

## M. AFFAN BADAR, PhD

### CONTACT INFORMATION

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University of Sharjah  
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*On leave from:*  
Indiana State University  
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### EDUCATION

Ph.D.            Dec 2002        Industrial Engineering, University of Oklahoma  
*Dissertation:* An intelligent search-based methodology for selection of sample points for form error estimation (*Advisors:* Dr. S. Raman and Dr. P.S. Pulat)

M.S.            Jan 1993        Mechanical Engineering, K.F. Univ. of Petrol. & Minerals (Saudi Arabia)

M.Sc.           Oct 1990        Industrial Engineering, Aligarh Muslim University (India)

B.Sc. (Hons.)   Jul 1988        Mechanical Engineering, Aligarh Muslim University (India)

### PROFESSIONAL AFFILIATION/CERTIFICATION/TRAINING

ASME (member), ATMAE (professional), IISE (senior member), SME (senior)  
Alpha Pi Mu (IE Honor Society), Epsilon Pi Tau (ITEEA Honor Society)  
ABET Program Evaluator (EAC and ETAC), since Apr 2010; Worked on AACSB application, Mar 2015  
ATMAE Certified Senior Technology Manager (CSTM), Dec 2009  
Collaborative Institutional Training Initiative (CITI) New Responsible Conduct of Research, Basic course - 8 Mar 2014  
CITI Human Research: Group 2. Social/Behavioral, Refresher course (stage 4) – 2 Dec 2014

### ACADEMIC EXPERIENCE

#### *University of Sharjah*

09/2016 - Present: Chair & Professor, Dept. of Industrial Engineering & Engr Mgt (IEEM)  
EAC/ABET accredited BScIEEM (500 students), MScEM (65), PhD EM (35, housed in the college); 14 FT & 1 PT faculty, 4 lab staff, 1 admin asst, and grad TA's.

Taught: Engr Design of Experiments (PhD course), Engr Statistics, Engr Ethics & Leadership; supervised senior design projects, MSc projects, MSc/PhD theses

Accreditation: Prepared for the EAC/ABET team visit, Nov 2016

#### *Indiana State University*

Programs: BS in Mechanical Engineering Technology, MS and PhD in Technology Management

#### Faculty Ranks

1. 08/2012 - Present: Professor (tenured), Dept. of Applied Engr. & Tech. Management
2. 08/2008 – 07/2012: Associate Professor (tenured), Dept. of Applied Engr. & Tech. Management
3. 08/2002 – 07/2008: Assistant Professor, Dept. of Electronics, Comp., and Mech. Engineering Tech.

#### Administrative Positions

1. 08/2014 – 05/2015: Interim Associate Dean - Curriculum, Accreditation and Outreach, Coll. of Technology (COT)
2. 08/2010 – 07/2014: Chair, Dept. of Applied Engr. & Tech. Management (AETM)
3. May 9/2009 – Jul 13/2009: Acting Chair, Dept. of Electronics, Comp., and Mech. Engineering Tech.
4. 08/2007 – 09/2010: Coordinator, BS in Mechanical Engineering Technology Program

5. 01/2004 – 07/2014: Co-Director, Center for Systems Modeling and Simulation

Shortcourse/Workshop Offered:

Lean Manufacturing Techniques, Oct 2008, May 2008

Courses Taught:

Reliability, Serviceability, and Maintainability (612/812), PhD Internship (799), Adv Statistical Analysis in Tech (703), Problems in IMT (679), Adv Econ Analy for Engr & Tech (605)/Manufacturing Economy (603), Econ Analy for Engr & Tech (505/405), Applications and Gaging of GD&T (513/413), Research Project in Ind Tech (509), Senior Project (409), Strength of Materials (406), Thermo Systems (337), Power Systems (333), Applied Mechanisms (306), Applied Statics (302), Graphic Analysis (215), Intro to Engr & Tech (130), Intro to Tech Graphics with CAD (103)

*Purdue School of Engineering & Technology – IUPUI*

08/2006 – 12/2009: Associate Faculty, Mechanical Engineering and Logistics Systems Mgmt and Engr.

Taught: Safety and Reliability Engrg (597) in Su 2009; Research Project (597) in Fa 2009;

Mechanical Design II (372) in Fa 2009, Sp 2009, Sp 2008, Sp 2007, Fa 2006.

*University of Oklahoma, School of Industrial Engineering*

1. 06/1999 – 12/2001: Instructor/Graduate Assistant

2. 08/1995 – 07/1998: Graduate Assistant

Taught: Engineering Computing and Numerical Methods for Engineers

*King Fahd Univ. of Petroleum & Minerals, Dept. of Mechanical Engineering*

1. 03/1993 – 08/1995: Lecturer

2. 01/1990 – 02/1993: Graduate Assistant

Taught: Machine Design, Strength of Materials, Materials Science, Reliability Engr, and Thermodynamics

**INDUSTRY EXPERIENCE**

05/99 – 08/00 *York International (Manufacturing Engineering Intern)*

08/98 – 01/99 *Weatherford Artificial Lift Systems (Design Engineer)*

**RESEARCH EXPERIENCE**

**1. Grants/Consultancy**

*University of Sharjah*

1. Seed Research Grant (internal), AED 39,000, PI, Improving Health Care Systems in UAE using Lean Manufacturing and Simulation Modeling Techniques proposal, awarded, 2017 - 2019

*Indiana State University*

External Awarded

1. Grant from NSF DUE Innovation Corps Teams program, award ID 1547789, \$50,000, PI: Lin, Co-PIs: Shahhosseini, Foster, & Badar, I-Corps L Team: Advancing Diagnostic Skills Training in Undergraduate Technology and Engineering Curriculum, Aug 2015 – Jul 2016, proposal in Jun 2015, phone discussion in May, executive summary in Apr 2015.
2. Grant from NSF DUE TUES program, award ID 1140748, \$195,434.00, PI: Lin, Co-PIs: Cochrane, Li, & Badar, CULMINATE: CUstomized Laboratory using MIcrocontroller for New Automotive Technology Education, effective Sep 2012 and to expire in Aug 2016, proposal submitted in May 2011; had earlier submitted in May 2010, 2009 and 2008.
3. Grant from Small Business Administration (SBA) on behalf of the Terre Haute Innovation Alliance (THIA), Agreement No. SBAHQ-08-0059, \$100,000, between ISU, RHIT, and AIS Gauging/Industrial Maintenance Engineering “company”, ISU PI: Shahhosseini, Co-PI: Badar, Design of a housing (including material selection) to contain and control radioactive isotope source which can be used to measure thickness variance in various sheet goods, Jun 2012 – Jun 2013.

4. Grant from NSF DUE S-STEM program, award ID 0966219, PI, Co-PIs: Lin, McNabb, Shahhosseini, Li, Zhou, STARS: Sycamore Technology Academics & Recruitment Scholarships, \$487,269 awarded in 2 stages: \$26,466 in May 2010 with additional \$460,803 in June 2011 to expire in May 2016, proposal submitted in Sep 2009; had submitted earlier in Nov 2007.
5. Grant proposal to Terre Haute Innovation Alliance (THIA), in partnership with Reel Time Logistics (RTL), \$100,000, Co-PI, PI: Zhou, Design, planning, and improvement of Third-party Logistics system via simulation and knowledge engineering, submitted in Dec 2008. THIA recommended for funding in Feb 2009, but not awarded due to RTL's financial crisis (the grant had to be awarded to a company).
6. Project grant from Tredegar Film Products, Terre Haute, IN, \$1,000, PI, Co-PI: Zhou, Advising on proprietary softness measuring device (started with a concept design), Jun 2006.
7. Collaborative linkage travel grant from the NATO Security through Science Program, Euro 15,000 (\$18,000), Investigator, PIs: Blyukher (ISU, USA), Belhaq (UH2 Ain Chock, Morocco) and Malachowski (MUT, Poland), Development of methods of improvement of oil and gas pipeline security and defense against terrorism, Dec 2005.
8. Grant from Columbia House Co., Terre Haute, IN, \$1,500, PI, Co-PI: Zhou, Time study of CD/DVD picking process and data analysis using PDA software, Jul 2005.
9. Grant from Columbia House Co., Terre Haute, IN, \$8,900, Co-PI, PI: Zhou, Modeling and analysis for improving the performance of CD/DVD distribution process, Feb 2005.
10. Grant from Union Hospital, Terre Haute, IN, \$8,933 (total \$27,866 with ISU matching), Co-PI, PI: Zhou, Modeling and analysis to improve the performance of the Union Hospital emergency department, Dec 2004.

