Curriculum Vitae

DRAGAN DJURDJANOVIC

EDUCATION
- Ph.D. (5/2002) Mechanical Engineering, University of Michigan, Ann Arbor, MI
- M.S. (5/2002) Electrical Engineering (Systems) University of Michigan, Ann Arbor, MI
- M.S. (8/1999) Mechanical Engineering, Nanyang Technological University, Singapore
- B.Sc. (9/1997) Applied Mathematics University of Nis, Nis, Serbia
- B.Sc. (5/1997) Mechanical Engineering University of Nis, Nis, Serbia

PROFESSIONAL EXPERIENCE
9/2007–present: Assistant Professor, Dept. of Mechanical Engineering, University of Texas, Austin, TX.

11/2003–8/2007: Assistant Research Scientist, Dept. of Mechanical Engineering, University of Michigan, Ann Arbor, MI.

9/2004–12/2004: Adjunct Assistant Professor, Dept. of Mechanical Engineering, University of Michigan, Ann Arbor, MI.

9/2002–12/2002: Adjunct Assistant Professor, Dept. of Industrial and Operations Engineering, University of Michigan, Ann Arobr, MI.

7/2002–11/2003: Postdoctoral Fellow, Dept. of Mechanical Engineering, University of Michigan, Ann Arbor, MI.

9/1999–6/2002: Research Assistant, Engineering Research Center for Reconfigurable Manufacturing Systems, Dept. of Mechanical Engineering, University of Michigan, Ann Arbor, MI.

HONORS AND AWARDS
- 2008-2014 Research Affiliate of the International Academy for Production Engineering (Centre International pour la Recherche en Productique – CIRP)
- Best Paper Award in the Factory Operations section at the 9th Semiconductor Research Corporation (SRC) Technical Conference (TechCon) 2007.
- 2006 Branimir F. von Turkovich Outstanding Young Manufacturing Engineer Award from the Society of Manufacturing Engineers (SME).
- 2005 Teaching Incentive Award from the Department of Mechanical Engineering, University of Michigan.
- Best Paper Award in the Factory Operations section at the 8th Semiconductor Research Corporation (SRC) Technical Conference (TechCon) 2005.
- 2003 Distinguished Doctoral Thesis Nomination from the Department of Mechanical Engineering, University of Michigan
- 2002 Student of the Year in the Engineering Research Center for Reconfigurable Manufacturing Systems at the Univ. of Michigan.
- Best Paper Award at the 2001 SME North American Manufacturing Research Conference (NAMRC) in Gainesville, FL.
- Best student graduated from the Dept. of Mechanical Engineering, University of Nis, Serbia in the first 40 years of its existence. Prize awarded in the year 2000.
- Municipal award "January 11th" from the City of Nis in 1998 for outstanding scholarly achievements.
- Best student graduated from the University of Nis, Serbia, in 1997.
- Serbian National Scholarship for the period 1992 – 1997.

PUBLICATIONS

Journals and Transactions (published or accepted)

> *41 journal papers published or accepted*
> *19 journal papers published or accepted since joining Univ. of Texas*

1. M. Musselman and **D. Djurdjanovic**, "Time-Frequency Distributions in the Classification of EEG Signals," accepted for publication in *Expert Systems with Applications*, Paper No. ESWA-D-12-00423, 2012.

2. M. Cholette and **D. Djurdjanovic**, "Precedent-Free Fault Isolation in a Diesel Engine EGR System", accepted for publication in the *Transactions of ASME, Journal of Dynamic Systems, Measurement and Control*, paper no. DS-11-1068, 2012.

3. M. Cholette, J. Liu, **D. Djurdjanovic**, and K. Marko, "Monitoring of Complex Systems of Interacting Dynamic Systems," accepted for *Applied Intelligence*, paper no. APIN-992, 2012.

4. M. Musselman and **D. Djurdjanovic**, "Tension Monitoring in a Belt-Driven Automated Material Handling System," *CIRP Journal of Manufacturing Science and Technology*, Vol. 5, No. 1, pp. 67-76, 2012.

5. Y. Jiao and **D. Djurdjanovic**, "Theory of Compensability of Errors in Product Quality in Multistage Manufacturing Processes", *SME Journal of Manufacturing Systems*, Volume 30, No. 4, pp. 204-213, 2011.

6. Y. Jiao and **D. Djurdjanovic**, "Process Control for Multilayer Lithography Overlay", *IEEE Transactions on Semiconductor Manufacturing*, Vol. 24, No. 3, pp. 404-417, 2011.

7. Y. Lei, **D. Djurdjanovic**, L. Barajas, G. C. Workman, J. Ni and S. Biller, "Network Health Monitoring for DeviceNet Using Physical Layer Parameters", *Journal of Intelligent Manufacturing*, Vol. 22, pp. 289-299, 2011.

8. Y. Lei, **D. Djurdjanovic** and J. Ni, "DeviceNet Reliability Assessment Using Physical and Data Link Layer Parameters", *Quality and Reliability Engineering International*, Vol. 26, pp. 703-715, 2010.

9. Y. Jiao and **D. Djurdjanovic**, "Joint Allocation of Measurement Points and Controllable Tooling Machines in Multistage Manufacturing Processes", *IIE Transactions on Quality and Reliability Engineering*[1,2], Vol. 42, pp. 703-720, 2010.

10. J. Roth, **D. Djurdjanovic**, L. Mears, X. Yang and T. Kurfess, "Quality and Inspection of Machining Operations: Part 2 – Tool Condition Monitoring", *Transactions of ASME, Journal of Manufacturing Science and Engineering*, Vol. 132, No. 4, pp. 041015-1 - 041015-16, 2010.

11. **D. Djurdjanovic**, R. Kegg, J. Lee and J. Ni, "Generic Multisensor Based Assessment of Performance of Manufacturing Processes", *Transactions of NAMRI*/SME, Vol. 38, pp. 379-386, 2010.

12. L. Mears, J. Roth, **D. Djurdjanovic**, X. Yang and T. Kurfess, "Quality and Inspection of Machining Operations: CMM Integration to the Machine Tool", *Transactions of ASME, Journal of Manufacturing Science and Engineering*, Vol. 131, No. 5, pp. 051006-1- 051006-13, 2009.

13. J. Liu, **D. Djurdjanovic**, K. Marko and J. Ni, "Growing Structure Multiple Model System for Anomaly Detection and Fault Diagnosis", *Transactions of ASME, Journal of Dynamic Systems, Measurement and Control*[3], Vol. 131, No. 5, pp. 051001-1 – 051001-13, 2009.

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[1] Featured in the IIE Industrial Engineer Magazine, Vol. 42, No. 9, pp. 52-54, 2010 (magazine portion titled "Research," with executive summaries edited by Susan Albin and Joseph Hartman).

[2] One of 12 papers published during 2010 in the Transactions of IIE that were personally selected by Prof. Susan Albin, Editor in Chief of the Transactions of IIE, and made available for public access (see e-mail from Taylor and Francis from March 29, 2010).

[3] This article was the most downloaded paper from the ASME Journal of Dynamic Systems, Measurement and Control during September and October 2009 and was also among 10 most downloaded papers from that journal during August (3rd) and November (8th) of 2009. Source:
http://asmedl.org/journals/doc/ASMEDL-home/most_downloaded_list.jsp?KEY=JDSMAA&Number=10&agg=md

14. J. Liu, **D. Djurdjanovic,** K. A. Marko and J. Ni, "A Novel Method for Anomaly Detection, Localization and Fault Isolation for Dynamic Control Systems", *Mechanical Systems and Signal Processing*, Vol. 23, No. 8, pp. 2488-2499, 2009.

15. J. Liu and **D. Djurdjanovic**, "Topology Preservation and Cooperative Learning in Identification of Multiple Model Systems", *IEEE Transactions on Neural Networks*, Vol. 19, No. 12, pp. 2065-2072, 2008.

16. M. Zhang, E. Levina, **D. Djurdjanovic** and J. Ni, "Estimating Distribution of Surface Parameters for Classification Purposes", *Transactions of ASME, Journal of Manufacturing Science and Engineering*, Vol. 130, No. 4, pp. 031010-1 – 031010-9, 2008.

17. Z. Yang, **D. Djurdjanovic** and J. Ni, "Maintenance Scheduling in Manufacturing Systems Based on Predicted Machine Degradation", *Journal of Intelligent Manufacturing*, Vol. 19, No. 2, pp. 87-98, 2008.

18. J. Zhou, **D. Djurdjanovic**, J. Simmons-Ivy and J. Ni, "Integration of Maintenance and Reconfiguration Operations for Cost-Effective Maintenance in Reconfigurable Manufacturing Systems", *IIE Transactions on Quality and Reliability Engineering[4]*, Vol. 39, No. 12, pp. 1085-1102, 2007.

19. Z. Yang, **D. Djurdjanovic** and J. Ni, "Maintenance Scheduling for a Manufacturing System of Machines with Adjustable Throughput", *IIE Transactions on Quality and Reliability Engineering*, Vol. 39, No. 12, pp. 1111-1125, 2007.

