State University of New Jersey
Dissertation: Sensor Fusion and Process Monitoring for Ultrasonic Welding of Lithium-Ion Batteries
- Amir Sadrpour, December 2013 (Co-chair)
Current position: Research Scientist, Amazon.
Dissertation: Acceptance Testing and Energy-based Mission Reliability in Unmanned Ground Vehicles
- Kamran Paynabar, May 2012 (Chair)

- Current position: Assistant Professor, Georgia Institute of Technology, H. Milton Stewart School of Industrial and Systems Engineering.
Dissertation: Nonlinear Profile Data Analysis for System Performance Improvement
- Qiang Li, December 2011 (Chair)
Current position: Risk Manager, China Development Bank.
Dissertation: Process Monitoring and Quality Control in Hot Rolling Processes Using Image Sensing Data
 - Andres Abad, June 2010 (Chair).
Current position: Assistant Professor, Escuela Superior Politecnica del Litoral, Ecuador.
Dissertation: Modeling and analysis of process complexity and performance in mixed model assembly systems.
 - Jian Liu, May 2008 (Co-chair)
Current position: Assistant Professor, University of Arizona.
Dissertation: System-Level Quality Planning and Diagnosis for Complex Multistage Manufacturing Processes.
 - Jing Zhong, May 2008 (Co-chair)
Current Position: Research Staff, Microsoft Research, Microsoft Company.
Dissertation: DOE-based APC: Variation Reduction beyond Robust Design.
 - Pornpen Chaipradubkiat (Name changed as Anantanat Kantanyarat), August 2006 (Co-chair).
Current position: Lecturer in the Department of Statistics at Chulalongkorn University, Thailand.
Dissertation title “Proactive Maintenance for Reconfigurable Manufacturing Systems”
 - Yong Chen, August, 2001 (Co-chair).
Current position, Tenured Associate Professor, University of Iowa.
Dissertation: Integrated Diagnosability Analysis and Maintenance Decision for In-Process Quality Improvement.

Graduated Ph.D. students at the University of Arizona

- Xuejun Zhu, March 2006 (Chair)
Current position: Senior Economist, Fannie Mae Company, Washington, DC.
Dissertation: Automatic Feature Extraction and Online Monitoring of Computer Network Systems for Intrusion Detection.
- Huarui Guo, November 2004 (Chair).
Current position: Director, Theoretical Development, ReliaSoft Corporation, Tucson, Arizona.
Dissertation: Variation Monitoring, Diagnosis, and Control for Complex Solar Cell Manufacturing Processes.

• **Courses Taught at U of M**

| Course # | Course title | Term |
|---------------------------|--|------|
| IOE366 | Linear Statistical Models | F05 |
| IOE265 | Probability and Statistics for Engineering | W06 |
| IOE366 | Linear Statistical Models | F06 |
| IOE265 | Probability and Statistics for Engineering | W07 |
| IOE591 (new course) | Statistical Learning and Applications in Quality Engineering | W08 |
| IOE466/Stat466 | Statistical Process Control | F08 |
| IOE466/Stat466 | Statistical Process Control | F09 |
| IOE591 (2nd time offered) | Statistical Learning and Applications in Quality Engineering | W10 |
| IOE466/Stat466 | Statistical Process Control | F10 |

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|------------------------|--|-----|
| IOE591 (new course) | Green Energy Manufacturing | W11 |
| IOE466/Stat466 | Statistical Process Control | F12 |
| IOE466/Stat466 | Statistical Process Control | W13 |
| IOE568 | Statistical Learning and Applications in Quality Engineering | W13 |
| IOE466/Stat466 | Statistical Process Control | F13 |
| IOE466/Stat466 | Statistical Process Control | F14 |
| IOE568 | Statistical Learning and Applications in Quality Engineering | W15 |
| IOE466/Mfg466 | Statistical Process Control | W15 |

- **Courses Taught at University of Arizona**

| Course # | Course title | Term |
|------------|---------------------------------------|------|
| SIE533 | Time Series Analysis and Applications | F00 |
| IOE406/506 | Statistical Process Control | S01 |
| SIE533 | Time Series Analysis and Applications | F01 |
| SIE408/508 | Reliability Engineering | F01 |
| SIE406/506 | Statistical Process Control | S02 |
| SIE408/508 | Reliability Engineering | F02 |
| SIE330 | Engineering Experiments Design | S03 |
| SIE406/506 | Statistical Process Control | S03 |
| SIE533 | Time Series Analysis and Applications | F03 |
| SIE406/506 | Statistical Process Control | W04 |
| SIE330 | Engineering Experiments Design | F04 |
| SIE406/506 | Statistical process control | W05 |

□ Publications

- **Published/Accepted Refereed Journal Articles**

- P1. Guo, W., Jin, J., Paynabar, K., Miller, B., Carpenter, J. (2015) "A Decision Support System on Surgical Treatments for Rotator Cuff Tears," To appear *IIE Transactions on Healthcare Systems Engineering*. (also selected by Editor-in-Chief of *IIE Transactions on Healthcare Systems Engineering* as one of two articles that are highlighted in the IE Magazine in each quarter.)
- P2. Guo, W., Shao, C., Kim, T., Hu, J., Jin, J., Spicer, P., and Wang, H. (2015) "Online Process Monitoring with Near-Zero Misdetection for Ultrasonic Welding of Lithium-ion Batteries: An Integration of Univariate and Multivariate Methods," Accepted by *Journal of Manufacturing Systems*, 2015.
- P3. Masoud, H., Reed, M., Paynabar, K., Jin, J., Kozak, K., Wang, N., Wan, J., Gomez-Levi, G., (2015) "Predicting Subjective Responses From Human Motion: Application to Vehicle Ingress Assessment," Accepted by *ASME Transactions, Journal of Manufacturing Science and Engineering*.
- P4. Shao, C., Kim, T., Hu, S. Jin, J., Abell, J. Spicer, Patrick (2015) "Tool Wear Monitoring for Ultrasonic Metal Welding of Lithium-ion Batteries," Accepted by *ASME Transactions, Journal of Manufacturing Science and Engineering*.

