

Michael DeShawn Johnson

3367 TAMU College Station, TX 77843-3367
mdjohnson@tamu.edu / (979) 845-4902

EDUCATION:

Massachusetts Institute of Technology Cambridge, MA
Ph.D. Mechanical Engineering. June 2004. **Thesis:** A Methodology for Determining Engineering Costs and Their Effects on the Development of Product Families.
Committee: Joel P. Clark, Randolph E. Kirchain, and Warren P. Seering
Minor: Finance

Massachusetts Institute of Technology Cambridge, MA
S.M. June 2001. **Thesis:** Deformation and Fracture of Polycarbonate and Rubber-Modified Polycarbonate under Controlled Temperature, Deformation Rate, and Notch Stress Triaxiality.
Advisors: Mary C. Boyce and David M. Parks

Michigan State University East Lansing, MI
B.S. Mechanical Engineering. May 1999.
Graduated with High Honors from The Honors College.

Katholieke Universiteit Leuven, Belgium
Study Abroad Fall 1998

APPOINTMENTS AND POSITIONS:

Texas A&M University College Station, TX
Department of Engineering Technology and Industrial Distribution (ETID)
Associate Professor (with tenure) (September 2013 – Present)
Assistant Professor (August 2007 – August 2013)

Manufacturing and Mechanical Engineering Technology (MMET) Program
Program Coordinator (April 2014 – Present)

Center for Emergency Informatics
Associate Director for Education (October 2012 – Present)

3M Corporate Research Laboratory St. Paul, MN
Senior Product Development Engineer (September 2004 – July 2007)

University of St. Thomas School of Engineering St. Paul, MN
Adjunct Assistant Professor (Fall 2006)

MIT Materials Systems Laboratory Cambridge, MA
Research Assistant (June 2001 – August 2004)

General Motors Technology Center Warren, MI
Summer Intern (Summer 2002 & 2003)

MIT Center for Materials Science and Engineering Cambridge, MA
Research Assistant (September 1999 – June 2001)

3M Advanced Materials Technology Center St. Paul, MN
Summer Intern (Summer 1999)

3M Design Engineering St. Paul, MN
Summer Intern (Summer 1998)

3M Non-woven Materials Technology Center St. Paul, MN
Summer Intern (Summer 1997)

March 17

HONORS AND AWARDS:

- Charlotte and Walter Buchanan Faculty Fellow in ETID – 2017
- Association of Former Students Distinguished Achievement Award in Teaching – College Level – 2016
- Faculty Excellence Award: Teaching, Research, and Service, ETID – 2016
- Service Excellence Award, ETID – 2014
- Corrie and Jim Furber '64 Faculty Fellow in ETID (2012-2013)
- Dwight Look College of Engineering William O. and Montine P. Head Fellow – 2012
- Teaching Excellence Award, ETID – 2011
- Honorary Member – Tau Alpha Pi Honor Society (Inducted 2011)
- Senior Member – IEEE – 2011
- Student-led Award for Teaching Excellence (SLATE) – Fall 2009
- Winning Team – MIT 2.810 CAD/CAM Car Competition – 2000
- Dean's List (All 8 Semesters – 1995-1999)
- MSU College of Engineering Distinguished Academic Achievement Award (top 3% of class) – 1998
- Tau Beta Pi Honor Society (Inducted 1998)
- Phi Kappa Phi Honor Society (Inducted 1998)
- Pi Tau Sigma - Mechanical Engineering Honor Society (Inducted 1998)

TEACHING EXPERIENCE:

Associate Professor – Managing People and Projects – Texas A&M University Course ENTC 429
(Fall 2014; Spring 2015; Fall 2015; Spring 2016; Fall 2016) College Station, TX

Assistant/Associate Professor – Manufacturing Technology Projects – Texas A&M University Course ENTC 422 (Spring 2013, Fall 2013, Spring 2014, Fall 2014; Spring 2015, Fall 2015; Spring 2016; Fall 2016) College Station, TX

Assistant Professor – Mechanical Design Applications I – Texas A&M University Course ENTC 363 (Fall 2011) College Station, TX

Assistant Professor – Manufacturing and Assembly Processes II – Texas A&M University Course ENTC 281 (Fall 2007, Spring 2008, Fall 2008; Spring 2009; Fall 2009, Spring 2010, Fall 2010, Spring 2011, Spring 2012, Fall 2012) College Station, TX

Assistant/Associate Professor – Product Design and Solid Modeling – Texas A&M University Course ENTC 361 (Fall 2007, Spring 2008, Fall 2008; Spring 2009; Fall 2009, Spring 2010, Fall 2010, Spring 2011, Fall 2011, Spring 2012, Fall 2012, Spring 2013, Fall 2013, Spring 2014) College Station, TX

Adjunct Faculty – Machine Design and Synthesis – University of St. Thomas Course ENGR 320 (Laboratory) (Fall 2006) St. Paul, MN