20. **D. Djurdjanovic** and J. Ni, "On-Line Stochastic Control of Dimensional Quality in Multi-Station Manufacturing Systems", *Journal of Engineering Manufacture*, Vol. 221, No. B5, pp. 865-880, 2007.

21. Z. Yang, Q. Chang, **D. Djurdjanovic**, J. Ni and J. Lee, "Maintenance Priority Assignment On-Line Production Information," *Transaction of ASME, Journal of Manufacturing Science and Engineering*, Vol. 129, No. 2, pp. 435-446, 2007.

22. M. Zhang, **D. Djurdjanovic** and J. Ni, "Diagnosibility and Sensitivity Analysis for Multi-Station Machining Processes", *International Journal of Machine Tools and Manufacture*, Vol. 47, pp. 646-657, 2007.

23. J. Liu, **D. Djurdjanovic**, J. Ni, N. Casoetto and J. Lee, "Similarity Based Method for Manufacturing Process Performance Prediction and Diagnosis", *Computers in Industry*, Vol. 58, pp. 558–566, 2007.

24. **D. Djurdjanovic** and J. Ni, "Stream of Variation (SOV) Based Measurement Scheme Analysis in Multi-Station Machining Systems," *IEEE Transactions on Automation Science and Engineering*, Vol. 3, No. 4, pp. 407-422, 2006.

25. M. Zhang, J. Zhu, **D. Djurdjanovic** and J. Ni, "A Comparative Study on the Classification of Engineering Surfaces with Dimension Reduction and Coefficient Shrinkage Methods", *SME Journal of Manufacturing Systems*, Vol. 25, No. 3, pp. 209-220, 2006

26. J. Lee J. Ni, **D. Djurdjanovic**, H. Qiu and H. Liao, "Intelligent prognostics tools and e-maintenance", *Computers in Industry*, Vol. 57, Issue 6, pp. 476-489, 2006.

27. Y. Lei, **D. Djurdjanovic**, J. Ni, J. Lee, G. Xiao and J. R. Mayor, "System Level Optimization of Predictive Maintenance in Industrial Automation Systems", *Transactions of NAMRI/SME*, Vol. 34, pp. 79-86, 2006.

28. G. Yu, H. Qiu, **D. Djurdjanovic** and J. Lee, "Feature Signature Prediction of a Boring Process Using Neural Network Modeling with Confidence Bounds", *International Journal of Advanced Manufacturing Technology*, Vol. 30, No. 7-8, pp. 614-621, 2006.

29. S. E. Widmalm, H. E. K. Bae and **D. Djurdjanovic**, "Inaudible Temporomandibular Joint Vibrations", *Journal of Craniomandibular Practice* Vol. 24, pp. 207-212, 2006.

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[4] Featured in the IIE Industrial Engineer Magazine, Vol. 39, No. 12, pp. 46-49, 2007 (magazine portion titled "Research," with executive summaries edited by Candace Yano and Joseph Hartman).

30. J. Barhak, **D. Djurdjanovic**, P. Spicer and R. Katz, "Integration of Reconfigurable Inspection with Stream of Variations Methodology", *International Journal of Machine Tools and Manufacture*, Vol. 45, pp. 407-419, 2005.

31. **D. Djurdjanovic** and J. Ni, "Measurement Scheme Synthesis in Multi-Station Machining Systems", *Transactions of ASME, Journal of Manufacturing Science and Engineering*, Vol. 126, No. 1, pp.178-189, 2004.

32. T. Gruget and **D. Djurdjanovic**, "Optimal Reduction of Measurements in an Existing Manufacturing System", *International Journal of Manufacturing Science and Production*, Vol. 6, No. 3, pp. 103-117, 2004.

33. **D. Djurdjanovic** and J. Ni, "Dimensional Errors of Fixtures, Locating and Measurement Datum Features in the Stream of Variation Modeling in Machining," *Transactions of ASME, Journal of Manufacturing Science and Engineering*, Vol. 125, pp. 716-730, 2003.

34. **D. Djurdjanovic** and J. Ni, "Bayesian Approach to Measurement Scheme Analysis in Multi-Station Machining Systems," *Journal of Engineering Manufacture*, Vol. 217, No. B8, pp. 1117-1130, 2003.

35. **D. Djurdjanovic**, J. Lee and J. Ni, "Watchdog Agent – An Infotronics Based Prognostics Approach for Product Performance Assessment and Prediction", *International Journal of Advanced Engineering Informatics*, Vol. 17, No. 3 -4, pp. 109-125, 2003.

36. S. E. Widmalm, **D. Djurdjanovic** and D. C. McKay, "The dynamic range of TMJ Sounds", *Journal of Oral Rehabilitation*, Vol. 30, pp. 495-500, 2003.

37. S. E. Widmalm, W. J. Williams, **D. Djurdjanovic** and D. C. McKay, "The frequency range of TMJ Sounds," *Journal of Oral Rehabilitation*, Vol. 30, pp. 335-346, 2003.

38. N. Casoetto, **D. Djurdjanovic**, R. Mayor, J. Lee and J. Ni, "Multisensor Process Performance Assessment Through the Use of Autoregressive Modeling and Feature Maps," *SME Journal of Manufacturing Systems*, Vol. 22, No. 1, pp. 64-72, 2003.

39. **D. Djurdjanovic** and J. Ni, "Linear State Space Modeling of Dimensional Machining Errors", *Transactions of NAMRI/SME*, Vol. 29, pp. 541-548, 2001.

40. **D. Djurdjanovic**, S. E. Widmalm, W. J. Williams, C. K. H. Koh and K. P. Yang, "Computerized Classification of Temporomandibular Joint Sounds", *IEEE Transactions on Biomedical Engineering*, Vol. 47, No. 8, pp. 977-984, 2000.

41. **D. Djurdjanovic**, W. J. Williams and C. K. H. Koh, "Discrete Implementation of Scale Transform," *Transactions of SPIE*, Vol. 3807, pp. 522-533, 1999.

Book Chapters
3 book chapters, all published after joining the Univ. of Texas

1. M. Musselman and **D. Djurdjanovic**, "Improvement of Belt Tension Monitoring in a Belt-Driven Automated Material Handling System," Chapter 5.2 in the book *Advances in Sustainable Manufacturing*, (edited by G. Seliger, I. S. Jawahir and M. Khraisheh), Springer, pp. 135-141, 2011.

2. **D. Djurdjanovic**, J. Liu, K. A. Marko and J. Ni, "Immune Systems Inspired Approach to Anomaly Detection, Fault Localization and Diagnosis in Automotive Engines," in *Applications of Neural Networks in High Assurance Systems* (edited by Y. Liu and J. Schumann), Springer, pp. 141-164, 2010.

3. J. Lee, J. Ni, H. Wang and **D. Djurdjanovic**, "Intelligent Maintenance Systems", Chapter 7.2 in the book titled *Sustainability in Manufacturing - Recovery of Resources in Product and Materials Cycles* (edited by Prof. Guenther Seliger), Springer, pp. 354-365, 2007.

Journals and Transactions (Submitted)

1. M. Cholette and **D. Djurdjanovic**, "Context Dependent Degradation Modeling Using Hidden Markov Models," submitted to *IIE Transactions on Quality and Reliability Engineering*, paper no. UIIE-2870, 2012.

2. K. Carpenter, **D. Djurdjanovic** and A. Da Silva, "Fault Detection and Precedent-free Localization in Numerically Discretized Thermal-fluid Systems," submitted to *Expert Systems With Applications*, paper no. ESWA- D-12-00826, 2012.

3. A. Bleakie and **D. Djurdjanovic**, "Feature Extraction, Condition Monitoring and Fault Modeling of an Industrial PECVD Tool," submitted to *Computers in Industry,* Paper No. COMIND-D-11-00255, 2011.

4. L. Jiang, **D. Djurdjanovic** and J. Ni, "Sensor Fault Detection and Isolation using a Linear System Dynamics Identification Approach," ASME Journal of Dynamic Systems Measurements and Control, Paper No. DS-11-1273, 2011

Refereed Conference papers:

16 papers in refereed conference proceedings
11 papers in refereed conference proceedings since joining the Univ. of Texas

1. M. Celen and **D. Djurdjanovic**, "Joint Operations and Maintenance Scheduling in Flexible Manufacturing Systems," accepted for the 2012 ASME Manufacturing Science and Engineering Conference, June 4-8, 2012 South Bend, IN, paper no. MSEC2012-7258, 2012.

2. M. Celen and **D. Djurdjanovic**, "Operation-Dependent Maintenance Scheduling in Flexible Manufacturing Systems," *Proc. of the* 44th CIRP Conference on Manufacturing Systems, Madison, WI, Paper No. 2141, June 1-3, 2011.

3. A. Bleakie and **D. Djurdjanovic**, "Dynamic Feature Monitoring Technique Applied to Thin Film Deposition Processes in an Industrial PECVD Tool," *Proc. of the 2011 ASME Manufacturing Science And Engineering Conference (MSEC)*, Corvallis, OR, June 13-17, 2011, Paper No. MSEC2011-50041, 2011.