- P5. Paynabar, K., Jin, J., and Reed, M. (2014) “Informative Sensor and Feature Selection via Hierarchical Non-Negative Garrote,” Accepted by *Technometrics* (online version DOI:10.1080/00401706.2014.947383.)
- P6. Li, X., Zhang, H., Jin, J., Huang, D., Qi, X., Zhang, Z., and Yu, D. (2014) “Quantifying Dispersion of Nanoparticles in Polymer Nanocomposites Through TEM Micrographs,” *Journal of Micro and Nano-Manufacturing*, to appear.
- P7. Guo, W., Chen, R. and Jin, J. (2014) “On-line Eccentricity Monitoring of Seamless Tubes in Cross-roll Piercing Mill,” *ASME Transactions, Journal of Manufacturing Science and Engineering*, to appear.
- P8. Sadrpour, A., Jin, J., and Ulsoy, A.G. (2014) “Real-time Energy-efficient Path Planning for Unmanned Ground Vehicles using Mission Prior Knowledge,” *Int. J. of Vehicle Autonomous Systems*, 12:3, 221-246.
- P9. Abad, A., Jin, J. and Son, Y., (2013) “Estimation of Expected Human Attention Weights Based on a Decision Field Theory Model,” *Information Science*, Vol. 278, Sep. 2014, 520–534.
- P10. Abad, A., Guo, W. and Jin, J. (2014) “Algebraic Expression of System Configurations and Performance Metrics for Mixed Model Assembly Systems,” *IIE Transactions on Design and Manufacturing*. V46, 230~248, DOI: 10.1080/0740817X.2013.813093.
- P11. Guo, W., Jin, J., and Hu, J., (2013) “Allocation of Maintenance Resources in Mixed Model Assembly Systems,” *Journal of Manufacturing Systems*, V32 (3), July 2013, 473-479.
- P12. Shao, C., Paynabar, K., Kim, T. H., Jin, J., Hu, J., Spicer, P., Wang, and H., Abell, J., (2013) “Feature Selection for Manufacturing Process Monitoring Using Cross-Validation,” *Journal of Manufacturing Systems*, V32 (4), 550-555.
- P13. Liu, J., and Jin, J. (2013) “Diagnosing Multistage Manufacturing Processes with Engineering-driven Factor Analysis Considering Sampling Uncertainty,” *ASME Transactions, Journal of Manufacturing Science and Engineering*, 135:4.
- P14. Paynabar, K., Jin, J., and M. Pacella, (2013) “Monitoring and Diagnosis of Multichannel Nonlinear Profile Variations Using Uncorrelated Multilinear Principal Component Analysis,” *IIE Transactions on Quality and Reliability Engineering*. V45 (11), 1235-1247.
- P15. Sadrpour, A., Lee, H. J., Jin, J., and Ulsoy, G., (2013) “Simulation-Based Acceptance Testing for Unmanned Ground Vehicles,” *Int. J. Vehicle Autonomous Systems*, V 11 (1), 2013.
- P16. Sadrpour, A., Jin, J., and Ulsoy, A.G. (2013) “Mission Energy Prediction for Unmanned Ground Vehicles Using Real-time Measurements and Prior Knowledge,” *Journal of Field Robotics*, V30(3), 339-414.
- P17. Paynabar, K., Jin, J., and Yeh, A. (2012) “Phase I Risk-Adjusted Control Charts for Monitoring Surgical Performance by Considering Categorical Covariates,” *Journal of Quality Technology*, V44(1), 39-53.
- P18. Yang, Q. and Jin, J. (2012) “Separation of Individual Operation Signals from Mixed Sensor Measurements,” *IIE Transactions on Quality and Reliability Engineering*, V44(9), 780-792.
- P19. Paynabar, K., Jin, J., Agapiou, J., and Deeds, P. (2012) “Robust Leak Tests for Transmission Systems Using Nonlinear Mixed-Effect Models,” *Journal of Quality Technology*, V44(3), 265-278.
- P20. Guo, H., Paynabar, K., and Jin, J. (2012) “Multiscale Monitoring of Autocorrelated Processes Using Haar Wavelets Transform,” *IIE Transactions on Quality and Reliability*

- Engineering*, V44(4), 312-326.
- P21. Abad, A., Paynabar, K., and Jin, J. (2011) "Modeling and Analysis of Operator Effects on Process Quality and Throughput in Mixed Model Assembly Systems," *ASME Transactions, Journal of Manufacturing Science and Engineering*, V133(2), 021016.
- P22. Abad, A., and Jin, J. (2011) "Complexity Metrics for Mixed Model Manufacturing Systems Based on Information Entropy," *International Journal of Information and Decision Sciences*, V3(4), 313-334.
- P23. Paynabar, K. and Jin, J. (2011) "Characterization of Nonlinear Profiles Variations using Mixed-effect Models and Wavelets," *IIE Transactions on Quality and Reliability Engineering*, V43, 275-290 (Awarded IIE Transactions Best Application Paper Award.)
- P24. Li, J., Xie, H., and Jin, J. (2011) "Optimal Process Adjustment by Integrating Production Data and Design of Experiments" *Quality and Reliability Engineering International*, V27(3), 327-336.
- P25. Li, J. and Jin, J. (2010) "Optimal Sensor Allocation by Integrating Causal Models and Set-covering Algorithms," *IIE Transactions on Quality and Reliability Engineering*, V42(8), 564-576.
- P26. Chaipradabkiat, T. and Jin, J. (2010) "Minimal Tooling Adjustment Strategy for Acceptable Product Quality in Assembly Processes" *Journal of Quality and Reliability Engineering International*, V26, 775-785.
- P27. Lei, Y., Zhang, Z., and Jin, J. (2010) "Automatic Tonnage Monitoring for Missing Part Detection in Multi-Operation Forging Processes," *ASME Transactions, Journal of Manufacturing Science and Engineering*, V132(5), 051010-1~051010-10.
- P28. Li, Q., Jin, J., Chang, T. (2010) "Detection and Diagnosis of Repetitive Surface Effects for Hot Rolling Processes," *Transactions of the NAMRI/SME*, V38, 615- 622.
- P29. Yang, Q. Jin, J., and Chang, T. (2010) "Automatic Feature Extraction and Classification of Surface Defects in Continuous Casting," *Transactions of the NAMRI/SME*, V38, 563-570.
- P30. Lee, S. and Son, Y., and Jin, J. (2010) "Integrated Human Decision Making and Planning Model Under Extended Belief-Desire-Intention Framework," *ACM Transactions on Modeling and Computer Simulation*, V20(4), 23(1)~23(24).
- P31. Liu, J., Jin, J., and Shi, J., (2009) "State Space Modeling for 3-Dimensional Variation Propagation in Multistatge Assembly Processes," *IEEE Transactions on Automation Science and Engineering*, V7(2), 274-290.
- P32. Chaipradabkiat, T., Jin, J., and Shi, J. (2009) "Optimal Fixture Locator Adjustment Strategies for Multi-station Assembly Processes," *IIE Transactions on Quality and Reliability Engineering*, V41(9), 843-852.
- P33. Jin, J., and Li, J. (2009) "Multiscale Wavelet Analysis for Mapping Aggregated Signal Features to Embedded Operations," *IIE Transactions on Quality and Reliability Engineering*, V41(7), 615-625.
- P34. Lei, Y., Paynabar, K., Jin, J. and Agapiou, J. (2009) "Cyclic Waveform Signal Analysis for Online Monitoring of Valve Seat Assembly Processes," *Transactions of the NAMRI/SME*, Vol.37.
- P35. Yang, Q., Li, Q., Jin J., and Chang, T. (2009) "Online Classification of Surface Defects in Hot Rolling Processes," *Transactions of the NAMRI/SME*, V37, 371-378.
- P36. Li, J., Jin, J., and Shi, J. (2008) "Causation-based T² decomposition for Multivariate Process Monitoring and Diagnosis" *Journal of Quality Technology*, V40 (1), 46-58.