Guest Lecturer – Materials Selection, Design, and Economics – MIT Courses 3.57 & 15.066J (Fall 2002, Fall 2003, Summer 2004) Cambridge, MA

Teaching Assistant – Material Selection – MIT/ University of Cambridge (UK) Course 3.04 (January 2001) Cambridge, MA

PUBLICATIONS AND PRESENTATIONS:***Journal Articles:***

1. †Liu, K., Peng, X., †McGary, P., Yalvac, B., †Ozturk, E., Johnson, M., †Valverde, L., 2015 “Integration of Contextual Exercises in Computer-Aided Design Education,” *Computer-Aided Design and Applications*, 12 (S1): 13-21.
2. Johnson, M.D., Wang, J., 2015. “A Method for Assessing Required Course-related Skills and Prerequisite Structure,” *European Journal of Engineering Education*, 40 (3): 297-308.
3. Camba, J., Contero, M., Johnson, M., Company, P., 2014. “Extended 3D Annotations as a New Mechanism to Explicitly Communicate Geometric Design Intent and Increase CAD Model Reusability,” *Computer-Aided Design*, 57 (1): 61-73.
4. Narayanan, A., Sawaya, W.J., Johnson, M.D., 2014. “Analysis of Differences in Non-teaching Factors Influencing Student Evaluation of Teaching between Engineering and Business Classrooms,” *The Decision Sciences Journal of Innovative Education*, 12 (3): 233-265.
5. Nepal, B., Yadav, O.P., Johnson, M.D., 2014. “Multi-State Bayesian Belief Probabilities Based Prioritization Framework for Customer Satisfaction Attributes in Product Development,” *IEEE Transactions on Systems, Man and Cybernetics: Systems*, 44 (6): 728-743.
6. Peng, X., †McGary, P., †Ozturk, E., Yalvac, B., Johnson, M., †Valverde, M., 2014. “Analyzing Adaptive Expertise and Contextual Exercise in Computer-Aided Design,” *Computer-Aided Design and Applications*, 11 (5): 597-607.
7. Johnson, M.D., Sawaya, W.J., Natarajarathinam, M., 2013. “A Methodology for Calculating the Comprehensive Cost of Manufacturing Offshoring,” *International Journal of Production Research*, 51 (18): 5549-5564.
8. Johnson, M.D., Narayanan, A., Sawaya, W.J., 2013. “Effects of Course and Instructor Characteristics on Student Evaluation of Teaching across a College of Engineering,” *Journal of Engineering Education*, 102 (2): 289-318.
9. Peng, X., McGary, P., Johnson, M., Yalvac, B., and †Ozturk, E., 2012, "Assessing Novice CAD Model Creation and Alteration," *Computer-Aided Design and Applications*, PACE (2): 9-19.
10. †Diwakaran, R.P. Johnson, M.D., 2012. “Analyzing the Effect of Alternative Goals and Model Attributes on CAD Model Creation and Alteration,” *Computer-Aided Design*, 44 (4): 343-353.
11. Natarajarathinam, †M., Somy, M., and Johnson, M. D., 2011. "Measuring Performance of Material Handling Systems: A Conveyor System Analysis," *International Journal of Business Performance and Supply Chain Modeling*, 3(2): 167-180.
12. Johnson, M. D., †Diwakaran, R. P., 2011. "An Educational Exercise Examining the Role of Model Attributes on the Creation and Alteration of CAD Models," *Computers & Education*, 57(2): 1749-1761.
13. Johnson, M.D. & Kirchain, R.E., 2011. “The Importance of Product Development Cycle Time and Cost in the Development of Product Families,” *Journal of Engineering Design*, 22 (2): 87 – 112.
14. Johnson, M.D., Kirchain, R., 2010. “Developing and Assessing Commonality Metrics for Product Families: A Process-Based Cost-Modeling Approach,” *IEEE Transactions on Engineering Management*, 57(4): 634-648.
15. Hennessey, M.P., Johnson M.D., 2010. "Design and Manufacture of a Museum-Grade Children’s Indoor Trebuchet by Mechanical Engineering Students," *International Journal of Mechanical Engineering Education*, 38 (1): 28-44.
16. Johnson, M.D., †Parthasarathy, A., 2010. “Evaluating the Accuracy, Time, and Cost Trade-offs among Alternative Structural Fitness Assessment Methods,” *International Journal of Engineering Research and Innovation*, 2(1): 62-68.

Journal Articles (Con't):

17. Johnson, M.D. and Kirchain, R.E., 2009. "Quantifying the Effects of Product Family Decisions on Material Selection: A Process-based Costing Approach," *International Journal of Production Economics*, 120(2): 653-668.
18. Johnson, M. and Kirchain, R., 2009. "Quantifying the Effects of Parts Consolidation and Development Costs on Material Selection Decisions: A Process-based Costing Approach," *International Journal of Production Economics*, 119(1): 174-186.
19. Alvarado, J.L., Terrell Jr, W. and Johnson, M.D., 2009. "Passive Cooling Systems for Cement-based Roofs," *Building and Environment*, 44(9): 1869-1875.