4. Y. Jiao and **D. Djurdjanovic**, "Theory of Compensability of Errors in Product Quality in Multistage Manufacturing Processes," in *Proc. of the 39th SME North American Research Conference (NAMRC)*, Corvallis, OR, June 13-17 (extended version published in the SME Journal of Manufacturing Systems – see journal publication no. 4).

5. M. Musselman and **D. Djurdjanovic**, "Improvement of Belt Tension Monitoring in a Belt-Driven Automated Material Handling System," in Proc. of the *8th CIRP Global Conference on Sustainable Manufacturing (GCSM)*, Abu Dhabi, UAE, November 22-24, 2010, paper no. 77, 2010 (extended version to appear as a book chapter in a Springer book – see book chapter 1 in this CV).

6. Y. Liu and **D. Djurdjanovic**, "Topology Optimization for Multiple model Systems Using a Genetic Algorithm," in *Proc. of the 2010 ASME Dynamic Systems and Control Conference*, Boston, MA, Paper No. 4180, 2010.

7. M. Cholette and **D. Djurdjanovic**, "Precedent-Free Fault Isolation in a Diesel Engine EGR Valve System", in *Proc. of the 2009 ASME Dynamic Systems and Control Conference (DSCC)*, paper no. 2706, 2009.

8. Y. Jiao and **D. Djurdjanovic**, "Allocation Of Flexible Tooling For Optimal Stochastic Multistation Manufacturing Process Quality Control", in *Proc. of the 2008 ASME International Manufacturing Science and Engineering Conference (MSEC)*, October 7-10, 2008, Evanston, IL, paper no MSEC2008-72443.

9. J. Roth, L. Mears, **D. Djurdjanovic**, X. Yang and T. Kurfess, "Quality and Inspection of Machining Operations: Review of Condition-Monitoring and CMM Inspection Techniques 2000-Present", in *Proc. of the 2007 ASME Manufacturing Science and Engineering Conference (MSEC)*, October 15-18, 2007, Atlanta, GA, paper no MSEC2007-31221.

10. L. Li, **D. Djurdjanovic** and J. Ni, "Maintenance Task Prioritization Using Data Driven Bottleneck Detection And Maintenance Opportunity Windows", in *Proc. of the 2007 ASME Manufacturing Science and Engineering Conference (MSEC)*, October 15-18, 2007, Atlanta, GA, paper no. MSEC2007-31150, 2007.

11. J. Liu, **D. Djurdjanovic** and J. Ni, "Identification and Anomaly Detection for PLC Controlled Automatic Tool Changer Using Timed Petri Net", in *Proc. of the 2007 ASME Manufacturing Science and Engineering Conference - MSEC*, October 15-18, 2007, Atlanta, GA, paper no. MSEC2007-31222, 2007.

12. **D. Djurdjanovic**, J. Liu, K. A. Marko and J. Ni, "Immune Systems Inspired Approach to Anomaly Detection and Fault Isolation for Engines," in *Proc. of the International Joint Conference on Neural Networks* (*IJCNN 2007*), Orlando, FL, Paper no. 1369, 2007.

13. **D. Djurdjanovic** and J. Zhu, "Stream of Variation Model Based Compensation of Dimensional Errors in Multistage Manufacturing", *Proc. of the 2005 ASME International Mechanical Engineering Congress and Exposition (IMECE)*, Paper no. IMECE2005-81550, 2005.

14. **D. Djurdjanovic**, J. Ni and J. Lee, "Time-Frequency Based Sensor Fusion in the Assessment and Monitoring of Machine Performance Degradation", Proc. of *2002 ASME International Mechanical Engineering Congress and Exposition (IMECE)*, New Orleans, LA, Paper No. IMECE2002-32032, 2002.

15. **D. Djurdjanovic** and J. Ni, "Stream of Variation Based Analysis and Synthesis of Measurement Schemes in Multi-Station Machining Systems", *Proc. of the 2001ASME International Mechanical Engineering Congress and Exposition (IMECE)*, New York City, NY, 2001.

16. K. P. Yang, **D. Djurdjanovic**, K. H. Koh, W. J. Williams and S. E. Widmalm, "Automatic Classification of the Temporomandibular Joint Sounds Using Scale and Time-Shift Invariant Representations of Their Time-Frequency Distributions," Proc. of the *2002 IEEE Time-Frequency and Time-Scale Symposium*, pp. 265-268, 1998.

Non-Refereed Conference Papers (requiring full paper submission):
15 papers in non-refereed conference proceedings
5 papers in non-refereed conference proceedings since joining the Univ. of Texas

1. M. Cholette, **D. Djurdjanovic** and J. Rasberry, "Potential of use of Condition Based Monitoring in Semiconductor Equipment," accepted for 23rd Annual Advanced Semiconductor Manufacturing Conference (ASMC) organized by the Semiconductor Equipment and Materials International (SEMI), Saratoga Springs, NY, paper no. 2.4, May 15-17, 2012.

2. D. Djurdjanovic, "Artificial Immune Systems Engineering in Manufacturing," in *Proc. of the International Conference on Mechanical Engineering in the 21st Century*, Nis, Serbia, November 25-26, 2010, pp. 251-255, 2010.

3. **D. Djurdjanovic,** C. Hearn and Y. Liu, "Immune Systems Inspired Approach to Anomaly Detection, Fault Localization and Diagnosis in a Generator", in *Proc. of the 2010 Conference on Grand Challenges in Modeling and Simulation (GCMS),* Ottawa, ON, July 11-14, 2010, paper no. 71.

4. Y. Liu**, D. Djurdjanovic** and J. Ni, "Predictive Modeling of Multivariate Stochastic Dependencies in Semiconductor Manufacturing"*, Proc of the 2007 Semiconductor Research Corporation (SRC) Technical Conference (TechCon)*, 2007, The paper was awarde*d Best Paper Award* in the Factory Operations section.

5. S. Li, **D. Djurdjanovic** and J. Ni, "Optimal Condition-Based Maintenance Decision-Making for a Cluster Tool", *Proc. of 2007 Semiconductor Research Corporation (SRC) Technical Conference (TechCon)*, 2007.

6. J. Zhou, **D. Djurdjanovic**, J. Simmons-Ivy and J. Ni, "Integrated Load-Allocation and Condition-Based Maintenance Policy in a Multi-Unit Load-Sharing Deteriorating System," in *Proc. of the 61st Meeting of the Society for Machinery Failure Prevention Technology (MFTP)* in Virginia Beach, VA, pp. 215-228, April 17-19, 2007.

7. J. Liu, P. Sun, **D. Djurdjanovic**, K. A. Marko and J. Ni, "Growing Structure Multiple Model System Based Anomaly Detection for Crankshaft Monitoring," *Proc. of the 2006 International Symposium on Neural Networks (ISNN)*, Chengdu, China, pp. 396-405, 2006.

8. Y. Liu, P. Kumar, J. Zhang, **D. Djurdjanovic** and J. Ni, "Predictive Modeling and Intelligent Maintenance Tools for High Yield Next Generation Fab", *Proc. of 2005 Semiconductor Research Corporation (SRC) Technical Conference (TechCon)*, 2005. <u>The paper was awarded</u> *Best Paper Award* <u>in the Factory Operations section.</u>

9. J. Lee, J. Ni, G. Seliger, **D. Djurdjanovic**, D. Odry, H. Qiu and D. Guido, "Preventive Maintenance of Railroad Bogies in Freight Train Applications", *Proc. of the 2004 Scientific-Expert Conference on Railways (RailCon)* (invited paper), Nis, Serbia, pp. XIX – XXVI, 2004.

10. J. Ni, J. Lee and **D. Djurdjanovic**, "Watchdog Information Technology for Proactive Product Maintenance and its Implications to Ecological Product Re-Use", *Proc. of the Colloquium on e-Ecological Manufacturing* (invited paper), Berlin, Germany, pp. 101-110, 2003.

11. **D. Djurdjanovic**, J. Lee and J. Ni, "Advances on Infotronics Based Prognostics", *Proc. of the 2003 International Workshop on Principles of Diagnostics DX-03* (invited paper), Washington, DC, pp. 31-35, 2003.

12. **D. Djurdjanovic**, J. Yang, H. Qiu, J. Lee and J. Ni, "Web-enabled Remote Spindle Monitoring and Prognostics," Proc. of the *2003 International CIRP Conference on Reconfigurable Manufacturing Systems*, Ann Arbor, MI, Paper no. D20, 2003

13. **D. Djurdjanovic** and J. Ni, "Measurement Scheme Analysis in Multi-Station Machining Systems", in Proc. of the *2002 International Conference on Frontiers of Design and Manufacturing*, Dalian, P.R. China, Vol. 1, pp. 372-383, 2002.

14. **D. Djurdjanovic**, C. K. H. Koh, W. J. Williams, S. E. Widmalm and K. P. Yang, "Automatic Recognition of the Source of Temporomandibular Joint Sounds," *Proc. of the Rocky Mountains Biomedical Symposium*, Vol. 35, pp. 187-192, 1999.