#### Internal Awarded

1. Faculty international travel grant from the International Programs and Services, \$2500, PI, Academic Collaboration between ISU and Shenzhen University (China), Apr 2013, traveled Jun 2013
2. Grant proposal to the Unbounded Possibilities Initiative, \$1,141,953, Co-PI, beyond the core group of five: Speer (PI), Steiger, Derrick, Anderson, Bierly, 1 PI and 25 co-PIs, Institute for Community Sustainability, selected for funding Dec 2011, had submitted Sep 2011
3. Emerging Technologies grant from the IT Innovations Mini-grant Program, \$4000, Co-PI, PI: McNabb, Co-PI: Zhou, 3D Reverse Engineering Digital Microscribe, Feb 2007.
4. Promising Scholar grant from the Div of Academic Affairs, supported by the Lilly Foundation, \$15,000, PI, Improving Healthcare Systems Using Lean Manufacturing and Simulation Modeling Techniques, Jan 2006.
5. Undergraduate Fellowship grant from the Alliance for Excellence through Engagement and Experiential Learning supported by the Lilly Foundation, \$5,000, PI, Co-PI: Zhou, Implementation of Industrial Engineering Methods to Benefit Local Industries, July 2005.
6. Infusing Technology into Education grant from the IT Innovations Mini-grant program, \$1,695, PI, Digital kit for geometric dimensioning and tolerancing, Feb 2005.
7. Grant from the University Research Committee, \$660, PI, Search-Based Sampling Procedure for Form Tolerance Evaluation Using CMM, Apr 2004.
8. Faculty international travel grant from the International Affairs Center, \$1988, PI, Strengthening Linkage between ISU and Hassan II University Mohammedia (Morocco), Mar 2004.
9. Research start-up grant from the COT Dean's Office, \$25,105 for CMM project and got assurance for additional funding for other projects, May 2003.
10. Equipment grant from the COT Dean's Office, \$4,985 for CMM probe head & stylus kit (with Smallwood, McNabb, and Zhou), Jan 2003.

#### *At University of Oklahoma*

1. Evaluated material logistics flows and storage at FAA Logistics Center in Oklahoma City, OK, 2000.
2. Worked on CIMED project for the development of software in C++ to determine computer aided process plans for manufacturing, 1997.
3. Analyzed the aging aircraft fatigue life data to find the effect of corrosion, 1996.

*At K.F. Univ. of Petroleum & Minerals*

1. Awarded research grant from KFUPM, SR 0.4M, Co-Investigator, A probabilistic maintenance strategy for heat-transfer equipment subject to fouling, 1995, but I could not start.
2. Gathered and analyzed experimental data for the KFUPM funded project on weather-induced polymer degradation in Saudi Arabia, 1992.

## **2. Graduate Research Advised**

*University of Sharjah*

1. Supervisor, PhD Thesis, M. Al-Ali, May 2017 -
2. Co-supervisor, MSc Thesis, R. Awad, June 2017 -
3. Supervisor, MSc Project, Zahraa, Feb 2017 -
4. Co-supervisor, MSc Project, Aisha, A Lean Six Sigma approach to improve customer satisfaction in a Building Projects Department, Jan 2017 –
5. Examiner
  - PhD Qualifying – (General): 3 students May 2017; 4 students Dec 2016
  - PhD Qualifying - (Specialization): O. AlZawati, May 2017; M. Al Blooshi, Dec 2016
  - MSc Thesis Proposals: 3 (Mona, Ahmad, Amir) in Dec 2016
  - MSc Projects: 1 Proj 2 (Maitha), May 2017; 1 Proj 1 (Maitha), Feb 2017

*Indiana State University*

### PhD Dissertations: Chair

1. S. Ogega, Fa 2014 -
2. K. Erukulapati, Development of an assessment tool for software quality management using best practices, Fa 2015 –
3. B. Bader, Incorporating lean non-value added variants into a method of determining stakeholder salience for first-line manager decision making, Su 2016 –
4. J. Townsend, Effectiveness of condition monitoring technologies on reciprocating compressor reliability, Su 2017
5. M. Odigie, A study on the integration of quality and safety management systems in small to medium-size companies in the USA, Fa 2015
6. E. Aba, Impact of ISO 9001 certification on US companies financial performance, Su 2013
7. Co-Chair, M. Al Odeh, Feasibility study of residential grid-connected solar photovoltaic systems in the state of Indiana, Su 2013
8. N. Baker, A study in the difference of warranty failures of common platform different brand name dishwashing appliances, Fa 2012
9. T. Chow, Study of a computer-aided performance rating process and the associated process improvement opportunities, Su 2012
10. P. Polastri, Effects of globalization on the gas engine manufacturing and parts industry in Indiana as experienced by those working in this sector, Fa 2011

### PhD Dissertations: Member

1. J. Szekerczes, Sp 2015 -
2. J. Guinot, Failure mode and effects analysis as a mechanism for assessing the cost consequence of a failure, Fa 2015
3. A. Estrada, A model process to control quality attributes of a medical device using process parameters, Fa 2015
4. A. Ilikchyan, A model for assessing and improving quality of textual data from product-related discussion forums, Su 2015
5. S. Rouse, Investigating the significance of zero positional tolerance at MMC, Sp 2015
6. J. Taylor, Development of an optimal lean six sigma model, Sp 2014
7. M. Angolia, Technology's impact on wholesale distribution branch operations, Fa 2013

8. S. Stamm, A comparison of gauge repeatability & reproducibility methods, Sp 2013
9. K. VanDewark, Developing the core body of knowledge for quality mgmt: A Delphi study, Sp 2013
10. Z. Liu, Effects of message interactivity upon relational maintenance strategy in digital communications between organizations and the public, Sp 2012
11. T. Mattis, A comparative analysis of administrator's perceptions on the adaptation of quality and continuous improvement tools to community colleges in the state of Michigan, Fa 2011
12. B. Bailey, The Malcolm Baldrige national quality award process in public higher education institutions and effects on organizational performance, Su 2011
13. M. Chandler, Quality system for a distance doctoral consortium: Determination and analysis of specific indicators, Sp 2011
14. N. Radziwill, Topology, dynamics and continuous improvement of the Quality Management body of knowledge, Sp 2009

#### MS Theses: Chair

1. D. Evans, Effects of basic mass production concepts and 5S implementation on a constrained process at Great Dane Trailers, Sp 2016
2. N. Song, Evaluation of GNPV method for decision-making in non-conventional projects, Sp 2014
3. T. Alberts, An experimental evaluation of quality variance for internally threaded geometry related to extended tap wear in low carbon steel, Sp 2007
4. M. Stroup, An experimental comparison of quality and strength characteristics of United States and China manufactured fasteners, Fa 2006
5. R. Pondhe, Applying lean manufacturing techniques to improve the performance of an emergency department, Su 2006
6. Co-Chair, S. Asare, Modeling emergency department with robust knowledge representation and pattern, defended Sep 2005
7. B. Thomson, A case study on implementation of quality function deployment into the design process of a small job shop, Sp 2005
8. A. Singhal, Comparison of sampling methods for flatness evaluation using CMM, Fa 2004

#### MS Theses: Member

1. G. Rengifo, Purdue School of E&T-IUPUI/ME, Development of an innovative neural network model for milling based on a systematic approach for statistical design of experiments, Sp 2007
2. K. Setavoraphan, Conceptualized simulation modeling for regional distribution center (RDC) system, Fa 2005
3. J. Ma, Knowledge representation, organization, and formalization for simulation modeling of discrete manufacturing system, Su 2005