Papers Under Review:

1. †Henri, M.A., Johnson, M.D., Nepal, B., "A Review of Competency-Based Learning: Tools, Assessments, and Recommendations," Submitted to the *Journal of Engineering Education*, **Under 2nd Review**.
2. Johnson, M.D., †Valverde, L.M., †Thomison, W.D., "An Investigation and Evaluation of Computer-Aided Design Model Complexity Metrics, *Computer-Aided Design and Applications*, **Under Review**.
3. Johnson, M.D., Narayanan, A., Sawaya, W.J., "An Examination of the Effects on Instructor Behavior of a University Teaching Excellence Rewards Program with Financial Incentives," *The Journal of Higher Education*, **Under Review**.

Working Papers:

1. †Ozturk, E., Johnson, M.D., Yalvac, B., Peng, X., "Adaptive Expertise Development through Contextual Modeling Activities in Computer Aided Design Tools".

Book Chapters:

1. Johnson, M.D., Kirchain, R.E., "Developing and Assessing Commonality Metrics for Product Families," in *Advances in Product Family and Product Platform Design*, T. W. Simpson, J. Jiao, Z. Siddique, and K. Hölttä-Otto, Eds., ed: Springer New York, 2014, pp. 473-502.

Conference Proceedings:

1. Johnson, M.D., Nepal, B., †Hasija, N., "An Examination of Decisions Maker's Intrinsic Characteristics and Their Effects on the Valuation of Supplier Attributes," 2016 American Society for Engineering Management Annual Conference, Charlotte, NC, No. 55.
2. Nepal, B., Johnson, M.D., †Henri, M.A., Perez, N. Burillo, M., Sanchez, R., "Adaptive Learning Environment for High Value Manufacturing (HVM) Geared towards the Energy Industry", ASEE Annual Conference Proceedings 2016, New Orleans, LA, 2016-14770.
3. Johnson, M.D., †Kim, M., Wang, J., Yoon, M., "Improving the Impact of Experiential Learning Activities through the Assessment of Student Learning Styles", ASEE Annual Conference Proceedings 2016, New Orleans, LA, 2016-14909.
4. Porter, J.R., Morgan, J.A., Zhan, W., Johnson, M.D., "Multidisciplinary Engineering Technology: Addressing the Change in Industry Workforce Needs", ASEE Annual Conference Proceedings 2016, New Orleans, LA, 2016-16606.
5. Johnson, M.D., †Ozturk, E., Yalvac, Valverde, L., B., Peng, X., † Liu, K., "Examining Adaptive Expertise: A Novel Comparison of Student and Practicing Engineer CAD Modeling Performance", ASME 2015 International Mechanical Engineering Congress and Exposition, Houston, TX, IMECE2015-50296.
6. †Ozturk, E., Yalvac, B., Johnson, M.D., Peng, X., † Liu, K., "Adaptive Expertise and its Manifestation in CAD Modeling: A Comparison of Practitioners and Students", ASEE Annual Conference Proceedings 2015, Seattle, WA, 2015-11971.

Conference Proceedings (Con't):