- P37. Li, J., Huang, K., Jin, J. and Shi, J. (2008) "A Survey on Statistical Methods for Health Care Fraud Detection" *Health Care Management Science*, V11 (3), 275-87.
- P38. Lee, S., Son, Y., and Jin, J. (2007) "Decision Field Theory Extensions for Behavior Modeling in Dynamic Environment using Bayesian Belief Network," *Information Sciences* V178 (10), 2297-2314.
- P39. Jin, J., Guo, H., and Zhou, S. (2006), "Statistical Process Control Based Supervisory Generalized Predictive Control of Thin Film Deposition Processes," *ASME Transactions, Journal of Manufacturing Science and Engineering*, V128(1), 315-325.
- P40. Chen, Y. and Jin, J. (2006), "Quality-Oriented-Maintenance for Multiple Interactive Tooling Components in Discrete Manufacturing Processes," *IEEE Transactions on Reliability*, V55 (1), 123-134.
- P41. Guo, H. and Jin, J. (2006), "Travel Time Estimation With Correlation Analysis of Single Loop Detector Data," *Transportation Research Record, Artificial Intelligence and Advanced Computing Applications*, No. 1968, 10-19.
- P42. Chen, Y., Ding, Y., Jin, J., Ceglarek, D. (2006), "Integration of Process-Oriented Tolerancing and Maintenance Planning in Design of Multistation Manufacturing Processes," *IEEE Transactions on Automation Science and Engineering*, V3(4), 440-453.
- P43. Chen, Y. and Jin, J. (2005), "Quality-Reliability Chain Modeling for System-Reliability Analysis of Complex Manufacturing Processes," *IEEE Transactions on Reliability*, V54 (3), 475-488.
- P44. Ding, Y., Jin, J., Ceglarek, D., and Shi, J. (2005), "Process-Oriented Tolerancing for Multi-station Assembly Systems," *IIE Transactions on Quality and Reliability Engineering*, V37(6), 493-508.
- P45. Zhou, S. and Jin, J. (2005), "Automatic Feature Selection for Unsupervised Clustering of Cycle-based Signals in Manufacturing Processes," *IIE Transactions on Quality and Reliability Engineering*, V37, 569-584.
- P46. Zhou, S., Jin, N., and Jin, J. (2005), "Cycle-Based Signal Monitoring Using a Directionally Variant Multivariate Control Chart System," *IIE Transactions on Quality and Reliability Engineering*, V37(11), 971-982.
- P47. Jin, J. and Shi, J. (2005), "Press Tonnage Signal Decomposition and Validation Analysis for Transfer or Progressive Die Processes," *Journal of Manufacturing Science and Engineering*, V127(1), 231-235.
- P48. Ceglarek, D. and Jin, J. (2004), "Introduction: Modeling and analysis for complex production systems. Position Statement," *International Journal of Flexible Manufacturing Systems*, V16 (1), 5-9.
- P49. Jin, J. (2004), "Individual Station Monitoring Using Press Tonnage Sensors for Multiple Operation Stamping Processes," *ASME Transactions, Journal of Manufacturing Science and Engineering*, V126 (1), 83-90.
- P50. Jin, J. and Ding, Y. (2004), "Online Automatic Process Control Using Observable Noise Factors for Discrete-part Manufacturing," *IIE Transactions on Quality and Reliability Engineering*, V36 (9), 899-911 (Also selected by *IIE Solutions* as a feature paper in Vol. 36 (9). [Awarded the *IIE Transactions* Best Paper Award in 2006].
- P51. Chen, Y., Jin, J., and Shi, J. (2004), "Integration of Dimensional Quality and Locator Reliability in Design and Evaluation of Multi-station Body-In-White Assembly Processes," *IIE Transactions on Quality and Reliability Engineering*, V36 (9), 827-839.
- P52. Jin, J. and Guo, H. (2003), "ANOVA Method for Variance Component Decomposition and