#### MS Major Projects: Chair

1. J. Casey, A study on the non-functioning extra low simmer system on professional ranges, Fa 2016
2. T. Al-Olwan, Economic feasibility of steel wall system, Su 2013
3. Y. Alquraishi, Cost analysis on solar energy compared to traditional electrical energy for an average Terre Haute family house, Sp 2013
4. J. Stevenson, Problems with raw material inventory at International Automotive Components – Greencastle (Indiana) plant, May 2011
5. S. Akkineni, Effect of globalization on US manufacturing: Trade balance analysis, Jan 2011
6. V. Vegunta, Motor vehicle and medical equipment manufacturing: US-China perspective, Fa 2010
7. R. Sangali, Development of Java code for real-options analysis, Feb 2010
8. S. Burra, Design of oil and gas pipelines for seismic hazards, Fa 2008
9. D. Pulsoft, Evaluating the relationship between the material removal rate of a cutting tool and its resultant feed forces for future applications in adaptive control, Fa 2008
10. S. Sammidi, Cost and profit analysis of supply chain ordering strategies to minimize the bullwhip effect using beer game, Fa 2008

11. V. Veerapandian, Simulation modeling and analysis of Union Hospital Emergency Department, Aug 2008
12. G. Schofield, Transformation to digital prepress, Apr 2008
13. R. Yarlagadda, Design and risk management of oil and gas pipelines subjected to shock waves due to explosion and seismic distress, Fa 2007
14. C. Tuggle, Problems with metrication in US manufacturing at Company 'C', Fa 2007
15. Co-Chair, N. Topiwala, A knowledge-based system to assist the production administrator in a medical transcription company, Fa 2007
16. S. Ogega, Economic analysis of CMM replacement alternatives, Su 2007
17. S. Kasarla, Evaluation of lean implementation on Emergency Department, Sp 2007
18. S. Sawle, Search based sampling for circularity evaluation using CMM, Fa 2005
19. T. Wen, A case study on implementation of layout design into the welding area, Fa 2005

MS Major Projects: Member

1. A. Kashmoola, Analysis of production and operation efficiency at SCP Ltd. Inc., Sp 2016
2. A. Mastaki, Queueing theory: Simulation in Excel for a two-station production line performance analysis with M/M/1/b and G/G/1/b, Sp 2015
3. N. Aldoghathir, Six Sigma application to banking in Terre Haute, Fa 2014
4. P. Aitharaju, Design and thermal analysis of shell and tube heat exchanger by NTU method, Fa 2014
5. H. Surapaneni, Using the (Q,r) model as an inventory control strategy for SIMCO class, Sp 2014
6. J. Cantrell, Benefits of electronic frequency motor control: Replacing the flow control valve, Fa 2013
7. C. N'Cube, Benefits of using automatic transfer switches in developing countries, Fa 2013
8. H.-C. Lin, Comparison of bottle leakage when using water, alcohol, or oil under simulated high altitude transportation conditions, Sp 2009
9. S.-H. Lin, Simulation modeling of shipment planning in third party logistics, Sp 2009
10. G. Pasem, AIM programming for vision based robotic system, Sp 2009
11. T. Anand, Design of an Artificial Neural Network in Xilinx and implementation in Spartan-3, Fa 2008
12. R. Samala, Training Neural Networks on cross-platform with Widows-Unix systems using distributed training environment, Fa 2008
13. A. Al-Rawas, Best cutting tool with no easy answer, Su 2008
14. R. Nanduri, Testing a Neural Network using a Genetic Algorithm with Java Genetic Algorithms Package, Sp 2008
15. N. Pulipati, Digital material handling system, Fa 2007
16. P. Chinta, Role of aspiration in exhaust cooling system, Fa 2007
17. R. M. Alapati, Installation of water filtration and recycling system to reduce water/sewer expenses involved in trailer washing process, Fa 2007
18. L. Venkataramanappa, Design of a hydraulic power pack, Fa 2007
19. V. Jaladanki, Prediction of weld bead geometry using Artificial Neural Network in manual metal arc welding, Fa 2007
20. T. Kondisetti, Implementation of adaptive fuzzification in a fuzzy logic control system, Fa 2007
21. S. Vallabhaneni, V+ programming for vision based robotic conveyor tracking, Fa 2007
22. S.C. Ponduru, Implementation of wireless worker for training neural networks in a distributed training environment, Fa 2007
23. S.H. Syed, Design of 3-roll wrist mechanism, Fa 2006 - Su 2007
24. P. Chandra, Modeling and analysis of propagating effects between supply chain members through multi-agent based modeling, Su 2007
25. U. Arunachalam, Design and kinematic analysis of softness testing machine using Pro/E Wildfire 3.0, Su 2007
26. K. Gupta, Construction of a 3-dimensional CAD model of a chassis frame for Super Comp Dragster using Pro/E Wildfire 3.0, Su 2007
27. S. Nalli, Design and development of a prototype system to control the experiments with an Arena simulation model, Fa 2006

28. R. Perisepalli, A model to review artificial neural networks efficiency to run a degree audit report system, Fa 2006
29. W.-C. Chen, Simulation modeling of two stage multi product (TSMP) logistics network, Su 2006
30. R.B. Minor, Building flow: Staples distribution center capacity analysis, Su 2006
31. C.-H. Huang, Simulation modeling of shipment planning in distribution systems, Sp 2006
32. V.R. Gunukula, RFID: Privacy and security, Fa 2005
33. R. Chikarambotla, Design and Development of an Automated Regression Test Suite for the Linux Driver of a Network Storage Module, Sp 2004
34. N.R. Vadineni, Application of webMethods to Simulation Model Based on Inventory Systems, Fa 2003
35. S.S. Ganti, Integration of the Cognex 900C Vision System with Microbot Alpha II Robot, Fa 2003
36. G. Poduri, Automating a Mentor Desktop Robot, Fa 2003

### 3. Presentations and Publications

A list is included at the end.

## SERVICE

### *Professional*

#### 1. Accreditation

ABET (EAC and ETAC) Program Evaluator , since 2010

Programs evaluated (7): U of Puerto Rico at Bayamon, Oct 2016; Texas SU, Nov 2015; Dunwoody COT, Oct 2015; Southern Poly SU, Oct 2014; Bogor Agricultural U (Indonesia), Oct 2012; Missouri Southern SU, Sep 2011; U of Dayton, Oct 2010

External Reviewer (other than ABET):

- i. MS in Engr Mgt program, Al Ghurair Univ, Dubai, UAE, Apr 2017
- ii. Prepared an AACSB eligibility application for School of Management, JIT, India, Mar 2015
- iii. Business Technology Management: a program proposal, Umm Al-Qura Univ (Saudia), Oct 2012

#### 2. Leadership

- i. Jahangirabad Inst. of Tech (India), Operations Mgmt Committee (Board of Governors), Chair: since Sep 2016; member: Dec 2014 – Sep 2016
- ii. ATMAE Manufacturing Division, Vice President, 2014-16; 2012-14
- iii. IISE Engineering Economy Division (EED):  
EED Board, 2012-14; Immediate Past Director, 2007-2009;  
Director, 2005-07; Program Chair, 2004-05; Newsletter Editor, 2003-04
- iv. IISE Members at Large (MAL) Chapter, Director, 2004-05
- v. U of Oklahoma (1997-98): President SME, President Alpha Pi Mu, Graduate Senator

#### 3. Scholarship Review Panelist:

- i. NSF Graduate Research Fellowship Program, Jan 2017
- ii. ASEE/Dept of Defense SMART Scholarship, Feb 2014

4. Member, Design Technology Advisory Comm, Ivy Tech Community College, Terre Haute, IN, 2011-14
5. Grand Award Judge for Engineering, Intel ISEF (International Science and Engineering Fair) 2006, Indianapolis, IN, May 7-13