7. Johnson, M.D., Yoon, S.Y., “Examining the Interaction of Spatial Visualization Ability and Computer-aided Design and Manufacturing Course Performance”, ASEE Annual Conference Proceedings 2015, Seattle, WA, 2015-11779.
8. Johnson, M.D., Nepal, B., †Kanakaraj, D., “Examining Selection Criteria and the Rationality of Decision Makers in Design and Manufacturing Procurement,” 2014 American Society for Engineering Management Annual Conference, Virginia Beach, VA, No. 130.
9. †Liu, K., Peng, X., †McGary, P., Yalvac, B., †Ozturk, E., Johnson, M., †Valverde, L., “Examining the Effect of Adaptive Expertise and Contextual Exercises on Students’ CAD Modeling,” 2014 International Symposium on Flexible Automation, Awaji-Island, Hyogo, Japan.
10. Camba, J., Contero, M., Johnson, M.D., 2014, "Management of Visual Clutter in Annotated 3D CAD Models: A Comparative Study," Proc. Human-Computer Interaction, A. Marcus, ed. Crete, Greece, Part II, pp. 405-416.
11. Johnson, M.D., Peng, X., Yalvac, B., †Ozturk, E., † Liu, K., “An Examination of the Effects of Contextual Computer-aided Design Exercises on Student Modeling Performance”, ASEE Annual Conference Proceedings 2014, Indianapolis, IN, 2014-8998.
12. Johnson, M.D., Alvarado, J.L., “The Use of an Iterative Industry Project in a One Semester Capstone Course”, ASEE Annual Conference Proceedings 2014, Indianapolis, IN, 2014-8997.
13. Johnson, M.D., Narayanan, A., Sawaya, W.J., “An Empirical Investigation of Teaching Awards Programs Based on Student Evaluations of Instruction”, 2013 Decision Science Institute National Conference, Baltimore, MD, 671770-1-671770-18.
14. Johnson, M.D., †Ozturk, E., †Valverde, L., Yalvac, B., †McGary, P., Peng, X., “A Methodology for Examining the Role of Adaptive Expertise on CAD Modeling”, ASME 2013 International Design Engineering Technical Conferences & Computers and Information in Engineering Conferences, Portland, OR, DETC2013-12779.
15. Johnson, M.D., †Ozturk, E., †Valverde, E., Yalvac, B., Peng, X., 2013, "Examining the Role of Contextual Exercises and Adaptive Expertise on CAD Model Creation Procedures," Proc. Human-Computer Interaction, M. Kurosu, ed. Las Vegas, NV, Part II, pp. 408-417.
16. Johnson, M.D., Farmer, W.A., “A Cross-course Design and Manufacturing Project”, ASEE Annual Conference Proceedings 2013, Atlanta, GA, 2013-6503.
17. †Ozturk, E., Yalvac, B., Peng, X., †Valverde, L.M., †McGary, P.D., Johnson, M.D., “Analysis of Contextual Computer-aided Design (CAD) Exercises”, ASEE Annual Conference Proceedings 2013, Atlanta, GA, 2013-6506.
18. Peng, X., McGary, P., Ozturk, E., Yalvac, B., Johnson, M., and Valverde, M., “Analyzing Adaptive Expertise and Contextual Exercise in Computer-Aided Design”, 2013 International CAD Conference and Exhibition, Bergamo, Italy.
19. Johnson, M.D., Sawaya, W.J., Natarajarathinam, M., “A Methodology for the Comprehensive Assessment of International Procurement Costs”, ASME 2012 International Design Engineering Technical Conferences & Computers and Information in Engineering Conferences, Chicago, IL, DETC2012-70462.
20. Peng, X., McGary, P., Johnson, M., Yalvac, B., and †Ozturk, E., "Assessing Novice CAD Model Creation and Alteration Procedures", PACE (Partners for Advancement of Collaborative Engineering Education) Global Annual Forum, 2012, Shanghai, China.
21. Johnson, M.D., †Ozturk, E., Johnson, J., Yalvac, B., Peng, X., “Assessing an Adaptive Expertise Instrument in Computer-aided Design (CAD) Courses at Two Campuses”, ASEE Annual Conference Proceedings 2012, San Antonio, TX, 2012-3927.

Conference Proceedings (Con't):

22. Johnson, M.D., Wang, J., “A Method for Assessing Required Course-related Skills and Prerequisite Structure”, ASEE Annual Conference Proceedings 2012, San Antonio, TX, 2012-4031.
23. Alducin-Quintero, G., Contero, M., Martín-Gutiérrez, J., Guerra-Zubiaga, D.A., Johnson, M.D., “Productivity Improvement by Using Social-Annotations about Design Intent in CAD Modelling Process”, 14th International Conference on Human-Computer Interaction, 2011, Orlando, FL.
24. Johnson, M.D., †Diwakaran, R.P, “CAD Model Creation and Alteration: A Comparison between Students and Practicing Engineers”, ASEE Annual Conference Proceedings 2011, Vancouver, BC, Canada, 2011-172.
25. Johnson, M.D., Natarajarathinam, M., “Tool Use and Activities of Practicing Engineers over Time: Survey Results”, ASEE Annual Conference Proceedings 2011, Vancouver, BC, Canada, 2011-173.
26. Nepal, B., Yadav, O.P., Johnson, M.D., “Customer Satisfaction Attributes Prioritization Considering the Correlation Between the Attributes and Factors”, 2011 IIE Industrial Engineering Research Conference, Reno, NV.
27. †Wu, K., Natarajarathinam, M., Johnson, M.D., †Kulandaivelu, T., “Business Communication Experiences in the US, Mexico, and China” 2010 IEEE International Conference on Industrial Engineering and Engineering Management, Macau, pp. 696-700.
28. Johnson, M.D., †Prasad Diwakaran, R., “Examining the Effects of CAD Model Attributes on Alteration Time and Procedure”, ASME 2010 International Design Engineering Technical Conferences & Computers and Information in Engineering Conferences, Montreal, Quebec, Canada, DETC2010-28547.
29. †Jayanty, S.S.K.N, Sawaya, W.J., Johnson, M.D., “Sustainable Distribution Design: Contrasting Disposable, Recyclable, and Reusable Strategies for Packaging Materials using a Total Cost Analysis with an Illustration of Milk Distribution”, ASME 2010 International Design Engineering Technical Conferences & Computers and Information in Engineering Conferences, Montreal, Quebec, Canada, DETC2010- 28823.
30. Johnson, M.D., †Diwakaran, R.P, †Zsiros, J., “Conveying the Importance of Manufacturing Process Design Using Simulation Results and Empirical Data”, ASEE Annual Conference Proceedings 2010, Louisville, KY, 2010-996.
31. Johnson, M.D., †Sunku, U.B.P., “A Platform Independent Methodology for Teaching Students to Leverage the Power of Parametric Design Tools”, ASEE Annual Conference Proceedings 2010, Louisville, KY, 2010-308.
32. Johnson, M.D., †Parthasarathy, A., “A Student Project Examining Alternative Assessment Methods for Structural Components”, ASEE Annual Conference Proceedings 2010, Louisville, KY, 2010-1007.
33. Johnson, M.D., Natarajarathinam, M., “Using Quotation Data and Process Models to Derive Costs Factors”, 2010 IIE Industrial Engineering Research Conference, Cancun, Mexico.
34. Johnson, M.D., Sawaya, W.J., “Comprehensive Analysis of Distribution Site Location Decisions: An Example from Mexico”, 2010 Association of Collegiate Marketing Educators, Dallas, TX.
35. Johnson, M.D., "A Framework for Incorporating Time, Cost, and Fidelity Tradeoffs among Design Assessment Methods in Product Development", 2009 IEEE International Conference on Industrial Engineering and Engineering Management, Hong Kong, pp. 578-582.
36. Johnson, M.D., †Nanda, A., “Incorporating the Option Value of Product Family Variants in Material and Process Selection”, ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conferences, San Diego, CA, DETC2009-87493.