- Diagnosis in Batch Manufacturing Processes,” *International Journal of Flexible Manufacturing Systems*, V15 (2), 167-186.
- P53. Chen, Y. and Jin, J. (2003), “Cost-Variability-Sensitive Preventive Maintenance Considering Management Risk,” *IIE Transactions on Quality and Reliability Engineering*, V35 (12), 1091-1101. (Also selected by *IIE Solutions* as a feature paper published in Vol. 35 (12), 2003. [Awarded the *IIE Transactions Best Paper Award in 2005*].
- P54. Ding, Y., Kim, P., Ceglarek, D., and Jin, J. (2003), “Optimal Sensor Distribution for Variation Diagnosis in Multistation Assembly Processes,” *IEEE Transactions on Robotics and Automation*, V19 (4), 543-556.
- P55. Jin, J. and Chen, Y. (2001), “Quality and Reliability Information Integration for Design Evaluation of Fixture System Reliability,” *Quality and Reliability Engineering International*, V17, 355-372.
- P56. Jin, J. and Shi, J. (2001), “Automatic Feature Extraction of Waveform Signals for In-Process Diagnostic Performance Improvement,” *Journal of Intelligent Manufacturing*, V12(3), 257-268.
- P57. Jin, J. and Shi, J. (2000), “Diagnostic Feature Extraction from Stamping Tonnage Signals Based on Design of Experiments,” *ASME Transactions, Journal of Manufacturing Science and Engineering*, V122 (2), 360-369.
- P58. Jin, J. and Shi, J. (1999), “State-Space Modeling of Sheet Metal Assembly for Dimensional Control,” *ASME Transactions, Journal of Manufacturing Science and Engineering*, V121 (4), 756-762.
- P59. Jin, J. and Shi, J. (1999), “Feature-Preserving Data Compression of Stamping Tonnage Information Using Wavelets,” *Technometrics*, V41(4), 327-339.
- P60. Ganesan, R., Jin, J., and Sankar, T. S. (1995), “A Classifier Neural Network for Rotordynamic Systems,” *International Journal of Mechanical Systems and Signal Processing*, V9 (4), 397-414.
- P61. Jin, J., Zhong, B., and Huang, R. (1993), “Approximation of Nonlinear Functions Using Functional Neural Networks,” *Journal of Southeast University, China*, V23 (11), 74-79.
- P62. Jin, J. (1991), “Continuous Function Approximation Using Block-Pulse Functions,” *Journal of Southeast University, China*, V21 (2), 22-30.
- P63. Jin, J., Yang, X., and Tong, B. (1989), “Automatic Detection of Abnormal Data in Dynamic Measurement Systems Using Fuzzy Logic,” *Journal of Southeast University, China*, V5(2), 49-45 (Best paper award).
- P64. Yang, X., Jin, J., and Tong, B. (1988), “Bispectrum Analysis of Nonlinear Modulation Functions,” *Journal of Southeast University, China*, V18 (2), 1-8.
- **Refereed Conference Proceedings (peer reviewed)**
 - C1. Shao, C., Guo, W., Kim, T.H., Jin, J., and Hu, J., Spicer, P., and Abell, J., “Characterization and monitoring of tool wear in ultrasonic metal welding,” Proceeding of the 9th International Workshop on Microfactories, October, 2014.
 - C2. Guo, W., Jin, J., and Hu, S.J. “Within-cycle Profile Monitoring for Real-time Defect Prevention”, Proceedings of the 11th International Conference on Frontiers of Design and Manufacturing (ICFDM), Nanjing, China, May 23-25, 2014 (Won the Best Paper Award.)

- C3. Sadrpour, A., Ulsoy, A. G., Jin, J., “The Role of Operator Style on Mission Energy Requirements for Tele-Operated Unmanned Ground Vehicles,” Proceedings of the American Control Conference 2014.
- C4. Chen, R., Guo, W. and Jin, J. “On-line Eccentricity Monitoring of Seamless Tubes in Cross-roll Piercing Mill,” Proceedings of the ASME 2014 International Manufacturing Science and Engineering Conference (MSEC2014).
- C5. Masoud, I. H., Reed, M., Paynabar, K., Jin, J., Kozak, K., Wang, N., Wan, J., Gomez-Levi, G. “Predicting Subjective Responses from Human Motion: Application to Vehicle Ingress Assessment,” Proceedings of the ASME 2014 International Manufacturing Science and Engineering Conference.
- C6. W. Guo, K. Paynabar, J. Jin, B. Miller, J. Carpenter, and R. Hughes, “A Decision Support System on Surgical Treatments for Rotator Cuff Tears”, Annual ISERC 2014, Montreal, Canada, Jun 2014 (Finalist in Best Paper Award Competition).
- C7. Shao, C., Paynabar, K., Kim, T., Jin, J., Hu, J., Spicer, J. P, Wang, H., Abell, J. (2013) “Feature selection for manufacturing process monitoring using cross-validation,” NAMRAC 2013.
- C8. Sadrpour, A., Ulsoy, A. G., Jin, J. (2013) “Experimental Validation of Mission Energy Prediction Model for Unmanned Ground Vehicles”. American Control Conference (ACC), 5960-5965.
- C9. Sadrpour, A., Jin, J., Ulsoy, G., (2013) “Real-time Most Energy Reliable Path Planning for Unmanned Ground Vehicles,” Proceeding of ASME Dynamic Systems Control Conference, Stanford, CA, Oct. 2013.
- C10. Sadrpour, A., Jin, J., Ulsoy, A. G. (2012) “Mission Energy Prediction for Unmanned Ground Vehicles,” *IEEE International Conference on Robotics and Automation*, 2229-2234.
- C11. Abad, A. and Jin, J. (2010) “Modeling Operator Performance Effect on Product Conforming Quality in Manufacturing Systems,” Proceeding of The 3rd International Conference on Cybernetics and Informatics” Azerbaijan, September 2010.
- C12. Yang, Q. and Jin, J. “Blind Identification of Individual Source Signals from Aggregated Sensor Measurement,” *Proceedings of IERC 2009*, May 31-June 2, 2009, Miami, FL. [Received Best Paper Award in the conference]
- C13. Lee, H. J., Jin, J., and Ulsoy, G. “Simulation Based Acceptance Testing for Unmanned Ground Vehicles,” *Proceedings of the 2009 Ground Vehicle Systems Engineering and Technology Symposium (GVSETS)*, August 18-20, 2009, Troy, MI.
- C14. Lei, Y., Zhang, Z., and Jin, J. “Automatic Tonnage Monitoring and Diagnosis of Multi-Operation Forging Processes,” *Proceeding of the Second International Conference Problems of Cybernetics and Informatics*, September 6~10, 2008, Baku, Azerbaijan.
- C15. Li, J. and Jin, J. “Optimal Sensor Allocation for System Abnormality Detection by Integrating Causal Models and Set-Covering Algorithms,” *Proceeding of Annual Industrial Engineering Research Conference*, May 17-21, 2008, Vancouver, Canada. [Received Best Paper Award in the conference]
- C16. Zhou, Y., Jin, J., and Guo, H. “Multiscale Monitoring of Autocorrelated Processes Using Wavelets,” *Proceeding of Annual Industrial Engineering Research Conference*, May 19-23, 2007, Nashville, TN, pp. 428-433. [Received Best Paper Award in the conference]
- C17. Zhang, Z., Zhu, X., and Jin, J. “SVC-Based Multivariate Control Charts for Automatic