#### 6. External Examiner for PhD Research:

Evaluated 15 PhD theses: 5 in 2016 (Dec, Nov, Oct, Mar, Feb), 6 in 2015 (Nov, Oct, Sep, Aug, Mar, Jan); 2 in 2013; 2 in 2011

#### 7. External Reviewer for Tenure/Promotion:

- i. Hashmite U (Jordan) portfolio of Dr. Obeidat for promotion to assoc prof, Feb 2016
- ii. Northern Illinois U portfolio of Dr. Muthuswamy for tenure & promotion, Aug 2013
- iii. East Carolina U portfolio of Dr. Monroe for tenure, Jul 2013
- iv. East Carolina U portfolio of Dr. Das for tenure & promotion, May 2012

#### 8. Editor:

- i. Associate Editor, Science Publications, Amer. J. of Engr. & Applied Sciences, since Dec 2015

- ii. Editor, SAGE journal, Advances in Mechanical Engineering, since Feb 2013
  - iii. Member, Editorial Advisory Board, Int. J. of Quality & Reliability Mgmt, since Aug 2016
  - iv. Member, Editorial Board, NED Univ. J. of Research, since Mar 2011
9. **Conference Track/Session Organization:**
- Co-Chair: 10<sup>th</sup> Int. Conf. on Industrial Engr & Operations Mgt (IEOM) 2020, Mar 10-12, Dubai
  - Chair: Quality Systems track, Int. Conf. on Technology Mgmt, ICTM 2016, Aug 10-12, Chicago, IL
  - Co-Chair: Manufacturing & Industrial Div, 4<sup>th</sup> IAJC/ISAM Joint Int. Conf., Sep 25-27, 2014, Orlando, FL
  - Organizer/Track Chair, Engineering Economics track with 7 sessions for the IIE Annual Research Conf. 2005, May 14-18, Atlanta, GA
  - Organizer/Technical Session Chair, Globalization and Manufacturing, Int. Conf. on Agile Manufacturing Systems (ICAM) 2011, Dec 18-20, Agra, India.
  - Session Chair:
    - Methods for Reliability and Warranty Analysis, Quality & Reliability Eng'g Track, IIE ISERC-2013, May 18 - 22, San Juan, PR
    - K-12 Outreach & the STEM Pipeline, Engg Educ Track, IIE IERC-2011, May 21-25, Reno, NV
    - Engr Eco 2, Engineering Economics Track, IIE IERC-2009, May 30 - Jun 3, Miami, FL.
  - Member, Int. Org Committee and Int. Board of Reviewers, ICAIA-2015, Aug 3-4, Bogor, Indonesia
  - Member, Int. Advisory Committee, following International Conferences:
    - ICIPRODD-2017, Apr 20; CAME-2014, Aug 7-8, Al-Falah Univ, Faridabad, India
    - MANFEX-2017, Mar 9-10, Amity Univ UP, India
    - CPIE-2016, Dec 19-21, NIT-Jalandhar, India
    - ETNCER-2016, Jul 25-26, Lucknow, India
    - ICAET-2017, Mar 24-25; ICAET-2016, Mar 18-19; ICAET-2015, Mar 20-21, Sangrur, India
    - ICDMM 2015 & ICESD 2015 (ISET-2015), Feb 11-13, Pune, India; ISET 2014, Jan 9-10
    - Int. Conf., Dec 22-24, 2014, NIT-Hamirpur, India
    - ICNDME-2014, Dec 20-21, MM Univ, Mullana, India
  - Member, Technical Committee, Institution of Engrs Pakistan (IEP) Annual Conv. 2012, Dec 21-22
10. **Reviewer:**
- Books
- Engineering Economy, Cambridge U Press, by Z.A. Khan and A.N. Siddiquee, May 2017
  - Engineering Economy: Applying Theory to Practice, 4e by Eschenbach and Lewis, Apr 2015
  - Encyclopedia of Energy Engineering & Technology (Online), Taylor & Francis, an article, 2011
  - Engineering Economy: Applying Theory to Practice, 2e by Eschenbach, May 2008
  - Engineering Econ Analysis, a Chap. in the Handbook of Technology Management, May/Feb 2008
- Journals
- Emerald Int. J. of Quality and Reliability Management: reviewed 2017(1), 2016(2); 2015(2), 2014(2), 2012(1), 2011(1), 2010(1), 2008(1)
  - Taylor & Francis The Engr Economist: reviewed 2017(1)
  - Elsevier J. of Manufacturing Systems: reviewed 2017(1)
  - Emerald The TQM J: reviewed 2017(2)
  - Science Publications: Amer J of Engr and Appl Sciences: reviewed 2016(1); Amer J of Appl Sciences: reviewed 2016(1)
  - InderScience Int. J. of Forensic Engrng & Mgmt, reviewed 2016(1) was a revision of 2013
  - Springer, The Arabian J. for Science & Engineering: reviewed 2015 (3), 2014(2), 2013(3), 2012(2)
  - AIP J. of Renewable and Sustainable Energy: reviewed 2014(1), 2013(1)
  - InderScience Int. J. of Exergy, reviewed 2012(1)
  - ASME Journals
    - J. of Manufacturing Science and Engineering: reviewed 2012(1), 2009(1), 2008(3), 2007(1), 2006(3), 2005(2), 2004(1), 2003(3)



- J. of Mechanical Design: reviewed 2010(1)
- J. of Pressure Vessel Technology: reviewed 2006(4), 2004(1), 2003(1), 2002(3)
- Invertis J. of Science & Technology: reviewed 2012(1)
- Member, International Review Board, IAJC Journals
  - Int. J. of Modern Engineering: reviewed 2010(1), 2009(2)
  - Int. J. of Engineering Research & Innovation: reviewed 2010(1)
  - Technology Interface Int. J.: reviewed 2010(1)
- Int. J. of Comp Applications in Tech, reviewed 2007(1)
- European J. of Operational Research, reviewed 2005(1)

#### Conferences

- Int. Conf. on Technology Management (ICTM 2017): reviewed (3), ICTM 2016 (7)
- Int. Symp. on Eng'g & Tech: reviewed (3): 1 for ICDMM 2015 and 2 for ICESD 2015
- IIE Annual Research Conference (ISERC), reviewed 2013 (3), 2011(2), 2007(2), 2006(3)
- ATMAE Annual Conference, reviewed 2013 (2), 2012 (2), 2011 (Manufact track)
- IIE Engineering Lean & Six Sigma Conference, reviewed 2011 (1)
- Construction in the 21<sup>st</sup> Century (CITC), reviewed 2011 (1)
- IAJC Conference, reviewed NAIT-IJME 2008 (3)
- ASME Pressure Vessels and Piping Div. Conf., reviewed 2007(1)
- ASME Engineering Technology Conference, reviewed 1997(2)

#### *Community*

1. President, Assoc. of Muslim Scientists, Engineers and Technology Professionals (AMSET), 2016 -
2. Al-Ilm Weekend School: Principal, 2015-16; Board chair, 2014-15; academic coordinator, 2011-14
3. Member, ISNA Scholarships reviewers committee: 2014, 2015
4. Member, Historic Plainfield Town Center Board, Indiana Main Street Program, Aug 2009 – Apr 2010
5. Member, Plainfield Community (Elementary) School Corporation Social Studies Textbook Adoption Committee, Spring 2009
6. Volunteered for the Central Indiana MATHCOUNTS Competition, Indianapolis, IN, Feb 14, 2008
7. Attended 'Iftar' (Breaking of the fast) program hosted by the Indiana Governor: State Capitol, Aug 2010; Sep 2008; Sep 2007; Governor's Mansion, Sep 2006; State Capitol, Oct 2005
8. Secretary, Board of Directors, Muslim Alliance of Indiana (MAI), 2007-10 term
9. Participated in the Indiana Governor's quarterly meeting with the Muslims, State Capitol, Dec 8, 2006.
10. Represented Terre Haute/ISU at 'Muslim day at the statehouse' on Apr 29, 2005. The event, organized by the Muslim Alliance of Indiana, consisted of scheduled meetings with the leadership of the state government including Governor Daniels.
11. Invited to speak at the ISU organized 'Tsunami Day,' sharing thoughts of Muslim community, Jan 13, 2005.