Conference Proceedings (Con't):

37. Johnson, M.D., †Prasad Diwakaran, R., “Assessing the Effect of Incentive on Computer-aided Design Intent”, ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conferences, San Diego, CA, DETC2009-86644.
38. Johnson, M.D., †Parthasarathy, A., “Assessing the Trade-off between Information Fidelity and Time and Budgetary Constraints”, Proceedings of the 3rd International Conference on Integrity, Reliability, and Failure 2009, Porto, Portugal, S2503_P0331.
39. Johnson, M.D., “Design under Alternative Incentives: Teaching Students the Importance of Feature Selection and Organization in CAD”, ASEE Annual Conference Proceedings 2009, Austin, TX, 2009-60.
40. San Andrés, L., Kim, T. H., Ryu, K., Chirathadam, T. A., Hagen, K., Martinez, A., Rice, B., Niedbalski, N., Hung, W., Johnson, M., 2009, "Gas Bearing Technology for Oil-Free Microturbomachinery - Research Experience for Undergraduate (REU) Program at Texas A&M University," ASME Turbo Expo 2009: Power for Land, Sea, and Air, Orlando, FL.
41. Wang, J., Fang, A., Johnson, M.D., “Enhancing and Assessing Life Long Learning Skills Through Capstone Projects”, ASEE Annual Conference Proceedings 2008, Pittsburgh, PA, 2008-324.
42. Alvarado, J.L., Price A.H., Johnson M.D., “Design, Build, and Test: An Approach for a Capstone Design Course in Engineering Technology”, ASEE Annual Conference Proceedings 2008, Pittsburgh, PA, 2008-1278.
43. Johnson, M. D., Kirchain, R. E., "Using Process-based Cost Modeling to Determine the Effects of Product Family Decisions and Development Costs on Material Selection," Materials Science and Technology 2006, Cincinnati, OH, 659-670.

Presentations (in addition to conference papers) and Continuing Education Seminars:

1. Keynote Speaker (with Kentya Ford), Academic Excellence Luncheon, National Forum for Black Public Administrators, Austin, Texas: September 2016.
2. “Academia – It’s Not a Monolith: Looking for a Job That is Right for You,” TAMUS Louis Stokes Alliance for Minority Participation Bridge To Doctorate Seminar Series, College Station, TX: April 2016.
3. “Navigating and Networking at Academic Conferences,” TAMUS Louis Stokes Alliance for Minority Participation Bridge To Doctorate Seminar Series, College Station, TX: October 2014.
4. “An Examination of the Role of Adaptive Expertise on CAD Modeling and CAD Education,” Texas A&M Enrichment Experiences in Engineering, College Station, TX: June 2014.
5. “Valuing Supply Chain Flexibility: the Impact of Risk, Localization and Postponement,” (with Daniel H. Jornada and V. Jorge Leon) México - Texas Trade Consortium Meeting, Mexico City, Mexico: June 2012.
6. “Cost Modeling of Injection Molded Components in the Context of Comprehensive International Procurement Costs,” 3M Molding Technology Exchange, St. Paul, MN: April 2012.
7. “Opportunities and Challenges that Offshoring and Outsourcing Offer in Latin America and the Caribbean: the Role of Free Trade Zones,” Inter-American Development Bank Workshop, San José, Costa Rica: August 2011.
8. “Sheet Metal Forming,” (with Jyhwen Wang and Carlos Acosts) Continuing Education Seminar, Tlalnepantla, Mexico: May 2011.
9. “Navigating Graduate School and Entrance to the Academe: An Example,” TAMUS Louis Stokes Alliance for Minority Participation Ph.D. and Beyond Seminar Series, College Station, TX: December 2010.