- Anomaly Detection in Computer Networks,” *Proceeding of the Third International Conference on Autonomic and Autonomous Systems (ICAS 2007)*, June 19-25, 2007 - Athens, Greece.
- C18. Zhang, Z., Tremblay, G., and Jin, J. (2006) “Automatic Feature Extraction for Missing Part Detection in Forging Processes,” *Proceedings of the International Conference on Manufacturing Science and Engineering, MSEC2006*, October 8-11, 2006, Ypsilanti, MI.
- C19. Li, J., Jin, J., and Shi, J. (2006) “Causation-Based T^2 Decomposition for Multivariate Process Monitoring and Diagnosis”. *Proceeding of Industrial Engineering Research Conference*, May 20-24, 2006, Orlando, FL. [Received Best Paper Award in the conference]
- C20. Qu, G., , Haririet, S., Yousifalim, M. Zhu, X., Jin, J., Parashar, M. (2004) “Multivariate statistical online analysis for self protection against network attacks.” *Proceedings of the IEEE International Conference on Information and Computer Science (ICICS 2004)*, Dhahran, Saudi Arabia, November 2004.
- C21. Qu, G., Hariri, S., Sneij, G., and Jin, J. (2003), “ Online Faults/Attack Detection and Recovery,” *Proceeding of the Second IASTED International Conference on Communications, Internet, & Information Technology*, CIIT2003, pp. 37-42. Scottsdale, AZ. 2005.
- C22. Chen, Y., Jin, J., and Shi, J. (2002), “Quality and Reliability Integration in Multiple Station Autobody Assembly Processes,” *Proceeding of the 5th International Conference on Frontiers of Design and Manufacturing (ICFDM’2002)*, pp. 243-252, Xian, China.
- C23. Ding, Y., Ceglarek, D., and Jin, J. (2001), “A Sensor Distribution Methodology for Multistage Manufacturing Systems,” *Proceeding of Flexible Automation and Intelligent Manufacturing (Faim2001)*, Dublin, Ireland.
- C24. Chen, Y., Jin, J., and Shi, J. (2001), “Reliability Modeling and Analysis of Multi-station Manufacturing Processes Considering the Quality and Reliability Interaction,” *Proceeding of the IEEE International Conference on Systems, Man and Cybernetics (SMC’2001)*, Vol. 4, pp. 2093-2098, Tucson, AZ.
- C25. Ding, Y., Jin, J. Ceglarek, D., Shi, J. (2000), “Process-oriented tolerance synthesis for multistage manufacturing systems, *Proceeding of Manufacturing Science and Engineering-2000, ASME 2000*.
- C26. Jin, J., and Shi, J. (1998), “Automatic Feature Extraction of Waveform Signals for In-Process Diagnostic Performance Improvement,” *Proceeding of the IEEE International Conference on Systems, Man and Cybernetics*, pp. 4716-4721, San Diego.
- C27. Shi, J. and Jin, J. (1997), “Automotive Body Assembly Modeling for Dimensional Control Using State-Space Models,” *Proceedings of IFAC Intelligent Manufacturing Conference*, pp. 189-196, Korea.
- C28. Shi, J., Jin, J., and Ni, J. (1995), “On-Line Automatic Modeling System with Implementations,” *Proceedings of International Conference on Intelligent Knowledge and Integration for Manufacturing*, pp. 87-92, Nanjing, China.
- C29. Jin, J., Zhong, B., Ganesan, R., and Sankar, T. S. (1994), “Neural Network-Based Stability Identification for Half-Frequency Rotor Motion,” *Proceedings of IMACS International Symposium on Signal Processing, Robotics and Neural Networks*, pp. 125-131. École Centrale de Lille, Villeneuve d’Ascq-France.
- C30. Jia, M., Jin, J., and Zhong, B. (1993), “Vibration Analysis of Rotating Machinery Based on Functional Link Neural Networks,” *Proceedings of Advanced Manufacturing Engineering*, pp. 65-79, Beijing, China.

- C31. Jin, J., and Yang, X. (1991), "Speech Synthesizer of Single-Syllable Unit and Implementations," *Proceedings of BICM'91 International Conference on Advanced Mechatronics*, pp. 749-754, Beijing, China.
- C32. Jin, J., and Yang, X. (1990), "Development of a Test Bed of High-Speed Motors Using Programmable Computer Control," *Proceedings of Advanced Manufacturing Engineering*, pp. 65-72, Beijing, China.
- C33. Jin, J., Tong, B., and Yang, X. (1989), "Step-Motor Modeling and Error Compensation," *Proceedings of National Conference on Advanced Mechatronics*, pp. 132-137, Beijing, China.

- **Chapters in Scholarly Books and Monographs**

- Lee, E. and Jin, J. (2004), "Chapter: A Next Generation Intelligent Mobile Commerce System" in the book of *Lecture Notes in Computer Science: Software Engineering Research and Applications*, Editors: Ramamoorthy, C. V., Lee, R., and Lee, K. W., Springer-Verlag Heidelberg, Vol. 3026, pp. 320 – 331.

