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Selected Publications

Frey, D. D., and H. Wang, 2006, "[Adaptive One-Factor-at-a-Time Experimentation and Expected Value of Improvement](#)", *Technometrics* 48 (3):418-31.

Frey, D. D., and R. Jugulum, 2006, "[The Mechanisms by which Adaptive One-Factor-at-a-Time Experimentation Leads to Improvement](#)," *ASME Journal of Mechanical Design* 128:1050-60.

Singh, J., D. D. Frey, and N. Soderborg, 2006, "Noise Strategy in Robust Design: What Aspects of Noise Factors are Important in Quality Engineering?" *Quality Engineering* 18:367-377.

Frey, D. D., and M. Wolsky, 2006, "Engaging Children in Engineering Design Through Popular Media," (guest editorial) *ASME Journal of Mechanical Design* 128(3):513-515.

Frey, D. D., and C. Dym, 2006, "[Validation of Design Methods: Lessons from Medicine](#)", *Research in Engineering Design* 17(1):45-57.

Li, X., N. Sudarsanam, and D. D. Frey, 2006, "[Regularities in Data from Factorial Experiments](#)," *Complexity* 11(5):32-45.

Jugulum, R. and D. D. Frey, 2007, "[Toward a taxonomy of concept designs for improved robustness](#)," *Journal of Engineering Design* 2:139-156.

Singh, J., D. D. Frey, N. Soderborg, and R. Jugulum, 2007, "[Compound Noise Evaluation as a Robust Design Method](#)," *Quality and Reliability Engineering International* 23(3):387-398.

Frey, D. D., and N. Sudarsanam, 2007, "[An Adaptive One-factor-at-a-time Method for Robust Parameter Design: Comparison with Crossed Arrays via Case Studies](#)," *ASME Journal of Mechanical Design* 140:915-928.

Singh, J., R. Jugulum, N. Soderborg, D. E. Whitney, and D. D. Frey, 2007, "Streamlining Robust Parameter Design Efforts," *Journal of Design Research* 5(4):435-448.

Frey, D. D., J. Palladino, J. P. Sullivan, and M. Atherton, 2007, "[Part Count and Design of Robust Systems,](#)" *Systems Engineering (INCOSE)* 10(3):203-221.

Frey, D. D., and X. Li, 2007, "[Using Hierarchical Probability Models to Evaluate Robust Parameter Design Methods,](#)" *Journal of Quality Technology*, 40(1):1-19.

Frey, D.D., P. M Herder, Y. Wijnia, E. Subramanian, K. Katsikopoulos, and D. P. Clausing, 2009, "The Pugh Controlled Convergence Method: Model-Based Evaluation and Implications for Design Theory," *Research in Engineering Design* 20(1):41-50.

Foster, C. R., R. Jugulum, and D. D. Frey, 2009, "Evaluating an Adaptive One-Factor-at-a-Time Search Procedure within the Mahalanobis Taguchi System," *International Journal of Industrial and Systems Engineering*, 4(9):600-614.

Frey, D.D., P. M Herder, Y. Wijnia, E. Subramanian, K. Katsikopoulos, and D. P. Clausing, K. Oye, R. de Neufville, 2010, "Research in engineering design: the role of mathematical theory and empirical evidence," *Research in Engineering Design* 21(1):139-145.

Sudarsanam, Nandan, and D. D. Frey, 2011, "Using Ensemble Techniques to Advance Adaptive One-Factor-at-a-Time Experimentation," to appear *Quality and Reliability Engineering International*. Published online wileyonlinelibrary.com DOI: 10.1002/qre.1187 **

Frey, D. D., and B. Powers, 2011, "Designing Design Squad: Developing and Assessing a Television Program about Engineering," to appear *Journal of Precollege Engineering Education Research*. **

Magee, C. L., K. L. Pey, J. Chen, J. Luo, and D. D. Frey, 2011, "Beyond R&D: What Design Adds to a Modern Research University," accepted to *International Journal of Engineering Education*.

Savoie, Troy B. and D. D. Frey, 2011, "Detecting Mistakes in Engineering Models: The Effects of Experimental Design," *Research in Engineering Design* 23:155-175.

Frey, D. D., 2011, "Calculating Expectation Shift," *Proceedings of the IEEE International Conference on Quality and Reliability*, Bangkok Thailand. Outstanding paper award.

Wood, K. L., R. E. Mohan, Kajima, S., Dritsas, S, Frey, D. D., White, C. K., Jensen, D. D, Crawford, R. H., Moreno, D., Pey, K. L., 2012, A Symphony of Designettes: Exploring the Boundaries of Design Thinking in Engineering Education, ASEE Conference on Engineering Education. (outstanding paper award)

Honors & Awards:

R&D 100 Award (Virtual Machining Software) (1997), Baker Teaching Award (1999)

Aero/Astro Teaching Award (2000), NSF CAREER Award (2004)

INCOSE best paper award (2005)

Junior Bose Award for Excellence in Teaching (2006)

Joseph Martore Award for Contributions to Engineering Systems Education (2007)

ASME best paper award in Design Theory and Methodology (2007)

The Ruth and Joel Spira Award for Distinguished Teaching (2009)

R&D 100 Award (Leveraged Freedom Chair) (2010)

Patents:

Frey, D. D., and T. Hykes, 1997, "A method for virtual machining," patent #5,691,909.

Frey, D. D., E. S. Brown, and L. E. Carlson, 1998, "Locking mechanism for a voluntary closing prosthetic prehensor," patent #5,800,571.

Winter, A. G., Mario A. Bollini, Danielle M. Delatte, Harrison F. O' Hanley, Natasha K. Scolnik, Gwyndaf M. Jones, Daniel D. Frey, Benjamin Judge, Benjamin H. Gallup, Danielle Hicks, Nydia Ruleman, Xuefeng Chen, 2010, " Wheelchair With Lever Drivetrain" , patent application #95428.0027

Education:

Ph.D., Mechanical Engineering, Massachusetts Institute of Technology, May, 1997

S.M., Mechanical Engineering, University of Colorado, May, 1994

B.S., Aeronautical Engineering, Rensselaer Polytechnic Institute, 1987

Professional Registration:

Emmissions Mechanic, Colorado, 1993.

Commercial Pilot, Certification #94660723, 2000.

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