Presentations (Con't)

10. "Sustainable Packing for Distribution: Contrasting Disposable, Recyclable, and Reusable Strategies using a Total Cost Analysis with an Illustration of Milk Distribution," (with William Sawaya) Workshop in New Product Development, Innovation, and Sustainability at the Kelley School of Business, Indiana University, Bloomington, IN: October 2010.
11. "Using Quotation Data to Derive Comprehensive Costs for Manufacturing Site Location Decisions," Department of Engineering Technology and Industrial Distribution, Texas A&M University, College Station, TX: March 2010.
12. "Facility Location Costs: Insights from Distribution and Trade Advantaged Areas," (with William Sawaya) México - Texas Trade Consortium Meeting, Mexico City, Mexico: January, 2010.
13. "Facility Location Costs: Bureaucracy, Quality, Oversight, and Maintenance," (with William Sawaya) México - Texas Trade Consortium Meeting, Monterrey, Mexico: October, 2009.
14. "Facility Location Costs: Getting the Equation Right," (with William Sawaya) México - Texas Trade Consortium Meeting, Austin, TX: July, 2009.
15. "Methodology for the Comprehensive Analysis of Manufacturing Site Location Decisions," Industrial Engineering Research Conference, Miami, FL: May 2009.
16. "Regional Manufacturing: Global Opportunities," (with F. Barry Lawrence) Asociación Mexicana de Parques Industriales Privados, A.C., (AMPIP), Mexico City, Mexico: April 2009.
17. "Regional Manufacturing: Decisions," México - Texas Trade Consortium Meeting, San Antonio, TX: February, 2009.
18. "Regional Manufacturing: Decisions," (with William Sawaya) México - Texas Trade Consortium Meeting, Laredo, TX: November, 2008.
19. "The Use of Cost Modeling in Design and Sourcing," Chrysler LLC – Low Cost Country Project Engineering Group, Santa Fe, Mexico: September, 2008.
20. "Modeling Product Development Cost and Lead Time," National Shipbuilding Research Program – Product Design & Materials Technologies Panel Meeting, Seattle, WA: June, 2008.
21. "A Methodology for Determining Engineering Costs and Their Effects on the Development of Product Families," Invited Talk. General Motors Technology Center, Warren, MI: August 2004.
22. "A Methodology for Determining Engineering Costs and Their Effects on the Development of Product Families," Invited Talk. Rochester Institute of Technology, Rochester, NY: May 2004.

Patents and Published Applications:

1. Frederickson, F.L., Johnson, M.D., (to 3M Innovative Properties Company), "Microneedle Array Applicator Device and Method of Array Application," US Patent No. 8784363.
 - "Microneedle Array Applicator Device," European Patent – EP 1901799
2. Frederickson, F.L., Johnson, M.D., (to 3M Innovative Properties Company), "Microneedle Cartridge Assembly and Method of Applying," US Patent Application, Publication No. US 2010/0256568.
 - "Microneedle Cartridge Assembly," European Patent – EP 1896115
3. Frederickson, F.L., Johnson, M.D., Wirtanen, D.J., (to 3M Innovative Properties Company), "Collapsible Patch and Method of Application," US Patent Application, US 2008/0195035.
 - "Collapsible Patch with Microneedle Array," European Patent – EP 1904158
4. Frederickson, F.L., Johnson, M.D., (to 3M Innovative Properties Company), "Microneedle Array Applicator Device and Method of Array Application," US Patent Application, US 2014/0330209.
 - "Microneedle Array Applicator Device," European Patent – EP 2474338

Technical Reports:

1. Johnson, M.D., Jornada, D., Leon, V.J., “Oportunidades y desafíos que el offshoring y outsourcing ofrecen a América Latina y el Caribe: el rol de las Zonas Francas,” Inter-American Development Bank Report, 2011
2. Sawaya, W.J., Johnson, M.D., “Business Opportunities in Mexico,” Technical Report, Hisco, Houston, Texas, Final Report for Texas/Mexico Trade Competitiveness Consortium, 2010.
3. Johnson, M.D., Urbance, R.J., “Method for Modeling Engineering Costs and Their Impact on Developing Product Families – Part 3: Part Sharing Effects on Product Family Cost – Body Structure Architecture Case Study,” Technical Report, General Motors R&D, Warren, Michigan, 2004.
4. Johnson, M.D., Urbance, R.J., “Method for Modeling Engineering Costs and Their Impact on Developing Product Families – Part 2: The Impact of part Sharing and Consolidation on Product Family Cost - Instrument panel Case Study,” Technical Report, General Motors R&D, Warren, Michigan, 2004.
5. Johnson, M.D., Kirchain, R.E., Urbance, R.J., “Method for Modeling Engineering Costs and Their Impact on Developing Product Families – Part 1: Creating Process-based Cost Models for Engineering Work,” Technical Report, General Motors R&D, Warren, Michigan, 2004.
6. Urbance, R.J., Johnson, M.D., Marin, S.P., et al., “Global Low Investment Body strategy - Part II: Cost Modeling a Portfolio Vehicle Variants,” Technical Report, General Motors R&D, Warren, Michigan, 2003.