□ Presentations

- **Invited Panel Talks**

- Invited Panel talk in plenary session: Multistage Operations and Multistream Data Analysis, The first China Quality Conference in Beijing, September, 2014.
- Invited Panel talk in plenary session: System Informatics Analysis, System informatics and Analytics workshop, The IEEE International Conference on Automation Science and Engineering (IEEE CASE2013), Aug. 17, 2013.
- Invited Panelist on the panel session of "Copying with Your CARRER Award" NSF CMMI Engineering Research and Innovation Conference 2008, Knoxville, January 7-10, 2008.
- Invited Panelist on Future Academic Colloquium of "Balance on Work and Life," INFORMS Annual Conference, San Francisco, November 13-16, 2005.
- Invited Panelist on Future Academic Colloquium of "Advising Graduate Students," INFORMS Annual Conference, Denver, October 24-27, 2004.
- Invited Panelist on Doctoral Colloquium of "Job Search Strategies," Industrial Engineering Research Conference, Houston, May 16-18, 2004.
- Invited Panelist on the special panel discussion session of "How to Develop Career Plan," Industrial Engineering Research Conference, Houston, May 16-18, 2004.
- Invited Panelist on the panel discussion session of "NSF Early CAREER Development (CAREER) Session," NSF Grantee Conference, Birmingham, January 7-9, 2003.

- **Invited Seminars/Workshops**

- "Data Fusion Research for Manufacturing Systems Improvement," Department of Industrial and Manufacturing Engineering, Penn State University, December 10, 2015.
- "Data Fusion for Intelligent Manufacturing," University of Science and Technology Beijing, China, May 2015.
- "Variation Analysis of Multichannel Nonlinear Profile Signals," Workshop of Building

- Statistical Methodology and Theory*, Yunnan, July 2014.
- “*Data Fusion Research for Manufacturing System Innovation and Quality Improvement*,” Dalian University, May 2014.
 - “*Variation Reduction Using in Situ Sensing and Automatic Process Adjustment*” Department of Mechanical Engineering, Massachusetts Institute of Technology, April 3, 2012.
 - “*Overview of Mixed-effect Models and Applications for Variations Reductions*” Chinese Academy of Science, Beijing, March 21, 2012.
 - “*Characterization of Nonlinear Profiles Variations using Mixed-effect Models and Wavelets*” Hong Kong University of Science and Technology, Hong Kong, March 9, 2012.
 - “*Overview of Data Fusion Research for Quality Improvements in Complex Systems*,” National Research Center for Theoretical Statistics, National Tsinghua University, Taiwan, November 25, 2011
 - “*Engineering-Driven Wavelet Analysis for Feature Extraction and Diagnosis of Cyclic Waveform Signals*,” National Research Center for Theoretical Statistics, National Tsinghua University, Taiwan, November 25, 2011.
 - “*Analysis of Heterogeneous Mortality Data for Inferring Surgical Operation Risks*,” National Taipei University, Taiwan, Nov. 30, 2011.
 - “*Analysis of Multistream Waveform Signals By Integrating ICA and SCA*,” National Cheng Kung University, Taiwan, December 1, 2011.
 - “*Overview of Data Fusion Research and Its Application in Metal Forming Processes*,” University of Science and Technology Beijing, Beijing, October 13, 2011.
 - “*Overview of Data Fusion Research and Its Application in Automotive Industry*” University of Science and Technology Beijing, Beijing, Oct. 14, 2011.
 - “*Data Fusion Research with Its Applications in Complex Manufacturing Processes*,” Beijing University, China, October 15, 2010.
 - “*Multi-stream Data Analysis with Its Applications*,” Chinese Academy of Science, Beijing, China, 2010.
 - “*Blind Signal Separation Methods for Individual Embedded Operations Monitoring and Diagnosis*,” Nanjing University of Aeronautics and Astronautics, China, 2010.
 - “*Data Fusion Research for Quality Improvement in Complex Forming Manufacturing Processes*,” Department of Mechanical Engineering, University of Politecnico of Milano, Italy, 2010.
 - “*Sensor Fusion for Intelligent Monitoring and Diagnosis of Complex Systems*” Department of Engineering for Innovations, The University of Salento, Italy, 2010.
 - “*Statistical Modeling and Analysis of Temperature Effects on Leak Flow for Adaptive Leaking Testing System*,” General Motors Powertrain Group, 2010.
 - “*Cyclic Waveform Signal Analysis for Improving Leaking Testing Systems*,” General Motors Powertrain Group, 2009.
 - “*Sensor Fusion for Rolling Process Monitoring and Control*,” OG Technologies, 2009.
 - “*Independent Component Analysis for Separation of Multiple Embedded Operations from Aggregated Signals*” Southeast University, 2009.
 - “*Cyclic Waveform Signal Analysis for Online Monitoring of Valve Seats Assembly Processes*,” General Motors Powertrain Group, 2008.
 - “*Data Fusion Research for Complex System Operation Improvement*,” Georgia Institute of