#### *University of Sharjah*

##### Student

- Participated in the University Graduation Ceremony: Fa 2016/2017

##### College of Engineering

- Member, PhD Engr Mgt Committee, Coordination Committee, Hiring Committee, 2016-2018
- Member, College Council, 2016 – ... (chair, sub-committee for Prog Adv Board)
- Member, Faculty Promotion Committee, 2016 –
- Member, Ad-hoc committee for MSc EM – Infrastructure & Construction Mgt track, Feb 2017

##### IEEM Department

- Chair, Dept Council, 2016 -
- Member, MSc Engr Mgt Committee, 2016 -

## *Indiana State University*

### Student

- Faculty Advisor, MSA, Feb 2013 – Feb 2015
- Faculty Advisor, SME student chapter, Sep 2009 – Sep 2010; Co-advisor, Mar 2005 - Sep 2009
- Participated in the University Graduation Ceremony: Fa 2015, each Spring since 2005 thru 2014, COT Banner carrier: Sp 2013, Fa 2010

### University

1. Center for Global Engagement, Reviewer for the international travel grant program, since 2013
2. Faculty Senate Faculty Economic Benefits Committee: member: 2014-15, Vice Chair: 2010-11, member: 2008-10
3. Faculty advisory committee for international student recruitment: 2014
4. Associate Deans Council, Univ College Council, and Graduate Council, as COT ex-officio: 2014-15
5. Institutional Review Board, member: 2011-2014; 2008-2011
6. Faculty Promotion & Tenure Oversight Committee, Chair of an appeal hearing: Apr 2012; Secretary: 2011-12; member: 2011-2014, 2008-2011
7. Graduate Council, as ex-officio in place of Dr. English: 2013 – 14
8. Graduate Council sub-committee on Assistantships and Fellowships, 2013-14
9. Dean of the Coll of Grad & Prof Studies and CRO search committee, member: Aug 2013 – Dec 2013
10. Caleb Mills Distinguished Teaching Award Committee, member, 2013, 2011
11. ISU Strategic Goal 1 (Student Success) Audit Team, Member, Feb-Mar 2012
12. International Programs and Services Director search committee, member: Jan-Apr 2011
13. Theodore Dreiser Distinguished Research and Creativity Award Committee, member, 2009
14. Volunteered for the ISU booth at the Indiana State Fair, 15 Aug, 2008
15. Graduate Council's Graduate Faculty Status Committee, Secretary: 2007-08, member: 2006-07
16. All University Student Financial Aid Committee, member: 2006-08
17. Faculty Senate Student Affairs Committee:
  - Vice Chair: 2005-06; member: sub-committee to evaluate the NSSE data
  - Member: 2006-07; member: sub-committee to look into academic challenge and grade inflation
18. Graduate Council's Program Development Committee, Vice Chair: 2005-06, member: 2004-05
19. All University Student Life Committee, member: 2004-06
20. All University Convocations Committee, member: 2003-06
21. President's Committee to expand partnership with Morocco, member: 2003-06
22. Volunteered for the Multicultural Scholar's Day for students of color, Mar 2004
23. SOT rep to the Faculty Experiential Learning Group, Oct 2002

### College

1. COT Faculty Council, Vice Chair: 2015-16, 2008-09; Treasurer: 2005-07; member: Dept rep: 2007-08, 2003-05
2. COT Personnel Committee: member, 2015-16
3. COT Chairs Council, 2010 – 2015
4. COT Task force to increase SF ratio and efficiency, Nov 2013 – Feb 2014
5. Co-Director, CSMS, listed under 'Academic Experience'
6. COT Faculty Council Academic Affairs Committee: member: 2010-13, Chair: 2003-04, member: 2002-03
7. COT Library Committee, Chair: 2002-2008
8. COT FC Student Affairs Committee, member: 2006-08, Chair: 2005-06, member: 2004-05
9. Member, COT Associate Dean Search Committee, Spring 2007
10. COT FC Faculty Affairs Committee, Secretary: 2005-06, member: 2006-07
11. Member, COT Dean's Task Force, Su 2005
12. Volunteered for the faculty interview with the NAIT accreditation team, Mar 2004
13. Volunteered for the COT Homecoming Tent: Nov 2002, Oct 2003

### Student recruitment

1. Participated in the Spring Faculty Tele-counseling to recruit students who have applied/admitted to the BS in MET program, 10 Apr 2014, 24 Mar 2009, 20 Feb 2008
2. Every year visit high schools such as Plainfield HS, Ben Davis HS, Avon HS, etc. and participate in the HS career fairs to recruit high school students
3. Participated in the Indiana *Project Lead the Way Conference* (National Engineers Week) to present the BS in MET program, Indianapolis, IN, 24 Feb 2006, 23 Feb 2007
4. Participated in the ‘Sycamore Preview Days,’ ‘Transfer Days,’ ‘Parents of Prospective Students,’ ‘COT Preview Day’ (10 Feb 2012), ‘Experience ISU’ (4 Feb 2012), ‘Presenting ISU’ events at Vincennes Univ. (31 Mar 2009), Ivy Tech Indianapolis (1 Mar 2007), Ivy Tech Bloomington (29 Mar 2007), Ivy Tech Terre Haute (20 Mar 2007)
5. COT Tech Trek for HS students: Developed & sponsored ‘Mechanical Design Mania,’ in Nov 2006; and with Dr. Zhou in Nov 2005, Oct 2004, Nov 2003
6. Participated in COT Hands-On High Tech, Sp 2004
7. Attended the Major Fair to recruit undecided students, Oct 2004, Oct 2002

### Department

1. AETM Dept Personnel Committee, Budget Committee, and Search Committee for a TT and a multi-year faculty openings: member, 2015-16
2. AETM Dept Chair, ECMET Dept Acting Chair, and BS-MET program Coordinator: see ‘Academic Experience;’ service related to accreditation, articulation and advising: see ‘Teaching Experience.’
3. Chair, CVET multi-yr instructor search, May 2012 – Oct 2013
4. Chair, AETM multi-yr instructor search, Jan – Jun 2013
5. Lead, Departmental Assessment Team (A-Team), Jan 2011, ISU Assessment and Accreditation
6. Chair, MET Faculty Search Committee, Sep 2008 – Apr 2009
7. Member, ECMET Interim Chair Search Committee, May – Jul 2007
8. Prepared (w/ Dr. Zhou) Program Prioritization report for BS in MET, Sp 2006
9. Member, IMT Chair Nomination Committee, Apr-May 2003
10. Member, MET (earlier MDT) Industry Advisory Committee, since Feb 2003
11. Completed other tasks or attended meetings asked by the department/school/university

### *University of Oklahoma*

1. SME: President, 1997-98; Chair of Programs, 1996-97
2. Alpha Pi Mu: President, 1997-98
3. Graduate Students Senate, 1997-98.

### *K.F. Univ. of Petroleum & Minerals*

1. Member, Industrial Relations Committee, 1994-95
2. Member, Faculty Evaluation Committee, 1993-94
3. Member, Student Advising Committee, 1993-95.