15. K. P. Yang, K. H. Koh, W. J. Williams, S. E. Widmalm and **D. Djurdjanovic**, "Bilateral Sound Propagation Characteristics In Electronic TMJ Sound Recording," *Proc. of the Rocky Mountains Biomedical Symposium*, Vol. 35, pp. 181-186, 1999.

Other Conference Publications (only abstracts and presentations involved):
6 conference publications requiring only abstracts and presentation
All since joining the Univ. of Texas

1. M. Musselman, R. Chong and **D. Djurdjanovic**, "System Oriented Monitoring of Neuro-Musculo-Skeletal Systems," invited paper (abstract and presentation) at the *2nd International Conference on the Interface between Statistics and Engineering (ICISE)*, National Cheng Kung University, Tainan City, Taiwan, June 23-25, 2012.

2. M. Celen and **D. Djurdjanovic** "Integrated Operations Decision Making in Manufacturing Systems based on Operating Regime Dependent Equipment Degradation Modeling," invited paper (abstract and presentation) at the *2012 International Symposium on Business and Industrial Statistics (ISBIS)*, Bangkok, Thailand, June 17-21, 2012.

3. M. Cholette and **D. Djurdjanovic**, "Identification of a Mixture of Hidden Markov Models Using Metaheuristic Search," invited paper (abstract and presentation) presented on Nov. 10th, 2010 at the session titled "Sensing, Prediction and Prognostics in Complex Systems," at the 2010 INFORMS Annual Meeting, Austin, TX, Nov. 7-10, 2010.

4. M. Celen and **D. Djurdjanovic**, "Joint Maintenance and Operations Decision-Making in Flexible Manufacturing Systems," presented on Nov. 10th, 2010 at the session titled "Flexible Manufacturing Systems," at the 2010 INFORMS Annual Meeting, Austin, TX, Nov. 7-10, 2010.

5. Y. Jiao and **D. Djurdjanovic**, "Multi-Layer Overlay Control in Lithography Processes," presented on Nov. 8th, 2010 at the session titled "Semiconductor Industry" at the 2010 INFORMS Annual Meeting, Austin, TX, Nov. 7-10, 2010.
6. Y. Jiao and **D. Djurdjanovic**, "Allocation of Measurements and Flexible Tooling For Stochastic Feedforward Control of Quality in Multistation Manufacturing Systems", invited paper (abstract and presentation) at the *2009 IIE Industrial Engineering Research Conference (IERC),* Miami, FL, May 30 – June 3, 2009.

GRANTS AND CONTRACTS

- Total amount of externally funded, overhead bearing grants: $2,283,706 (PI share: $1,689,015)
  - **Externally funded overhead-bearing grants at U. of Texas: $1,188,236 (PI share: $1,037,037)**
  - Externally funded overhead-bearing grants at U. of Michigan: $1,095,470 (PI share: $651,978)

- Total amount of unrestricted gifts: $66,849
  - **Unrestricted gifts at U. of Texas: $63,849**
  - Unrestricted gifts at U. of Michigan: $3,000

- **Total External Funding at U. of Texas (overhead-bearing grants and unrestricted gifts): $1,252,085 (PI share: $1,100,886)**

- **Internal U. of Texas grants: $25,243 (PI share: $25,243)**

- **Total Funding at U. of Texas (internal and external): $1,277,328 (PI share: $1,126,129)**

- **Total Amount of Career Funding: $2,350,655 (PI share: $1,755,864)**

- Note 1: Grants from Empyrean International LLC are inactive since June 2010 because the sponsors were unable to provide further funds. The projects will continue once the sponsors raise further funds. In both projects, $146,000 was utilized from the total amount of $568,457.

Current Grants and Contracts

- Project title: *"US-France Collaboration: Exploratory Research on Artificial Immunity in High Speed Trains"*
  Sponsor: *National Science Foundation*
  PI: ***Prof. Dragan Djurdjanovic***
  Proposed Proj. Period: 09/1/2012 – 08/31/2013
  Requested Amount: $ 13,216
  Proposal No. *OISE 1157699*

- Project title: *"Planning Grant: Satellite I-UCRC on Intelligent Maintenance Systems at The University of Texas at Austin"*
  Sponsor: *National Science Foundation*
  PI: ***Prof. Dragan Djurdjanovic (50%)***
  Co-PI: *Prof. Michael Bryant (50%)*
  Proposed Proj. Period: 01/01/2012 – 12/31/2012
  Requested Amount: $13,000
  Proposal No. *IIP 1161021*

- Project title: *"Validation and Improvement of Hidden Markov Based Monitoring of Equipment Operating Under Variable Operating Conditions"*
  Sponsor: *Intel Corporation*
  PI: ***Prof. Dragan Djurdjanovic***
  Proj. Period: 06/01/2011 – 5/31/2013
  Award Amount: $127,606

- Project title: *"Study in Condition-based Monitoring and Adaptive Control of Complex Systems"*
  Sponsor: *ETAS GmbH*
  PI: ***Prof. Dragan Djurdjanovic***
  Proj. Period: 16/01/2012 – 15/1/2013
  Award Amount: $78,189

- Project title: " Causality Discovery and Therapy Inference in Large Maps of Biomarkers for Early Detection of Autoimmune Diseases"
  Sponsor: *Empyrean International LLC*
  PI: ***Prof. Dragan Djurdjanovic***
  Proj. Period: 9/1/2010 - 8/31/2013
  Award Amount: $279,059

- Project title: " Biomechanics Based Performance Tracking and Diagnosis of the Neuromusculoskeletal System"
  Sponsor: *Empyrean International LLC*
  PI: ***Prof. Dragan Djurdjanovic (50%)***
  Co-PI: *Prof. Richard Neptune (50%)*
  Proj. Period: 1/1/2010 - 12/31/2012
  Award Amount: $289,398

Pending Grants

- Project title: *"Artificial Immune System Engineering for Monitoring of Systems of Interacting Dynamic Systems"*
  Sponsor: *National Science Foundation*
  PI: ***Prof. Dragan Djurdjanovic***
  Proposed Proj. Period: 09/1/2012 – 08/31/2015
  Requested Amount: $ 257,929
  Proposal No. *CMMI 1232842*

- Project title: *"Model-Based Process Control and Allocation of Measurements and Controllable Process Parameters in Multistage Manufacturing Processes"*
  Sponsor: *National Science Foundation*
  PI: ***Prof. Dragan Djurdjanovic***
  Proposed Proj. Period: 09/1/2012 – 08/31/2015
  Requested Amount: $ 212,381
  Proposal No. *CMMI 1234642*

- Project title: *"Automotive Virtual Sensing in the Presence of Anomalies"*
  Sponsor: *National Science Foundation*
  PI: ***Prof. Dragan Djurdjanovic***
  Proposed Proj. Period: 09/1/2012 – 08/31/2015
  Requested Amount: $ 215,461
  Proposal No. *CMMI 1234665*

Completed Grants and Contracts (U. of Texas)

- Project title: "*Condition Based Monitoring and Maintenance Decision-Making on a Single Tool Working under Variable Operating Conditions*"
  Sponsor: *International Semiconductor Manufacturing Initiative (ISMI)*
  PI: ***Prof. Dragan Djurdjanovic***
  Proj. Period: 1/1/2009 - 1/16/2011
  Award Amount: $194,769

- Project title: "*Condition Based Monitoring and Maintenance of Material Handling Equipment in Semiconductor Manufacturing*"
  Sponsor: *Global Foundries Co.*
  PI: ***Prof. Dragan Djurdjanovic***
  Proj. Period: 1/1/2009 - 12/31/2010
  Award Amount: $130,000

- Project title: *"Immune System Engineering for Automotive Engine Systems"*
  Sponsor: *National Science Foundation*
  PI: ***Prof. Dragan Djurdjanovic (50%)***
  Co-PI-s: *Prof. Jun Ni (25%) and Dr. Kenneth A. Marko (25%)*
  Proj. Period: 07/01/2006 – 12/31/2008
  Award Amount: $99,890 ($62,999 expanded at the University of Texas at Austin)
  Proposal No. *CMMI 0600200*

Completed Grants and Contracts (U. of Michigan)
- Project title: *" Anomaly Detection and Immune Systems Engineering for Automotive Systems"*
  Sponsor: *ETAS Inc.*
  PI: ***Dr. Dragan Djurdjanovic***
  Proj. Period: 01/01/2006 - 8/31/2007
  Award Amount: $221,981

- Project title: *"Throughput Increase Through Predictive, Intelligent Maintenance"*
  Sponsor: *American Axle and Manufacturing*
  PI: ***Dr. Dragan Djurdjanovic***
  Proj. Period: 09/01/2006 - 8/31/2007
  Award Amount: $61,326

- Project title: *"Survey of Predictive Maintenance Research and Practices in Semiconductor Manufacturing"*
  Sponsor: *Intel Corporation*
  PI: ***Dr. Dragan Djurdjanovic***
  Proj. Period: 01/01/2006 - 5/1/2006
  Award Amount: $7,537