- Technology, 2008.
- *Taught a short course on “Data Fusion Research in Quality Engineering,” Chinese Academy of Sciences Academic Science, July 2007.*
 - *Organized a workshop at OG Tech on “Sensor Fusion and Data Analysis for Hot Forming Process Monitoring and Control”, November 2008.*
 - *“Statistical Learning for Variation Reduction and Control for Complex Systems,” Shanghai Jiaotong University, 2007.*
 - *“Data Fusion Research through Patter Recognition and Its Applications in Quality Engineering,” Chinese Academy of Sciences, Beijing, August, 4, 2007.*
 - *“Data Fusion Research in Quality Engineering,” Azerbaijan National Academy of Sciences, May 10, 2006.*
 - *“Decision Support Systems for Monitoring and Control of Multivariate Systems”, AFOSR, Fairborn, OH., May 18~21, 2006.*
 - *“Optimal Maintenance Planning Considering Availability Variations,” FORD Company, Automatic Transmission Operations, May, 2006.*
 - *“Data Fusion for Quality Improvements in Complex Solar Cell Manufacturing Processes,” School of Industrial and Systems Engineering, Georgia Institute of Technology, May 17, 2005.*
 - *“Multiscale Monitoring for Autocorrelated Processes,” Texas A&M University, March 28, 2005.*
 - *“Data Fusion Research for Quality Improvement in Complex Manufacturing Processes,” GM R &D Center, Oct., 2005.*
 - *“A Unified Methodology for Variation Reduction and Management,” Department of Automation & Computer-Aided Engineering, Chinese University of Hong Kong, July 15, 2004.*
 - *“Cyclic Waveform Signal Analysis Using Wavelets for Multi-operation Stamping Process Monitoring,” Department of Industrial Engineering & Engineering Management, Hong Kong University of Science & Technology, July 5, 2004.*
 - *“Engineering-driven Wavelet Analysis for Feature Extraction and Diagnosis of Cyclic Waveform Signals,” Department of Industrial Engineering and Management Sciences, Northwestern University, March 16, 2004.*
 - *“A Unified Methodology for Monitoring and Diagnosis of Complex Manufacturing Processes,” Department of Mechanical & Industrial Engineering, University of Illinois at Chicago, March 15, 2004.*
 - *“Fusion of Statistics Methods and Engineering Models for Knowledge Discovery in both Manufacturing and Service Industry,” Daniel J. Epstein Industrial & Systems Engineering Department, University of Southern California, February 25, 2004.*
 - *“Data Fusion for Variation Modeling, Propagation Analysis, and Reduction in Complex Multistage Manufacturing Processes,” Southeast University, China, June 18, 2004.*
 - *“Caller Profile Modeling for Fraud Detection in Telecommunication,” Department of Management and Information System, the University of Arizona, December 6, 2002.*
 - *“Variation Management and Reduction in Multistage Manufacturing Processes,” Caterpillar Inc., May 23, 2002.*
 - *“Fusion of Statistics and Engineering Models for Quality and Productivity Improvement in Complex Manufacturing Processes,” Southeast University, China, March 12, 2002.*

- “*Integrated Design and Manufacturing for Variation Management and Reduction*,” Lasertech Inc., Tucson, June 25, 2001.
- “*Data Compression Using Wavelets for the Stamping Tonnage Signal*,” Auto Body Consortium, Ann Arbor, November 11, 1997.
- **Invited Presentations at Conferences**
 - W. Guo, K. Paynabar, J. Jin, B. Miller, J. Carpenter, and R. Hughes, “A Decision Support System on Surgical Treatments for Rotator Cuff Tears” , 2013 INFORMS Annual Meeting, Minneapolis, MN, USA, Oct 2013.
 - W. Guo, J. Jin, and S.J. Hu, “Real-time Within-cycle Monitoring of Nonlinear Profile Signals” , 2013 INFORMS Annual Meeting, Minneapolis, MN, USA, Oct 2013.
 - W. Guo, K. Paynabar, J. Jin, B. Miller, J. Carpenter, and R. Hughes, “A Decision Support System on Surgical Treatments for Rotator Cuff Tears” , 2013 INFORMS Annual Meeting, Minneapolis, MN, USA, Oct 2013.
 - Paynabar, K., Jin, J., A. Yeh “Phase I Risk-Adjusted Control Charts for Monitoring Surgical Performance by Considering Categorical Covariates,” Invited JQT Journal session, The second International Conference on the Interface between Statistics and Engineering (ICISE), Tainan, Taiwan, June 24~27, 2012.
 - Paynabar, K., Jin, J., M Pacella “Analysis of Multichannel Nonlinear Tonnage Profiles Using Uncorrelated Multiple Principal Component Analysis,” International Symposium on Business and Industrial Statistics (ISBIS), Bangkok, Thailand, June 17-20, 2012.
 - Paynabar, K., Jin, J., R. Hughes “Decision Making about Surgical Treatment for Rotator Cuff Tear Patients Based on Patients’ Clinical Examination” Annual IESRC Conference, Tampa, FL, May 2012.
 - Paynabar, K., Jin, J., R. Matt “Hierarchical Non-Negative Garrote for Group Variable Selection,” Annual INFORMS Conference, Charlotte, Nov. 2011 (Best Paper Award in Data Mining Section)
 - Paynabar, K., Jin, J., R. Hughes “Decision Making about Surgical Treatment for Rotator Cuff Tear Patients Based on Patients’ Clinical Examination” Annual INFORMS Conference, Charlotte, Nov. 2011.
 - Paynabar, K., Jin, J., and Yeh, A. “Phase I Risk-Adjusted Control Charts for Monitoring Surgical Performance by Considering Categorical Covariates,” INFORMS, 2010.
 - Paynabar, K. and Jin, J. “Nonlinear Profile Variation Modeling and Analysis Using Wavelets,” INFORMS 2009, San Diego, Oct. 11-14, 2009.
 - Yang, Q., and Jin, J., “Monitoring of 3-Dimensional Profiles using Complex PCA,” INFORMS Annual Conference, San Diego, California, Oct. 11-14, 2009.
 - Yang, Q., and Jin, J., "Separation of Individual Source Signals from Mixed Sensor Measurements," Industrial Engineering Research Conference, Miami, FL, May 30 - June 3, 2009.
 - Yang, Q., Li, Q., Jin, J., and Chang, T.S., "On-line Classification of Surface Defects in Hot Rolling Processes," NAMRC annual conference, May, 2009.
 - Yang, Q., and Jin, J., "Separation of Individual Source Signals from Mixed Sensor Measurements." INFORMS Annual Conference, Washington DC, Oct. 12-15, 2008.