### **HONORS & AWARDS**

1. Co-authored paper ‘Impact of ISO 9001 certification on firms financial operating performance’ published in *Int. J. of Quality & Reliability Mgmt*, 33, 1 (2016) selected as a **Highly Commended paper** by the journal in the 2017 Emerald Literati Network Awards for Excellence.
2. Recognized as a recipient of the Albert Nelson Marquis Lifetime Achievement Award, Apr 2017
3. Hindustan Patna Live (Indian newspaper in Hindi) published a story about me, <http://mepaper.livehindustan.com?mainedition=Bihar&edname=PatnaLive&pgdate1=2017-03-29&edcode=89&strmode=1>, Mar 29, 2017
4. Recognized in the First Destination Survey as having contributed to student success at ISU, Dec 2015; Aug 2015

5. Received 'Research and creativity' challenge coin from the ISU president, Oct 20, 2015
6. Indiana Statesman published a story on our NSF I-Corps L team project, [http://www.isustudentmedia.com/indiana\\_statesman/news/campus/article\\_7aa74a56-6d11-11e5-bcc3-770ebfa81979.html](http://www.isustudentmedia.com/indiana_statesman/news/campus/article_7aa74a56-6d11-11e5-bcc3-770ebfa81979.html), Oct 7, 2015.
7. Received a faculty award from International sponsored students at ISU for advising & mentoring to achieve success, Apr 2015
8. Received the Epsilon Pi Tau 2015 Warner Professional Practice Award for Region 3, Mar 2015
9. Included in 'Who's Who in Academia' by J. Bozaneck, News Digest, Jan 2015
10. Received recognition to be among top 10% of faculty for 'exceeding expectations' in the biennial review, Nov 2013; Awarded 'exemplary performance bonus' in the Coll. of Tech., ISU, Aug 2008
11. Tribune Star, <http://www.tribstar.com/business/x2015919767/Computer-control-systems-business-teams-with-ISU> on 7 Apr 2013 published a story on the SBA funded project for AIS gauging
12. Nominated for the Caleb Mills Distinguished Teaching Award, ISU, 2012
13. Nominated for the Faculty Distinguished Service Award, ISU, 2010
14. Included in 2000 Outstanding Scientists 2008/2009, Int. Biographical Centre, Cambridge, UK
15. Included in Who's Who in Science and Engineering, Marquis, e11, 2011-12; e10, 2008-09
16. Included in Who's Who in the World, Marquis, e27, 2010; e26, 2009
17. Included in Who's Who in America, Marquis, e64, 2010; e63, 2009; e62, 2008; e61, 2007
18. Included in Who's Who Among American Teachers & Educators, e11, Sep 2007
19. Received an affiliate membership in the Alfred P. Sloan Industry Studies Program, Jan 2007
20. Received Certificate of Recognition from the ISU College of Technology acknowledging the achievement as a recipient of the Promising Scholar Award from the Div of Academic Affairs (supported by the Lilly Foundation), Oct 2006
21. Included in the Campus Connection story entitled 'Promising Scholars Program fund real-world faculty research,' Vol 16, No 5, Feb 2006, p. 3
22. Lilly Foundation Undergraduate Fellow Faculty Mentor, ISU, 2005-06
23. Advisee (R. Pondhe) received 'best graduate research presentation' award in Earth Science, Physical Science and Technology, 9<sup>th</sup> ISU Research Showcase, 23 Apr 2005, Applying lean manufacturing techniques to improve the performance of Emergency Department.
24. Tribune Star, <http://www.tribstar.com/articles/2005/05/18/features/schools/schools01.txt> on 18 May 2005, and Campus Connection on 3 May 2005 published a story entitled 'ISU Center for Systems Modeling and Simulation working with industry'.
25. Initiated as an exemplary member of Epsilon Pi Tau (International Honorary Society for Professions in Technology), Oct 2004
26. Included in Strathmore's Who's Who, 2005
27. Advisee (A. Singhal) received 'best graduate research presentation' award in Earth Science, Physical Science and Technology, 8<sup>th</sup> ISU Research Showcase, 24 Apr 2004, Comparison of sampling methods for flatness evaluation using CMM.
28. Tribune Star published a story on Lean Manufacturing and Simulation Research (student: B. Thomson), 21 Apr 2004, <http://www.tribstar.com/articles/2004/04/21/community/com01.txt>.
29. Selected to Who's Who Among Students in American Universities & Colleges, 2002.
30. Inducted into Alpha Pi Mu (Industrial Engineering Honor Society), 1997.
31. Recognition as a Leader of the 20<sup>th</sup> Century by Alpha Phi Omega, Delta Beta Chapter, 2001.
32. Received 'Excellent' performance rating in 1993 and 'Distinguished' in 1994 as a lecturer at KFUPM.
33. Got 'Best Scholar of the Hostel' award, HR Hostel, AMU (India), 1985.
34. Awarded Govt. of India (UGC) Scholarship in MS, IDB Scholarship in BS, and National Merit Scholarship in High School.

## PRESENTATIONS

### Invited

1. M.A. Badar (Keynote speaker), Impact of ISO 9001 certification on US firms financial performance, Int. Conf. on Advancements in Mech. Eng'g (ICAME 2014), Al-Falah U., Faridabad (India), Aug 8, 2014.
2. M.A. Badar, L. Gardner, and S.S. Sammidi (student), "Cost analysis of supply chain ordering strategies to minimize the bullwhip effect," Poster, Sloan Industry Studies Midwest Regional Meeting, U. of I., Chicago, IL, Oct 19, 2007.
3. M.A. Badar, "Applying lean techniques to improve an Emergency Department," *Weekly Seminar Series*, IUPUI, Mechanical Engineering Dept, Indianapolis, IN, Sep 28, 2006.
4. M.A. Badar, "Implementation of Industrial Engineering Methods to Benefit Local Industry," *Poster Series*, ISU Alliance for Excellence through Engagement and Experiential Learning, Terre Haute, IN, Sep 25, 2006.
5. International Council on Systems Engineering (INCOSE) Crossroads of America Chapter, Education Fair, Indianapolis, IN, 28 Feb 2006.
6. M.A. Badar, presenter at the panel discussion, "The Systems Engineering research and practice: the scope, nature and economic potential," W.T. Foster (moderator), Indiana Innovation Network (IIN), Terre Haute, IN, June 15, 2005.
7. M. Zhou, M.A. Badar, J. Ma (student), K. Setavoraphan (student), and W. Chang (student), "Simulation Modeling and Analysis for A DVD/CD Distribution Process, International Council on Systems Engineering (INCOSE) Crossroads of America Chapter, 3<sup>rd</sup> Annual Spring Conference, Track 4: Modeling, Simulation, Tools and Methods, Terre Haute, IN, June 15, 2005.
8. M. Zhou, M.A. Badar, S. Asare (student), and R. Pondhe (student), "Modeling an emergency room: a case study," International Council on Systems Engineering (INCOSE) Crossroads of America Chapter, 3<sup>rd</sup> Annual Spring Conference, Track 4: Modeling, Simulation, Tools and Methods, Terre Haute, IN, June 15, 2005.
9. T.E. Alberts (student), M.A. Badar, and B. El-Mansour, "Teaching engineering economics to engineering technology students," *IIE Annual Conference 2005, Research Track: Engineering Economics*, Atlanta, GA, May 14-18, 2005.
10. S.A. Asare (student), R. Pondhe (student), S.S. Sawle (student), M.A. Badar, and W. Schindel, "Economic analysis of a lawn mower manufacturing system based on systems engineering approach," *IIE Annual Conference 2005, Research Track: Engineering Economics*, Atlanta, GA, May 14-18, 2005.
11. M. Zhou and M.A. Badar, "Center of Excellence for Systems Modeling and Simulation," International Council on Systems Engineering (INCOSE) Crossroads of America Chapter, 2<sup>nd</sup> Annual Spring Conference, Track 4: Modeling, Simulation, Tools and Methods, W. Lafayette, IN, May 1, 2004.

### Contributed

1. Y. Lin, A.M. Shahhosseini, M.A. Badar, T. Foster, and J. Dean, "A concept map based cognitive framework for acquiring expert knowledge in industrial environment," *IEEE Frontiers in Education Conf (FIE 2016)*, Oct 12-15, Erie, PA.
2. J. Townsend (student) and M.A. Badar, "Temperature monitoring on reciprocating compressor connecting rods," *Int. Conf. On Tech Mgmt (ICTM 2016)*, Aug 10-12, Chicago, IL.
3. Y. Lin, A.M. Shahhosseini, M.A. Badar, W.T. Foster, and J.C. Dean, "Using conceptual mapping to help retain tribal knowledge," *2016 ASEE Annual Conf & Expo*, June 26-29, New Orleans, LA (co-authors presented).
4. J. Townsend (student) and M.A. Badar, "Updating temperature monitoring on reciprocating compressor connecting rods to improve reliability," *IIE Industrial and Systems Engineering Research Conference (ISERC) 2016*, May 21-24, Anahem, CA (Townsend presented).
5. E.K. Aba and M.A. Badar, "Use of kanban at an international airport," *2015 ATMAE Annual Conf.*, Management track, Nov 11-14, Pittsburgh, PA.
6. E.K. Aba and M.A. Badar, "Impact of instructional strategies in the classroom," *2015 ATMAE Annual Conf.*, Teaching Innovations track, Nov 11-14, Pittsburgh, PA.