- Project title: *"Industry/University Cooperative Research Center for Intelligent Maintenance Systems (IMS): Five-Year Renewal Proposal"*
  Sponsor: *National Science Foundation*
  PI: *Prof. Jun Ni (67%)*
  Co-PI: ***Dr. Dragan Djurdjanovic (33%)***
  Proj. Period: 09/01/2006 - 8/31/2011
  Award Amount: $75,000
  Proposal No. *EEC 0528975*
  Note: *D. Djurdjanovic stopped being a Co-PI in Sep. 2007 after joining University of Texas*

- Project title: *"Intermittent Anomalous Effect Detection in Continuous and Discrete Event Automotive Systems "*
  Sponsor: *ETAS Inc.*
  PI: ***Dr. Dragan Djurdjanovic***
  Proj. Period: 01/01/2004 - 12/31/2005
  Award Amount: $144,300

- Project title: *"Review of the State of the Art in Automotive Diagnostics"*
  Sponsor: *ETAS Inc.*
  PI: ***Dr. Dragan Djurdjanovic***
  Proj. Period: 06/01/2004 - 08/31/2004
  Award Amount: $10,328

- Project title: *"Intelligent Maintenance of Complex Systems using and Integrated Cumulative Damage Model and Distributed Agent-Based Maintenance Decision-Making "*
  Sponsor: *National Science Foundation*
  PI: *Prof. Jun Ni (67%)*

Co-PI: ***Dr. Dragan Djurdjanovic (33%)***
Proj. Period: 09/01/2005 - 8/31/2007
Award Amount: $75,000
Proposal No. *EEC 0528975*

- Project title: "*Causality Discovery in for Improvements in Reliability Performance of Process Industries*"
Sponsor: *McKinsey and Company*
PI: Prof. *Jun Ni (50%)*
Co-PI: ***Dr. Dragan Djurdjanovic (25%)*** *and Prof. Julie Ivy (25%)*
Proj. Period: 01/01/2007 - 31/8/2007
Award Amount: $100,000

- Project title: "*Development of Predictive Modeling and Intelligent Decision Making Tools for the High Yield Next Generation Semiconductor Factories*"
Sponsor: *Semiconductor Research Corporation (SRC)*
PI: *Prof. Jun Ni (67%)*
Co-PI: ***Dr. Dragan Djurdjanovic (33%)***
Proj. Period: 09/01/2004 - 08/31/2007
Award Amount: $399,998

Unrestricted Gifts (U. of Texas)

- Project title: "*Immunity Inspired Approach to Diagnostics and Control of a Diesel Generator Set of a Ship*"
Sponsor: *Center for Electromechanical Systems*
PI: ***Prof. Dragan Djurdjanovic***
Unrestricted gift in the amount of: $48,349 (donated by an anonymous donor)

- Project title: "*Advanced Biomedical Signal Processing and Diagnostics*"
Sponsor: *BioSig Technologies*
PI: ***Prof. Dragan Djurdjanovic***
Unrestricted gift in the amount of: $15,500

Unrestricted Gifts (U. of Michigan)

- Project title: "*Survey of Condition Based Maintenance in Semiconductor Industry*"
Sponsor: *Intel Corporation*
PI: ***Prof. Dragan Djurdjanovic***
Unrestricted gift in the amount of: $3,000

Internal Grants (U. of Texas)

- Project title: *"Explorations in Optimization of Multiple Model Systems Topology for Creation of Antibodies for Immunity in Automotive Engines"*
Sponsor: *Cockrell School of Engineering, University of Texas at Austin*
PI: ***Prof. Dragan Djurdjanovic***
Proj. Period: 07/01/2009 – 8/31/2009
Award Amount: $25,243 (salary for 2 summer months and fringe benefits)

Collaborating Faculty in Grants Awarded to Universities Overseas

- Project Title: "*Research and Development of a New Generation of Wind-Generators of High Energy Efficiency*"
Awarded to: Department of Mechanical Engineering of the University of Nis, Serbia

Sponsor: *Serbian Ministry for Science and Technology*
PI: Prof. Vojislav Miltenovic
Foreign Collaborating Faculty: **Prof. D. Djurdjanovic (U. of Texas, USA)**, Dr. D. Marinkovic (TU Berlin, Germany) and Prof. D. Ristic-Durant (U. of Bochum, Germany)
D. Djurdjanovic's Share: 5,000 EUR for travel in Europe
Project Period: Oct. 1, 2010 - Sep. 30, 2014
Award Amount: 481,600 EUR

TEACHING EXPERIENCE

Courses taught at the University of Texas at Austin

Course Code	Title	Term	Enrolment	Overall instructor rating	Overall Course Rating
ORI 390R.3 / ME 384Q.4	Time-Series Analysis	Spring 2012	8		
ME 379R / ME 397 / ORI 397	Statistical Methods in Manufacturing Systems	Fall 2011	12	4.3/5	4.1/5
ME 218	Computational Methods in Engineering	Fall 2011	108	4.1/5	3.9/5
ME366J	Mechanical Engineering Design Methodology	Summer 2011	10	4.3/5	3.9/5
ORI 390R.3 / ME 384Q.4	Time-Series Analysis	Spring 2011	6	4.0/5	3.8/5
ME 379R / ME 397 / ORI 397	Statistical Methods in Manufacturing Systems	Fall 2010	24	4.1/5	3.8/5
ME 218	Computational Methods in Engineering	Fall 2010	106	3.8/5	3.6/5
ME 344	Dynamic Systems and Control	Summer 2010	18	4.2/5	4.0/5
ORI 390R.3 / ME 397	Time-Series Analysis	Spring 2010	7	4.6/5	4.3/5
ME 379R / ME 397 / ORI 397	Statistical Methods in Manufacturing Systems	Fall 2009	12	4.3/5	4.1/5
ME 218	Computational Methods in Engineering	Fall 2009	122	4.0/5	3.5/5
ORI 390R.3 / ME 397	Time-Series Analysis	Spring 2009	8	4.8/5	4.5/5
ME 344	Dynamic Systems and Control	Fall 2008	28	3.4/5	2.7/5
ME 218	Computational Methods in Engineering	Fall 2008	135	3.9/5	3.6/5
ME 344	Dynamic Systems and Control	Summer 2008	12	4.3/5	4.0/5
ORI 390R.3	Time-Series Analysis	Spring 2008	6	4.0/5	4.0/5
ME 344	Dynamic Systems and Control	Fall 2007	29	4.1/5	3.7/5

Courses Taught at the University of Michigan

Course Code	Title	Term	Enrolment	Overall instructor rating	Overall Course Rating
ME 401[5]	Statistical Methods in Manufacturing	Spring 2007	70	4.78/5	4.50
ME 360	Modeling, Analysis and Control of Dynamic Systems	Winter 2006	94	4.70/5	4.32/5
ME 360	Modeling, Analysis and Control of Dynamic Systems	Fall 2005	87	NA[1]	NA[1]
ME 240	Introduction to Dynamics and Vibrations	Fall 2004	94	2.58/5	2.8/5
ME 360	Modeling, Analysis and Control of Dynamic Systems	Winter 2004	84	4.29/5	4.10/5
ME 461	Automatic Control	Fall 2003	54	4.63/5	4.53/5
ME 360	Modeling, Analysis and Control of Dynamic Systems	Winter 2003	73	4.48/5	4.10/5
IOE 565 ME 563 MFG 561	Time-Series Analysis, Forecasting and Control	Fall 2002	54	4.14/5	3.97/5

COMPLETED PH.D. SUPERVISION AT THE U. OF TEXAS
None

PH.D. CANDIDATE SUPERVISION AT THE U. OF TEXAS (Ongoing)
1. Chair of the doctoral committee for Yibo Jiao
    Thesis title: *Compensation-Oriented Quality Control in Multistage Manufacturing Processes*
    Expected graduation date: May 2012

2. Chair of the doctoral committee for Michael E. Cholette
    Thesis title: *Performance Monitoring and Fault-Tolerant Control of Complex Systems with Variable Operating Conditions*
    Expected graduation date: May 2012

PH.D. PRE-CANDIDATE SUPERVISION (Ongoing)
1. Marcus W. Musselman (proposing thesis on April 26, 2012; Thesis title: "*Monitoring of Biomedical Systems Using Non-Stationary Signal Analysis*"
2. Alexander Q. Bleakie; Expected to propose his doctoral thesis in August 2012.
3. Merve Celen; Expected to propose her doctoral thesis in December 2012.
4. Arian Vistamehr (co-supervised with Prof. Richard Neptune); Expected to propose her doctoral thesis in December 2012

PARTICIPATION IN Ph.D. COMMITTEES AT THE U. OF TEXAS (Completed)
1. Member of the doctoral committee for Bhalinder Gil (Chair: Prof. Thomas Edgar)
    Thesis *title:*   *Development of Virtual Metrology in Semiconductor Manufacturing*
    Graduated in August 2011

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[5] Teaching this course as exchange faculty in the Shanghai Jiao Tong University, Shanghai, China (May 7th – June 29th, 2007)

2. Member of the doctoral committee for Shilpa Gulati (Co-chairs: Prof. Raul Longoria and Benjamin Kuipers)
   Thesis title: *A Framework for Characterization, Planning and Evaluation of Safe, Comfortable and Customizable Motion of Assistive Mobile Robots*
   Graduated in June 2011