- Yang, Q. and Jin, J. “Automatic Monitoring and Diagnosis of Individual Source Signals from Aggregated Sensor Measurement,” 1st International Conference on the Interface between Statistics and Engineering, July 13-15, 2009, Beijing, China.
- Yang, Q. and Jin, J. “Blind Identification of Individual Source Signals from Aggregated Sensor Measurement,” Annual Industrial Engineering Research Conference, May 31-June 2, 2009, Miami, FL.
- Li, J. and Jin, J. “Optimal Sensor Allocation for System Abnormality Detection by Integrating Causal Models and Set-Covering Algorithms,” Annual Industrial Engineering Research Conference, May 17-21, 2008, Vancouver, Canada.
- Yang, Q. and Jin, J. “Independent Component Analysis for Separation of Multiple Embedded Operations Using Aggregated Sensing Signals,” INFORMS 2008.
- Lei, Y. and Jin, J. “Automatic Segmentation of Nonlinear Profile Signals for Process Monitoring Using Wavelets,” INFORMS 2008.
- Zhou, Y., Jin, J., and Guo, H. “Multiscale Monitoring of Autocorrelated Processes Using Wavelets,” Annual Industrial Engineering Research Conference, May 19-23, 2007, Nashville.
- Li, J., Jin, J., and Shi, J. “Causation-Based T^2 Decomposition for Multivariate Process Monitoring and Diagnosis”, Annual Industrial Engineering Research Conference, Orlando, FL., May 20-24, 2006.
- Jin, J., and Ding, Y. “Online Automatic Process Control Using Observable Noise Factors for Discrete-part Manufacturing,” Annual Industrial Engineering Research Conference, Orlando, FL., May 20-24, 2006.
- Jin, J. and Guo, H. "Variance Component Decomposition and Diagnosis for Batch Manufacturing Processes using ANOVA", Joint Research Conference 2006, at Knoxville, Tennessee, June 7-9, 2006.
- Jin, J. “Process Adjustment Based on Causation Models for Quality Improvement,” International INFORMS 2006, Hong Kong, China, June 25~28, 2006.
- Jin, J. “Multistage Automatic Feature Extraction for Forging Processes Monitoring,” Annual INFORMS 2006, Pittsburgh, Nov. 5~8, 2006.
- Zhou, Z., and Jin, J., “On Line Linear Regression Modeling for Adaptive Process Adjustment,” Annual Industrial Engineering Research Conference, Atlanta, GA, May 14-18, 2005.
- Jin, J., and Guo, H. “Wavelet Analysis for Feature Extraction and Diagnosis of Cyclic Waveform Signals,” Fourth International Symposium on Business and Industrial Statistics, Cairns, April 14-16, 2005.
- Zhu, X. and Jin, J., “Feature Extraction and Classification for Network Intrusion Detection,” INFORMS Annual Conference, Denver, October 24-27, 2004.
- Guo, H. and Jin, J., “Multiscale Variability Decomposition and Analysis for Process Change Detection,” Annual Industrial Engineering Research Conference, Houston, May 16-18, 2004.
- Guo, H. and Jin, J., “Travel Time Estimation Using Correlation Analysis of Single Loop Detector Data,” Annual Industrial Engineering Research Conference, Houston, May 16-18, 2004.
- Guo, H. and Jin, J., “SPC Based Supervisory Generalized Predictive Control of Thin Film Deposition Processes,” Annual Industrial Engineering Research Conference, Houston, May 16-18, 2004.

- Zhu, X. and Baek, S., and Jin, J., “Statistical Analysis Method for Customer Profile Modeling in Telecommunication,” Annual Industrial Engineering Research Conference, Houston, May 16-18, 2004.
- Hariri, S. and Jin, J., “Network Vulnerability Modeling, Monitoring, and Prevention,” Workshop on Critical Infrastructure and Border Protection, Tucson, December 2, 2003.
- Jin, J. and Guo, H., “Cycle-based Waveform Signal Analysis Using Wavelets for Monitoring and Diagnosis of Multiple Embedded Operations,” INFORMS Annual Conference, Atlanta, October 19-22, 2003.
- Chen, Y. and Jin, J., “Quality-Oriented-Maintenance for Multiple Interactive Components,” INFORMS Annual Conference, October 19-22, 2003.
- Chen, Y. and Jin, J., “Cost-Variability-Sensitive Preventive Maintenance Considering Management Risk,” INFORMS Annual Conference, October 19-22, 2003.
- Jin, J. and Chen, Y., “QR-Chain Modeling for Optimal Reliability Design in Multistage Manufacturing Processes,” Spring Research Conference on Statistics in Industry and Technology, Ann Arbor, May 20-22, 2002.
- Jin, J. and Guo, H., “Data Mining for Knowledge Discovery in Semiconductor Manufacturing Process,” INFORMS Annual Conference, San Jose, November 17-20, 2002.
- Jin, J., Chen, Y. and Shi, J., “Integration of Quality and Reliability for Design Evaluation and Optimization of Multi-station Body-In-White Assembly Processes,” INFORMS annual conference, Miami Beach, November 3-7, 2001.
- Jin, J., Chen, Y., and Shi, J., “Quality and Reliability Chain Modeling for System Reliability Analysis of Multi-station Manufacturing Processes,” IEEE International Conference on Systems, Man and Cybernetics, Tucson, October 7-10, 2001.
- Jin, J., “Tonnage Signature Decomposition for Multiple Operation Stamping Processes,” INFORMS Spring Conference, Hawaii, June 17-20, 2001.
- Jin, J., “Proactive Maintenance Methodology Through Integration of Statistics, Engineering Model, and Operations Research,” INFORMS Fall Conference, San Antonio, November 4-8, 2000.
- Jin, J. and Shi, J., “Waveform Signal Decomposition Using a Process-Oriented Basis for Multiple Die Condition Monitoring and Fault Diagnosis,” INFORMS Spring Conference, Cincinnati, OH, May 1-4, 1999.
- Jin, J. and Shi, J., “SPC for Stamping Processes Based on Feature-Preserving Data Compression of Tonnage Signals,” Spring Research Conference on Statistics in Industry and Technology (SRC99), St. Paul, Minneapolis, June 2-4, 1999.
- Jin, J. and Shi, J., “Hierarchical Diagnostic Feature Extraction from a Stamping Tonnage Signal Using Principal Component Analysis,” Industrial Engineering Research Conference, Phoenix, May 23-25, 1999.
- Jin, J. and Shi, J., “Feature-Preserving Data Compression Using Wavelets for the Stamping Tonnage Signal,” INFORMS Spring Conference, Montreal, Canada, April 26-29, 1998.
- Jin, J. and Shi, J., “Signature Analysis for Stamping Process Monitoring and Fault Diagnosis,” NSF Industrial/University Cooperative Research Center, Ann Arbor, July 8, 1996.
- Jin, J. and Shi, J., “Active Vibration Control of a Coordinate Measurement Machine,” NSF Industrial/University Cooperative Research Center, Ann Arbor, March 5, 1995.