PROFESSIONAL SERVICE AND ACTIVITIES:

Professional Societies:

- Member – Society of Manufacturing Engineers
- Senior Member – IEEE/ IEEE Engineering Management Society
- Member – American Society for Engineering Education
- Member – American Society of Mechanical Engineers

Reviewer (Journals and Books):

- Reviewer (Book) - *Plastic Conversion Processes: A Concise and Applied Guide* by Eric Cybulski, CRC Press, 2009.
- Reviewer – IEEE Transactions on Engineering Management
- Reviewer – ASME Journal of Manufacturing Science and Engineering
- Reviewer – Journal of Engineering Design
- Reviewer – Journal of Intelligent Manufacturing
- Reviewer – International Journal of Production Economics
- Reviewer – Research in Engineering Design
- Reviewer – Computer-Aided Design
- Reviewer – Engineering Management Journal
- Reviewer – International Journal of Computer Integrated Manufacturing
- Reviewer – International Journal of Production Research
- Reviewer – Journal of Engineering Education
- Reviewer – Studies in Higher Education
- Reviewer – European Journal of Engineering Education
- Reviewer – Computers & Industrial Engineering
- Reviewer – Computers & Education

Reviewer (Conferences):

- Reviewer - IEEE International Conference on Industrial Engineering and Engineering Management - 2009
- Reviewer – Industrial Engineering Research Conference – 2009, 2010
- Reviewer – Decision Sciences Institute Annual Meeting – 2013
- Reviewer – American Society of Mechanical Engineers International Design Engineering Technical Conference – 2009, 2010, 2012, 2013, 2014, 2015
- Reviewer – American Society for Engineering Education Annual Conference – 2008, 2013, 2015, 2016
- Reviewer – American Society for Engineering Management International Annual Conference – 2014, 2016

University Service:

- Judge – Research Week - 2008
- Member – Department of Engineering Technology and Industrial Distribution Social Committee (2009 – 2010)
- TAMUS Louis Stokes Alliance for Minority Participation Program (LSAMP) Symposium Poster Session Judge – 2010, 2013
- Faculty Mentor - Louis Stokes Alliance for Minority Participation Undergraduate Research Program (2010, 2012)
- Member – Vice Chancellor and Dean of Engineering Search Advisory Committee (2010 – 2011)
- Chair – Texas A&M University MMET Program Curriculum Committee (2011 – 2014)
- Engineering Living Learning Community Faculty Associate (2012 – 2014)
- Member – ETID Department Head Search Committee (2012 – 2014)
- Chair – ETID Growth and Curriculum Committee (2013 – 2014)
- Chair – ETID Task Force on Departmental Guidelines and Standard Operating Procedures – 2013
- Reviewer – Graduate Merit Fellowships – 2015
- Faculty Advisor – Tau Alpha Pi Engineering Technology Honor Society (2009 – 2015)
- Reviewer – Graduate Diversity Fellowships – 2016, 2017
- University Scholars Program
 - Member – Interview Panel – (2013 – 2016)
 - Reviewer – Scholar Applications – 2017
- Member – College of Engineering Steering Council on Access and Inclusion (2015 – Present)
- Member - Department of Recreational Sports Participant Advisory Committee (2015- Present)
- Chair – ETID Standing Search and Hiring Committee (2015 – Present)
- Chair – ETID Ad Hoc Committee on Innovative Teaching Methods (2016 – 2017)
- Member – ETID Post-Tenure Review Committee (2017)
- Faculty Advisor – National Society of Black Engineers (2009 – Present)

Professional Service:

- 3M Visiting Wizard (2004-2007)
- Session Chair – Industrial Engineering Research Conference – 2009
- Session Co-chair – 3rd International Conference on Integrity, Reliability, and Failure – 2009
- Session Co-chair – ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conferences – 2009, 2010
- Session Co-chair – IEEE International Conference on Industrial Engineering and Engineering Management – 2009, 2010
- Review Coordinator - 22nd International Conference on Design Theory and Methodology (DTM) – 2010

Professional Service (Con't):

- Technical Program Committee - IEEE International Conference on Industrial Engineering and Engineering Management – 2010
- Co-chair – NSF Workshop on Advanced Manufacturing for the Oil and Gas Energy Industry - 2014
- Session Moderator – American Society for Engineering Education Annual Conference – 2009, 2011, 2015
- Panelist – NSF Review Panel
 - CMMI Division – 2010; EEC Division – 2014; DUE Division – 2015
- Program Evaluator – Engineering Technology Accreditation Commission of ABET (2014 – Present)
 - 2014 – 1 Visit; 2015 – 2 Visits; 2016 – 1 Visit
- ASME MET Leadership Committee (2014 – Present)
 - Executive Board Member at Large (2014 – 2016)
 - Vice Chair and Secretary (2016 – Present)
 - ASME Committee on Engineering Education (2016 – Present)
- President – Tau Alpha Pi National Board (2014 – Present)
- Member – Organizing Committee – MSEC 2018/NAMRC 46 Conference at Texas A&M University