3. Member of the doctoral committee for Ganesh Krishnamoorthy (Chair: Prof. Delbert Tesar)
   Thesis title: *Multi-Sensor Data Validation and Fusion in Intelligent Electromechanical Actuators*
   Graduated in September 2010

4. Member of the doctoral committee for Dmitriy Belyi (Chair: Prof. Elmira Popova)
   Thesis title: *Optimization Models and Methods under Nonstationary Uncertainty*
   Graduated in May 2010

PARTICIPATION IN Ph.D. COMMITTEES AT THE U. OF TEXAS (Ongoing)
1. Member of the doctoral committee for Ali Raza (Chair: Prof. Benito Fernandez)
   Thesis title: *Immunity-based Framework for Heterogeneous Mobile Robotic Systems*
   Expected graduation date: May. 2013

2. Member of the doctoral committee for Yongha Kim (Chair: Prof. Wei Li)
   Thesis title: *Polyetherimide/Multi-wall Carbon Nanotube Nanocomposite Foams: Fabrication and Morphological Effects on Property*
   Expected graduation date: May. 2013

3. Member of the doctoral committee for Kriti Kapoor (Chair: Prof. Tom Edgar)
   Thesis title: *Increased Energy and Environmental Efficiency for Sustainable Semiconductor Manufacturing*
   Expected graduation date: Dec. 2013

4. Member of the doctoral committee for Jaewon Choi (Chair: Prof. Michael Bryant)
   Thesis title: *Model Based Fault Diagnosis and Prognosis of Dry Vacuum Pump in Semiconductor Fabrication Based on Parameter Tuning Methodology*
   Expected graduation date: Dec. 2012

5. Member of the doctoral committee for Yeojoon Kim (Chair: Prof. Baxter Womack)
   Thesis title: *Quantum Monte-Carlo Algorithm Design for Small Scale Device by Using Random Sampling Generation*
   Expected graduation date: Dec. 2012

PH.D. SUPERVISION AT THE U. OF MICHIGAN (Completed)
1. Co-chair (with Prof. Jun Ni) in the doctoral committee for Li Jiang
   Thesis title: *Sensor Degradation Detection and Isolation using System Dynamics Identification Techniques*
   Graduated in September 2011, working as a control engineer in Bosch, in Farmington Hills, MI.

2. Co-chair (with Prof. Jun Ni) in the doctoral committee for Min Zhang
   Thesis title: *Product DNA Concept Development for Manufacturing Process Faults Diagnosis and Product Performance Prognosis*
   Graduated in December 2007, working as Investment Strategist in the Bank of America in Charlotte, NC.

3. Co-chair (with Prof. Jun Ni) in the doctoral committee for Jianbo Liu
   Thesis title: *Diagnosis and Prognosis in Automotive Applications*

Graduated in December 2007, working as a postdoctoral fellow at The Dept. of Electrical Engineering of the Michigan State University, under supervision of Prof. Hassan Khalil.

PARTICIPATION IN Ph.D. COMMITTEES AT THE U. OF MICHIGAN (Completed)
1. Member of the doctoral committee for Lin Li (Chair: Prof. Jun Ni)
    Thesis title: *Short Term Supervisory Control of Manufacturing Systems*
    Graduated in August 2007, working as an Assistant Professor in the Dept. of Mechanical and Industrial Engineering of the University of Illinois, Chicago

2. Member of the doctoral committee for Jing Zhou (Co-Chairs: Prof. Jun Ni and Prof. Julie Simmons-Ivy)
    Thesis title: *Integrated Maintenance and Reconfiguration Policies in Reconfigurable Manufacturing Systems*
    Graduated in January 2007

3. Member of the doctoral committee for Yong Lei (Chair: Prof. Jun Ni)
    Thesis title: *Intelligent Maintenance in Networked Industrial Automation Systems*
    Graduated in January 2007, working as an Assistant Professor at the Department of Mechanical Engineering of the Zhejiang University in Hangzhou, China.

4. Member of the doctoral committee for Qing Chang (Chair: Prof. Jun Ni)
    Thesis title: *Dynamic Maintenance Control Based on Real Time Status of Manufacturing System*
    Graduated in January 2006, working in GM Research and Development in Warren, MI.

5. Member of the doctoral committee for Zimin (Max) Yang
    Thesis title: *Dynamic Maintenance Scheduling Using Online Information about System Condition*
    Graduated in January 2005, working for Microsoft in Shanghai, China.

PARTICIPATION IN Ph.D. COMMITTEES AT OTHER UNIVERSITIES (Completed)
1. Member of the doctoral committee for Lei Yang (Chair: Prof. Jay Lee)
    Degree pursued at the Department of Mechanical Engineering of the University of Cincinnati
    Thesis title: *Methodology of Prognostics Evaluation for Multi-process Manufacturing Systems*
    Graduated in January 2011, currently working at GlobalFoundries in Malta, NY

M.S. THESES SUPERVISION AT THE U. OF TEXAS (Completed)
1. Chair of the M.S. Thesis committee for Yibo Jiao (reader: Prof. J. Hassenbain)
    Thesis title: Joint Allocation of Measurement Points and Controllable Tooling Machines in Multistage Manufacturing Processes
    Graduated in August 2008, currently pursuing a Ph.D. at the Univ. of Texas at Austin

2. Chair of the M.S. Thesis committee for Michael Cholette (reader: Prof. B. Fernandez)
    Thesis title: *Immunity Inspired Anomaly Detection, Fault Isolation and Diagnosis in Diesel Engine Exhaust Gas Recirculation Systems*
    Graduated in December 2009, currently pursuing a Ph.D. at the Univ. of Texas at Austin

3. Chair of the MS Thesis committee for Marcus Musselman (reader: Prof. P. Wilson)
    Thesis title: *Improvement of Belt Tension Monitoring in a Belt Driven Automated Material Handling System*
    Graduated in August 2010, currently pursuing a Ph.D. at the Univ. of Texas

4. Chair of the MS Thesis committee for Alexander Bleakie (reader: Prof. R. Longoria)

    Thesis title: *Dynamic Feature Analysis of an Industrial PECVD Tool with Connection to Operation Dependent Degradation Modeling*

    Graduated in August 2010, currently pursuing a Ph.D. at the Univ. of Texas

5. Co-chair of the MS Thesis committee for Kathryn Carpenter (co-chair with Prof. A. Da Silva)

    Thesis title: *Precedent Free Isolation of Faults in a Thermofluidic System*

    Graduated in Dec. 2010, currently pursuing a Ph.D. at the Univ. of Texas

6. Haitham Al Barbari

    Thesis title: *Joint Maintenance and Operations Decision-Making in Manufacturing Systems with Uncertain Supply and Demand Characteristics*

    Graduated in June 2011, currently working at Exon Mobile in Houston, TX.

M.S. THESES SUPERVISION AT THE U. OF TEXAS (Ongoing)

1. Co-chair of the M.S. Thesis committee for John Hall (co-chair with Prof. B. Fernandez)

    Thesis title: Joint Allocation of Measurement Points and Controllable Tooling Machines in Multistage Manufacturing Processes

    Expected graduation date: Aug. 2012

PARTICIPATION IN M.S. THESES COMMITTEES AT THE U. OF TEXAS (Completed)

1. Member of the M.S. Thesis committee for Courtney M. Fowler (Chair: Prof. Thomas Edgar)

    Thesis title: *Ion Implant Virtual Metrology for Process Monitoring*

    Graduated in December 2009

2. Member of the M.S. Thesis committee for Chirag Gupta (Chair: Prof. Benito Fernandez)

    Thesis title: *Extreme Optimally Robust Adaptive Control (X-ORAC) of Inverted Pendulum on a Cart*

    Graduated in May 2008

M.S. THESES SUPERVISION AT THE U. OF MICHIGAN (Completed)

1. Co-Chair (with Prof. Jun Ni) of the committee for the M.S. Thesis of Jie Zhu

    Thesis title: *Stream-of-Variations Based Error Compensation in the Multi-Station Manufacturing Processes*

    Graduated in September 2005

2. Co-Chair (with Prof. Jun Ni) of the M.S. Thesis committee for Kathryn Johnson

    Thesis title: *Integration and Implementation of a Watchdog Agent™ Toolbox for Performance Assessment of Machinery Systems*

    Graduated in May 2005

PARTICIPATION IN M.S. COMMITTEES AT THE U. OF MICHIGAN (Completed)

1. Member of the M.S. Thesis committee for Oykum A. Yesildere (chair: Prof. Albert Shih)

    Thesis title: Design of Micro-Scale Low-Power Charge Preparation Atomizer System for Micro Internal Combustion Swing Engine