7. Y. Lin, S. Livengood, P. Cochrane, and M.A. Badar, "Teaching engine diagnostics and monitoring via customized microcontroller board," *2015 ATMAE Annual Conf.*, Teaching Innovations track, Nov 11-14, Pittsburgh, PA.
8. M. Al-Odeh, M.D. Schafer, M.A. Badar, and R.W. Peters, "Feasibility Study of Residential Grid-Connected Solar Photovoltaic Systems in the State of Indiana," *IIE Industrial and Systems Engineering Research Conference (ISERC) 2015*, May 30-Jun 2, Nashville, TN, (Al-Odeh presented).
9. E.K. Aba and M.A. Badar, "Financial impact of ISO 9000 and ISO 14000 certifications," *2014 ATMAE Annual Conf.*, Management track, Nov 19-22, St. Louis, MO.
10. E.K. Aba (student) and M.A. Badar, "Impact of ISO 9001 certification on United States companies' financial performance," *2013 ATMAE Annual Conf.*, Management track, Nov 20-23, New Orleans, LA.
11. P. Cochrane, M.A. Badar, and Y. Lin, "Customize laboratory using microcontroller for new Automotive Technology Education," *2013 ATMAE Annual Conf.*, Teaching Innovations track, Nov 20-23, New Orleans, LA.
12. N. Baker (student) and M.A. Badar, "A study of part type failures of common platform appliances," *IIE Industrial and Systems Engineering Research Conference (ISERC) 2013, Track: Quality & Reliability Engineering*, May 18-22, San Juan, PR.
13. N. Baker (student) and M.A. Badar, "A study of price point failures of common platform appliances," *IIE Industrial and Systems Engineering Research Conference (ISERC) 2013, Track: Engineering Economy*, May 18-22, San Juan, PR.
14. T. Chow (student) and M.A. Badar, "A study of performance rating for assessing student learning," *IIE Industrial and Systems Engineering Research Conference (ISERC) 2013, Track: Engineering Education*, May 18-22, San Juan, PR.
15. P. Polastri, T.E. Alberts, and M.A. Badar, "American manufacturing needs and universities abilities to meet them," *IIE Industrial and Systems Engineering Research Conference (ISERC) 2012, Track: Engineering Education*, May 19-23, Orlando, FL.
16. M. Al-Odeh (student), T. Stergioulas (student), and M.A. Badar, "Economic analysis for two-axis photovoltaic system for an Indiana State University building," *IIE Industrial and Systems Engineering Research Conference (ISERC) 2012, Track: Engineering Economy*, May 19-23, Orlando, FL.
17. M. Al-Odeh (student), C. Bell (student), and M.A. Badar, "Data integration to extend PDM systems to predict product lifecycle," *IIE Industrial and Systems Engineering Research Conference (ISERC) 2012, Track: Systems Engineering*, May 19-23, Orlando, FL.
18. M. Al-Odeh, S. Altarazi, M. Schafer, and M.A. Badar, "A study on supply chain management and technology structure at Al-Hassan Industrial Estate in Jordan," *IIE Industrial and Systems Engineering Research Conference (ISERC) 2012, Track: Supply Chain and Logistics, Poster Session*, May 19-23, Orlando, FL.
19. P. Polastri (student) and M.A. Badar, "Globalization as perceived by Indiana's automotive manufacturing industry," *Int. Soc. of Agile Mfg (ISAM), Int. Conf. on Agile Manufacturing Systems ICAM 2011*, DEI, Agra, India, Dec 18-20, 2011.
20. M.A. Badar, S.N. Akkineni (student), A.M. Shahhosseini, and T.E. Alberts, "Effect of globalization on US manufacturing in terms of trade balance," *Int. Soc. of Agile Mfg (ISAM), Int. Conf. on Agile Manufacturing Systems ICAM 2011*, DEI, Agra, India, Dec 18-20, 2011.
21. M. McClure (student), C. Helming (student), V. Mendoza (student), A.M. Shahhosseini, and M.A. Badar, "Design of a solar stirling dish engine," *Int. Soc. of Agile Mfg (ISAM), Int. Conf. on Agile Manufacturing Systems ICAM 2011*, DEI, Agra, India, Dec 18-20, 2011.
22. J.B. Taylor (student), D.B. Johnson (student), and M.A. Badar, "A reliability analysis of an automotive suspension component line," *ATMAE 2011 Conf.*, Cleveland, OH, Nov 9-12, 2011.
23. M.A. Badar, V.P. Vegunta (student), A.M. Shahhosseini, and T.E. Alberts, "Motor vehicle and medical equipment manufacturing: US-China trade analysis," *IIE Annual Conference 2011, IERC Track: Manufacturing and Design, Poster Session*, Reno, NV, May 21 - 25, 2011.
24. M.A. Badar, Y. Lin, A.M. Shahhosseini, X. Li, J. McNabb, M. Zhou, R. Bedida (student), and S. Jonnalagadda (student), "Sycamore Technology Academics and Recruitment Scholarships (STARS):

- Planning,” *IIE Annual Conference 2011, IERC Track: Engineering Education, Session: K-12 Outreach and the STEM Pipeline*, Reno, NV, May 21 - 25, 2011.
25. M.A. Badar, L. Gardner, and S.S. Sammidi (student), “Profit analysis of supply chain ordering strategies,” *IIE Annual Conference 2009, IERC Track: Engineering Economics, Session: Engr Eco 2*, Miami, FL, May 30 - June 3, 2009.
  26. M.A. Badar, L. Gardner, and S.S. Sammidi (student), “Cost analysis of supply chain ordering strategies to minimize the bullwhip effect,” *2008 NAIT Convention*, Nashville, TN, Nov 18-22, 2008.
  27. M.B. Stroup (student), M.A. Badar, and R. Peters, “Comparison of dimensional and strength characteristics of US and Chinese Manufactured Fasteners,” *2007 NAIT Convention*, Panama City Beach, FL, Oct 23-27, 2007 (Peters presented).
  28. B.A. Thomson (student), M.A. Badar, and M. Zhou, “Implementing QFD into a small job shop design process: a case study,” *IIE Annual Conference 2007, IERC Poster Session: Manufacturing and Design*, Nashville, TN, May 19-23, 2007.
  29. R. Pondhe (student), S.A. Asare (student), M.A. Badar, M. Zhou, and R. Leach, “Applying lean techniques to improve an Emergency Department,” *IIE Annual Conference 2006, Session: IERC03 Engineering Management 6 – Management Issues in Healthcare*, Orlando, FL, May 20-24, 2006.
  30. M.A. Badar and A. Singhal (student), “Comparison of Sampling Methods for Flatness Evaluation Using CMM,” *IIE Annual Conference 2006, Session: IERC30 Manufacturing Systems 11 – Process Planning*, Orlando, FL, May 20-24, 2006.
  31. M. Zhou, M.A. Badar, S. Asare (student), and R. Pondhe (student), “Modeling an emergency room: a case study,” *IIE 7<sup>th</sup> Annual Simulation Solutions Conference 2005*, Atlanta, GA, May 14-18, 2005.
  32. B.A. Thomson (student) and M.A. Badar, “Receiving area improvement using lean concepts and simulation,” *2004 NAIT Convention*, Louisville, KY, Oct 19-23, 2004.
  33. M.A. Badar, “Lean application in organizing a manufacturing cell,” *IIE Annual Conference 2004, Solutions Track: Lean Concepts and Applications*, Houston, TX, May 15-19, 2004.
  34. M.A. Badar, “Search-based selection of sample points for form error estimation,” *ASME International Mechanical Engineering Conf. & Expositions 2000*, Orlando, FL, Nov 5-10, 2000.
  35. M.A. Badar, “On design automation of full journal bearings,” *IACM 3rd World Congress on Computational Mechanics*, Chiba, Japan, Aug 1994.