GRANTS AND CONTRACTS:

External:

- Co-PI – “Build4Scale: Manufacturing Training for Cleantech Entrepreneurs,” Department of Energy, Total: \$1,000,000 (October 2016 – September 2017); Texas A&M Amount (through subcontract from Lawrence Livermore National Laboratory): \$189,117 – Johnson Share: \$62,409.
- Lead-PI – “Collaborative Research: Connected STEM - Promoting STEM Education through Connected Devices and Building Automation,” National Science Foundation, Total: \$1,049,364 (September 2016 – August 2019); Texas A&M Amount (DRL – 1615019): \$834,654 – Johnson Share: \$166,931.
- Co-PI – “Collaborative Research: Providing an Adaptive Learning Environment for the Acquisition of High Value Manufacturing Skills,” National Science Foundation, Total: \$759,025 (July 2015 – June 2018); Texas A&M Amount (DUE – 1501952): \$409,026 – Johnson Share: \$204,513.
- Lead-PI – “Collaborative Research: Assessing the Effect of Contextual Exercises on Student Adoption of Expert CAD Modeling Techniques” National Science Foundation, Total: \$358,983 (October 2011-September 2015); Texas A&M Amount (EEC – 1129403): \$245,936 – Johnson Share: \$197,872.
- Co-PI – “Bringing Manufacturing Home Consortium,” – Various Miscellaneous Sponsors, \$75,000 (November 2011 – August 2013) – Johnson Share: N/A.
- Co-PI – “Texas - Mexico Trade Corridor Consortium,” Funded by 18 corporations and other agencies, \$330,000 (November 2008 – January 2010) – Johnson Share: \$33,000.

Internal:

- PI – “Improving the Impact of Experiential Learning Activities through the Assessment of Student Learning Styles,” Dwight Look College of Engineering, \$47,275 (September 2014 – August 2016) – Johnson Share: \$15,758.
- Co-PI – “Product Innovation and Development Initiative,” Activity 1 University Funds, \$200,000 (September 2013 – August 2014) – Johnson Share: \$66,600.
- PI (with Graciela González-Farías) – “An Economic Assessment of Mexican Manufacturing when Incorporating Distribution Costs,” CONACyT and Texas A&M Vice President for Research Office, \$23,900 (February 2009 – February 2010) – Johnson Share: \$6000.

STUDENT ADVISING:

Undergraduates:

Lauralee Valverde – LSAMP/ Undergraduate Research Scholar (September 2012 – August 2014)

- Second Place Poster – Student Research Week (Engineering) - 2014

Nubianna Gibson – LSAMP (Fall 2010)

Jody Lang – REU Student (Summer 2009)

Nick Niedbalski – REU Student (Summer 2008)

Masters:

Opeyemi Ijagbemi, MS in Mechanical Engineering – Thesis, Committee Member, Current Student

Han-Hsuan Lin, MS in Mechanical Engineering – Thesis, Committee Member, Current Student

Kyle Baylis, MS in Mechanical Engineering – Thesis, Committee Member, Current Student

Kuan-Yu Su, MS in Mechanical Engineering – Thesis, Committee Member, May 2015

Benjamin Baxter, MS in Mechanical Engineering – Thesis, Committee Member, August 2013

Isaac Reese, MS in Mechanical Engineering – Thesis, Committee Member, May 2013

Chris Micielli, MS in Biomedical Engineering – Thesis, Committee Member, August 2012

Angel Perez, MS in Mechanical Engineering – Thesis, Committee Member, May 2011

Mahesh Nair, MS in Mechanical Engineering – Thesis, Committee Member, May 2011

Edgar Velazquez Oriakhi, MS in Mechanical Engineering - Thesis, Committee Member, May 2011

Ram Prasad Diwakaran, MS in Mechanical Engineering - Thesis, Committee Co-chair, December 2010

Akshay Parthasarathy , ME in Industrial and Systems Engineering – non-Thesis, Directed Research, December 2010

Matthew L. Davis, MS in Mechanical Engineering - Thesis, Committee Member, May 2010

Nicholas L. Cowen, MS in Mechanical Engineering - Thesis, Committee Member, May 2010

Amlan Nanda, MS in Industrial and Systems Engineering – non-Thesis, Committee Co-chair, Dec.2009

John Mims, MS in Biomedical Engineering - Thesis, Committee Member, August 2009

Doctoral:

Nathan R. Kamphuis, PhD in Mechanical Engineering, Committee Member, Current Student

Elif Ozturk, PhD in Educational Psychology, Committee Member, May 2015

- PI on grant that supported E. Ozturk for 4 years