    Graduated in April 2007

2. Member of the M.S. Thesis committee for Wai Hwa Wong (chair: Prof. Albert Shih)

    Thesis title: Controlling Mechanical Stability in Machine Vision Systems

    Graduated in April. 2007

GRADUATE SPECIAL PROJECTS DIRECTED AT THE U. OF MICHIGAN
1. Joseph Piazza (2006) "Condition based Maintenance Optimization in an Industrial Facility"
2. Seung Chul Lee (2006) "Optimal Maintenance Scheduling in Semiconductor Manufacturing Systems"
3. Rifet Muminovic (2006) "Bearing Fault Diagnostics under Variable Speed and Load Conditions"
4. Shiming Duan (2006) "Elimination of Negative Effects of Anomalies in Immune System Engineering for a Throttle Plate Mechanism"
5. Jie Zhu (2005) "Compensability and Diagnosability Study for the Multi-Station Manufacturing Processes"
6. Qi Zhuang (2005) "Automatic Detection of Fatigue Level Based on the Time-Frequency Signal Analysis of EEG Signals"

UNDERGRADUATE SPECIAL PROJECTS DIRECTED AT THE U. OF MICHIGAN
1. Kyle Miller (2006), "Data fusion for analysis of electro-myography (EMG) and sound signals emitted from a temporomandibular joint"
2. Preat Kansal (2006), "Design of multistage manufacturing systems for improved observability and controllability of product quality errors"
3. Yung Keong Teo (2004) "Cost-Effects of Proactive Maintenance based on Predictive Equipment Condition Information"
4. Li Jiang (2004) "Predictive Sensor Validity Checking and Improved Description of Time-Frequency Distribution"
5. Jie Zhu (2004) "Stream-of-Variations Based Error Compensation in the Multi-Station Manufacturing Processes"

SHORT COURSES AND WORKSHOPS
1. Planning workshop for the NSF Industry-University Cooperative Research Center (I-UCRC) on Intelligent Maintenance Systems, Austin, TX, May 15th, 2012.
2. Workshop "Predictive Maintenance in Semiconductor Manufacturing," Micron Technology Inc. fab in Manassas, VA, March 7, 2012, Enrolment 75 (all employees of Micron Tech. Inc.)
3. Workshop "Condition-Based and Predictive Maintenance with Application Examples in Semiconductor Industry", organized for industrial members of the International Sematech Manufacturing Initiative (ISMI) on March 20, 2011. Lecturer: Dr. Djurdjanovic; Enrolment: 20 attendees from semiconductor manufacturing compnies.
4. Workshop "Prognostic Tools for Intelligent Maintenance Systems," University of Michigan, May 16, 2005, Enrolment: 32 students, Lecturer together with Prof. Jay Lee (chair), Dr. Hai Qiu (U. of Wisconsin, Milwaukee), Dr. Haitao Liao (U. of Wisconsin, Milwaukee), Dr. Leandro Barajas (GM) and Dr. Jeff Butterbaugh (National Instruments)
5. Short course "Introduction of E-Manufacturing and E-Maintenance Systems", University of Manchester, UK, Jan. 24-28, 2005, Enrolment: 25 students, Co-Chair with Prof. Ashraf Labib from the University of Manchester, UK.
6. Short course "Achieving Near-Zero Breakdown of Machinery: Predictive Maintenance Tools and Techniques", University of Wisconsin, Milwaukee, Sep. 13-16, 2004, Enrolment: 30 students, Lecturer together with Prof. Jay Lee (chair) and Dr. Hai Qiu from the University of Wisconsin, Milwaukee.

INVITED TALKS AND SEMINARS GIVEN AT UNIVERSITIES
• Departmental Seminar Series at the Department of Industrial and Systems Engineering of the University of Wisconsin, Madison, "Monitoring and Control of Interacting Dynamic Systems," December 9, 2011.

- Departmental Seminar Series at the Department of Mechanical Engineering of the University of Texas at San Antonio, "Monitoring of Systems of Interacting Dynamic Systems with Applications in Manufacturing Systems and Automotive Engine Diagnostics," December 2, 2011.
- Seminar series at the International Center for Automotive Research of the Clemson University, "Immunity Inspired Monitoring of Systems of Interacting Dynamic Systems with Applications in Automotive Engine Diagnostics," March 29, 2011
- Departmental Seminar Series at the Department of Industrial and Systems Engineering of the Georgia Institute of Technology, "Active Model-Based Control in Multistage Manufacturing Systems," February 11, 2011.
- Graduate seminar series at the Department of Mechanical Engineering of the Carnegie Mellon University, "Piecewise Affine Models for Monitoring of Systems of Interacting Dynamic Systems," Pittsburgh, PA, November 19th, 2010
- Seminar series at the Ingram School of Engineering of the Texas State University, "Self-healing in Manufacturing and other Engineered Systems," San Marcos, TX, April 14, 2010
- Departmental seminar series at the Department of Mechanical Engineering of the University of Michigan, "Immune System Functionalities in Manufacturing and other Complex Engineered Systems," Ann Arbor, MI, February 25, 2010
- Invited Presentation at the FEMTO-ST Institute of the ENSMM, University of Franche Comte in Besancon, France, "Embedding Immune Systems Functionalities into Manufacturing and Other Complex Engineered Systems," Besancon, France, June 18, 2009
- Seminar Series of the Graduate Program in Operations Research and Ind. Eng. at UT Austin Dragan Djurdjanovic, "Joint Allocation of Measurement Points and Controllable Tooling Machines in Multistage Manufacturing Processes," January 30, 2009.
- Departmental Seminar Series in the School of Industrial Engineering, University of Oklahoma, "Embedding Immune System Functionalities into Manufacturing and other Complex Engineered Systems," Norman, OK, November 6, 2008.
- University of Michigan Mechanical Engineering Departmental Seminar "Watchdog Agent – Toolbox of Algorithms for Assessment and Prediction of Equipment Performance," delivered on Sep. 16, 2004.

TALKS AND SEMINARS INVIVTED FOR PRESENTATION AT CONFERENCES OR INDUSTRY SEMINAR SERIES
- Invited paper (abstract and presentation co-authored with M. Musselman and R. Chong) "System Oriented Monitoring of Neuro-Musculo-Skeletal Systems" at the *2nd International Conference on the Interface Between Statistics and Engineering*, National Cheng Kung University, Tainan City, Taiwan, June 23-25, 2012 (see section on "Other Conference Publications", paper no. 1)
- Invited paper (abstract and presentation co-authored with M. Celen) "Integrated Operations Decision Making in Manufacturing Systems based on Operating Regime Dependent Equipment Degradation Modeling," at the *2012 International Symposium on Business and Industrial Statistics 2012 (ISBIS 2012)*, Bangkok, Thailand, June 17-21, 2012 (see section on "Other Conference Publications", paper no. 2)
- Invited paper (abstract and presentation co-authored with M. Cholette) "Identification of a Mixture of Hidden Markov Models Using Metaheuristic Search," presented on Nov. 10th, 2010 at the session titled "Sensing, Prediction and Prognostics in Complex Systems," at the 2010 INFORMS Annual Meeting, Austin, TX, Nov. 7-10, 2010, (see section on "Other Conference Publications", paper no. 3)

- Talk selected for presentation at the *Scientific Technical Committee "A" (Assembly) Meeting at the CIRP General Assembly*, "Joint Allocation of Measurements and Controllable Tooling for Optimal Feed-Forward Stochastic Control of Errors in Multistage Manufacturing Systems," Boston, MA, August 28, 2009.
- Talk selected for presentation at the *Scientific Technical Committee "O" (Optimization) Meeting at the CIRP General Assembly*, "Optimal Maintenance and Operations Decision-Making in Manufacturing Systems," Boston, MA, August 28, 2009.
- Invited Presentation at the 2009 Industrial Engineering Research Conference (IERC), "Optimal Allocation of Measurements and Controllable Tooling for Optimal Feed-Forward Stochastic Control of Quality in Multistage Manufacturing Systems," Miami, FL, May 31, 2009.
- Invited Speaker at Intel Seminar Series, "Anomaly Detection, Fault Diagnosis and Maintenance Decision-Making in Complex Engineered Systems," Albuquerque, NM, March 16, 2009.
- Invited speaker at the *Workshop on Intelligent Systems for Modeling and Control -Advances in Design and Validation*, part of the *2008 Multi-Conference on Systems and Control*, San Antonio, TX, September 2, 2008.
- Invited speaker at the *Forum on Predictive and Preventative Maintenance (PPM)* of the International SEMATECH Manufacturing Initiative (ISMI) in San Francisco, CA, June 24-25, 2008.
- Invited speaker at the *Forum on Predictive and Preventative Maintenance (PPM)* of the International SEMATECH Manufacturing Initiative (ISMI) in Austin, TX, March 20th, 2007.
- Invited talk "Data Fusion and Decision-Making for Predictive Maintenance in Semiconductor Manufacturing Processes" given at the quarterly review of the International SEMATECH Manufacturing Initiative (ISMI) in Dallas, TX on Sep. 12, 2006.
- Invited Talk, "New and Emerging Technologies: Smart Machines", given at the 2004 IMTS Manufacturing Conference, Sep. 8-10, 2004 in Chicago, IL.
- Invited Talk "Algorithms for Multisensor Assessment and Prediction of Equipment Performance – Advances in E-Prognostics" at the INTEL University Day, Oct. 14-15, 2003, Chandler, AZ.
- Invited Talk "Watchdog Agent for Multisensor Assessment and Prediction" delivered as a part of Intel Speaker Series on Jan. 29, 2003.
- Industrial presentations at Intel, Micron, Novellus, Advanced Microelectronic Devices (AMD), GlobalFoundries, Bosch, General Motors Corporation, Ford Motor Company, United States Postal Service (USPS), Timken, General Electric (GE), Wright-Patterson Air Force Base, United Technologies etc.