## **PUBLICATIONS**

### **Book(s) or Chapter(s)**

1. M.A. Badar, 2014, “Student solar power,” Chap 4 vignette in *Engr Econ Analy*, e12, D.G. Newnan, J.P. Lavelle, and T.G. Eschenbach, Oxford Univ Press, New York, NY
2. M.A. Badar, 2014, “Lean Manufacturing Cell,” Chap 16 in *Handbook of Industrial and Systems Engineering*, e2, A.B. Badiru (ed.), pp. 291-297, CRC Press, Taylor & Francis Group, Boca Raton, FL, (Ch 18 in e1, 2006)

### **Refereed Journals**

1. J. Townsend (student) and M.A. Badar, “Impact of condition monitoring on reciprocating compressor efficiency,” *Emerald J. of Quality in Maintenance Engineering*, submitted
2. J. Guinot (student), J.W. Sinn, M.A. Badar, and J.M. Ulmer, “Cost consequence of failure in failure mode and effect analysis,” *Emerald Int. J. of Quality & Reliability Mgmt*, accepted.
3. M.E. Odigie (student), M.A. Badar, J.W. Sinn, F. Moayed, and A.M. Shahhosseini, “An optimal integrated QSMS model from cluster analysis,” *Emerald The TQM J.*, 29, 3, 438-466 (2017).
4. B. Bader (student) and M.A. Badar, “A study on production breaks in gynecological examination table cover paper rolls processed on a Schultz rewinder,” *Elsevier Engineering Science and Technology, an Int. J.*, available online 14 Nov 2016 (in press).
5. M. Al-Odeh (student), M. Schafer, M.A. Badar, and R. Peters, “The viability of residential grid-connected solar photovoltaic systems in the state of Indiana,” *PressAcademia J. of Business, Economics and Finance*, 5, 4, 376-388 (2016).

6. T. Viverette (student), F. Rich (student), and M.A. Badar, "Reliability analysis of a waste methane reclamation cogeneration electric power system: A case study," *NED Univ. J. of Research – App Sc*, XIII, 4, 43-50 (2016).
7. F. Rich (student) and M.A. Badar, "Statistical analysis of auto dilution vs manual dilution process in inductively coupled plasma spectrometer tests," *Science Publications American J. of Engineering and Applied Sciences*, 9, 3, 611-624 (2016).
8. J. Guinot (student), D. Evans (student), and M.A. Badar, "Cost of quality consideration following product launch in a present worth assessment," *Emerald Int. J. of Quality & Reliability Mgmt*, 33, 3, 399-413 (2016).
9. E.K. Aba (student), M.A. Badar, and M.A. Hayden, "Impact of ISO 9001 certification on firms financial operating performance," *Int. J. of Quality & Reliability Mgmt*, 33, 1, 78-89 (2016). Selected as a **Highly Commended paper** by the journal in the 2017 Emerald Literati Network Awards for Excellence.
10. J. Townsend (student), M.A. Badar, and J. Szekerces (student), "Updating temperature monitoring on reciprocating compressor connecting rods to improve reliability," Elsevier *Engineering Science and Technology, an Int. J.*, 19, 1, 566-573 (2016).
11. N. Baker (student) and M.A. Badar, "Effect of price and brand on common platform appliance failure," *SAGE Asia-Pacific J. of Management Research and Innovation*, 11, 4, 296-304 (2015).
12. J. Taylor (student), J.W. Sinn, J.M. Ulmer, and M.A. Badar, "Proposed progression of lean six sigma," *EPT The J of Technology Studies*, 41, 1, 2-8 (2015).
13. N. Song (student), M.A. Badar, A. McLeod, and A.M. Shahhosseini, "Evaluation of the GNPV method for decision-making in non-conventional projects," *SAGE Asia-Pacific J. of Management Research and Innovation*, 11, 3, 185-197 (2015).
14. M. Al-Odeh, A. McLeod, and M.A. Badar, "Value stream mapping: Recreating an industrial environment in an educational setting," *IAJC Technology Interface Int. J.*, 15, 2, 22-31 (2015). Also in *Proceed. of the 2014 IAJC/ISAM Joint Int. Conf.*, ISBN:978160-643379-9, paper#028 (Sep 25-27, 2014).
15. M.E. Odigie (student), J.A. Cantrell (student), and M.A. Badar, "Roller-type thrust bearing reliability analysis with Minitab," *NED Univ. J. of Research – App Sc*, XI, 4, 1-14 (2014).
16. M. Al-Odeh (student), C. Bell (student), and M.A. Badar, "Data integration to extend product data management systems to predict product lifecycle," *Al-Falah Global Sci-Tech*, 6, 1, 1-11 (2014).
17. M.A. Badar, S. Sammidi (student), and L. Gardner, "Reducing the bullwhip effect in the supply chain: A study of different ordering strategies," *EPT The J of Technology Studies*, 39, 1, 52-63 (2013).
18. E.K. Aba (student) and M.A. Badar, "A review of the impact of ISO 9000 and ISO 14000 certifications," *EPT The J of Technology Studies*, 39, 1, 42-50 (2013).
19. N. Baker (student), A. Estrada (student), and M.A. Badar, "Door hinge reliability: A case study," *Invertis J. of Sc & Technology*, 6, 2, 1-8 (2013).
20. N. Baker (student) and M.A. Badar, "Reliability comparison of common platform different brand appliances," *Al-Falah Global Sci-Tech*, 4, 3, 131-140 (2012).
21. M. Al-Odeh (student), T. Stergioulas (student), and M.A. Badar, "Economic analysis for two-axis photovoltaic tracking system for ISU building," *NED Univ. J. of Research*, IX, 1, 15-21 (2012).
22. M.A. Badar, S.N. Akkineni (student), A.M. Shahhosseini, and T.E. Alberts, "Effect of globalization on US manufacturing in terms of trade balance," *ISAM Int. J. of Agile Manufacturing*, 12, 1, 13-17 (2012). Also in *Agile Manufacturing Systems: Approach for Enhancing Agility of Organisations and Processes*, editors: K. Hans Raj et al., Narosa Publishing House, ISBN: 9788184872002, 1-5 (2012).
23. M.A. Badar, M. Zhou, and B. Thomson (student), "Application of QFD into the design process of a small job shop," *IAJC Int. J. of Modern Engineering*, 10, 2, 69-75 (2010).
24. M. Chandler (student) and M.A. Badar, "Effect of Individual Components on System's Reliability: A Case of Web-Based US Federal Highway Administration Project Recommendation and Approval Software," *Emerald Int. J. of Quality & Reliability Mgmt*, 26, 6, 614-628 (2009).
25. H. El Mounayri, M.A. Badar, and G.A. Rengifo (student), "Multi-parameter ANN Model for flat-end milling," *CSME, Transactions of the Canadian Soc. for Mech. Engineering*, 32, 3-4, 523-536 (2008).



26. M.A. Badar, S. Raman, P.S. Pulat, and R.L. Shehab, "Experimental analysis of search-based selection of sample points for straightness and flatness estimation", *ASME J. of Manufacturing Science and Engineering*, 127, 1, 96-103 (2005).
27. M.A. Badar, S. Raman, and P.S. Pulat, "Experimental verification of manufacturing error pattern and its utilization in form tolerance sampling," *Elsevier Int. J. of Machine Tools and Manufacture*, 45, 1, 63-73 (2005). The abstract was also published in the CSA Mechanical & Transportation Engineering Abstracts (2006).
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