PROFESSIONAL SERVICE

SERVICE IN PROFESSIONAL SOCIETIES
- Associate Editor of IEEE Transactions on Industrial Informatics (2010-2012)
- Chair of the Quality and Reliability Technical Committee of the Manufacturing Engineering Division (MED) of ASME (2011-present)
- Vice-Chair of the Quality and Reliability Technical Committee of the Manufacturing Engineering Division (MED) of ASME (2006-2011)
- Member of the ASME Dynamics Systems and Controls Division (DSCD), Technical Committee on Mechatronics (2006-2007)

SERVICE IN TECHNICAL PROGRAM COMMITTEES
- 2008-2014: Member of the Scientific Committee of the annual SME North American Manufacturing Research Conferences (NAMRC)
- Track Chair for 2012 ASME Manufacturing Science and Engineering Conference (MSEC), South Bend, IN, June 4-8, 2012; Chairing *Track 2: Systems*
- Member of the Program Committee for the 2011 International Educational Symposium on Neural Networks, organized by the International Neural Networks Society (INNS)
- Member of the Technical Program Committee for the 2009 IEEE Workshop on Computational Intelligence in Vehicles and Vehicular Systems (CIVVS 2009)
- 2008-2009: Member of the Technical Program Committee of the IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)
- Grand Awards judge for the 2005 Intel International Science and Engineering Fair (ISEF), May 10-12, 2005, Phoenix, AZ.

ORGANIZATION OF SYMPOSIA AND SESSIONS
- Co-organizing (with Prof. Lihui Wang) Symposium on Advances in Operations and Management of Manufacturing Systems, 2012 ASME Manufacturing Science and Engineering Conference (MSEC), South Bend, IN, June 4-8, 2012.
- Co-Organizing (with Dr. Lei Yang) Symposium on Advances in Quality and Process Control in Manufacturing Systems, 2012 ASME Manufacturing Science and Engineering Conference (MSEC), South Bend, IN, June 4-8, 2012.
- Co-organized (with Prof. Lihui Wang) the Symposium on "Advances in Operations and Management of Manufacturing Systems" at the 2011 ASME Manuf. Science and Eng. Conf. (MSEC), Corvallis, OR, June 13-17, 2011.
- Co-organized (with Dr. Lei Yang) the Symposium on "Advances in Quality and Process Control in Manufacturing Systems" at the 2011 ASME Manuf. Science and Eng. Conf. (MSEC), Corvallis, OR, June 13-17, 2011.
- Organized the Student Poster Session at the 2010 ISMI Manufacturing Week, Austin, TX, October 31 – November 4, 2010
- Co-organized symposium "Manufacturing System Maintenance" at the 2010 ASME Manufacturing Science and Engineering Conference (MSEC) in Erie, PA, Oct. 12-15, 2010.
- Organized the Student Poster Session at the 2009 ISMI Manufacturing Week in Austin (October 20-22, 2009)
- Co-organized symposium "Condition-Based and Predictive Maintenance for Manufacturing Equipment and Systems" at the 2009 ASME Manufacturing Science and Engineering Conference (MSEC) in Evanston, IL, Oct. 4-7, 2009.

- Co-organized symposia "Condition-Based and Predictive Maintenance for Manufacturing Equipment and Systems" and "Quality Control in Multistage Manufacturing Systems" at the 2008 ASME Manufacturing Science and Engineering Conference (MSEC) in Evanston, IL, Oct. 7-10, 2008.
- Co-organized symposia "Diagnostics, Performance Prediction and Decision Making for Intelligent Maintenance of Manufacturing Systems" and "Advances in Quality Control in Multistage Manufacturing Systems" at the 2007 ASME Manufacturing Science and Engineering Conference (MSEC) in Atlanta, GA, Oct. 15-18, 2007.
- Co-organized a symposium titled "Diagnostics, Performance Prediction and Decision Making for Intelligent Maintenance of Manufacturing Systems", Jointly Organized by the Manufacturing Systems Technical Panel of the Dynamic Systems and Controls Division and the Manufacturing Equipment Technical Committee of the Manufacturing Engineering Division at the 2006 ASME International Mechanical Engineering Congress and Exposition Chicago, IL, USA - November 5-10, 2006.
- Co-organized a symposium titled "Advances in Quality Control in Multi-Stage Manufacturing Systems", Jointly Organized by the Quality and Reliability Technical Committee of the Manufacturing Engineering Division and the Manufacturing Systems Technical Panel of the Dynamic Systems and Controls Division, Engineering Division at the 2006 ASME International Mechanical Engineering Congress and Exposition Chicago, IL, USA - November 5-10, 2006
- Co-organized a session "Diagnostics, Performance Prediction and Decision Making for Intelligent Maintenance of Dynamic Systems" at the 2006 International Symposium on Flexible Automation (ISFA)
- Co-organized a symposium titled "Diagnostics, Monitoring and Prediction for Life Cycle Control of Dynamic Systems" jointly sponsored by the ASME Manufacturing Engineering Division and the Dynamic Systems and Controls Division at the 2005 ASME International mechanical Engineering Congress and Exposition (IMECE)
- Co-organized a symposium titled "Process Model Based Control of Dimensional Errors in Multistage Manufacturing Systems" jointly Sponsored by the ASME Manufacturing Engineering Division and the Dynamic Systems and Controls Division at the 2005 ASME International mechanical Engineering Congress and Exposition (IMECE)
- Organized a session on Responsive Maintenance in Flexible and Reconfigurable Manufacturing Systems at 2004 INFORMS in Denver, CO, October 24-27, 2004

SERVICE AT THE U. OF TEXAS
- Member of the Graduate Student Recruiting Committee (GSRC) responsible for the area of Dynamic Systems and Control (2007-present)
- Hosted the Operations Research and Industrial Engineering (ORIE) Seminar Series for the Spring 2011 semester
- Member of the Faculty Search Committee for the position in Intelligent Physical Systems at the Dept. of Mechanical Engineering, University of Texas at Austin (2010)

SERVICE AT THE U. OF MICHIGAN
- Hosted Manufacturing Seminar Series at the Department of Mechanical Engineering, University of Michigan from October 2005 until April 2006. Guests included Prof. Yussuf Altintas (U. of British Columbia), Prof. Shiyu Zhou (University of Wisconsin), Prof. Albert Shih (U. of Michigan), Dr. Mani Janakiram (Intel) and Mike McIntyre (Advance Microelectronic Devices –AMD).

SERVICE AT UNIVERSITIES OVERSEAS
- Member of the Advisory Board of the University of Nis, Serbia since Feb. 16, 2011 (other members of this board are Dr. N. Jesse, T.U. Dortmund, Germany; Prof. C. Moraga, European Center for Soft Computing, Asturias, Spain; Prof. P. Kopacek, Vienna University of Technology, Austria; T. Dee, Canterbury Christ Church University, UK; Prof. L. Sousa, Institute Superior Tecnico, Portugal; Prof. M. Gusev, Institute forInformatics, F.Y.R. of Macedonia; Prof. T. Nestorovic, Ruhr-Universitaet, Bochum, Germany; Prof. K. Georguli, Technological Educational Institute of Athens, Greece; Dr. D. Ristic-Durant, University of Bremen, Germany; Prof. P. Campos, University of San Pablo, Spain; Dr. T. Trajkovic, Director High Voltage Devices & Technology, Cambridge, UK; Prof. Z. Pantic, President of the Wentworth Institute of Technology, Boston, MA). The purpose of this board is to contribute to better connections between the University of Nis and European institutions.

OTHER SERVICE
- Served as a panelist for NSF panels in SBIR/STTR (2005), Manufacturing Enterprise Systems (2009) and Dynamic Systems (2009) programs.
- Evaluator for a research proposal submitted to the Israel Science Foundation (April 2012)
- Member of ASME, IEEE, SME, INFORMS, International Neural Networks Society (INNS)
- Served as a referee for a number of journals and conferences including ASME Journal of Manufacturing Systems and Engineering, ASME Journal of Dynamic Systems, Measurement and Control, IEEE Trans. on Automation Science and Engineering, IEEE Transactions on Industrial Informatics, International Journal of Machine Tools and Manufacture, Transactions of IIE, SME Journal of Manufacturing Systems, SME Journal of Manufacturing Processes, Transactions of IMechE – Journal of Engineering Manufacture, Mechanical Systems and Signal Processing, SME North American Manufacturing Research Conference (NAMRC), ASME Manufacturing Science and Engineering Conference (MSEC), ASME Dynamic Systems and Control Conference (DSCC), ASME International Mechanical Engineering Congress and Exposition (IMECE) and IEEE American Control Conference.