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- **Education**

Ph.D. (1990) Industrial and Systems Engineering, Department of Industrial and Systems Engineering, Georgia Institute of Technology, Advisor: Terry Connolly

M.S. (1982) Industrial Engineering, Department of Industrial and Systems Engineering, Georgia Institute of Technology

B.S. (1980) Industrial Engineering, Department of Industrial Engineering, Rochester Institute of Technology

- **Research Interests**

Design, development, implementation, and evaluation of environmentally, economically and socially sustainable approaches to systems problems. Additionally, development of experimental design procedures for specialized applications.

- **Professional Experience (University)**

1992 – Present Associate Professor, Department of Industrial and Systems (Manufacturing) Engineering, Rochester Institute of Technology, Rochester, NY.

1986 – 1992 Assistant Professor, Department of Industrial and Systems (Manufacturing) Engineering, Rochester Institute of Technology, Rochester, NY.

1983 – 1986 Teaching/Research Assistant, Department of Management and Policy, University of Arizona, Tucson, AZ.

1980 – 1983 Teaching/Research Assistant, Department of Industrial and Systems Engineering, Georgia Institute of Technology, GA.

- **Professional Experience (Industry)**

- 2002-Present Consultant to RIT's Printing Applications Laboratory
Work with PAL personnel to develop experimental protocols and analyze resulting data in support of an Exxon/Mobil contract
- 2004 Consultant to National Center for Remanufacturing and Resource Recovery
Designed and proposed experimental protocols for a number of potential NCR³ projects. Clients included NuKote, Hewlett Packard, Guardian Glass, and GM.
- 1999 Consultant to Generative Learning Systems, an organizational development firm specializing in the development of intellectual capital. Designed, developed and delivered training services for the following clients: Bausch and Lomb, Wegman's, Saab North America, Foster Wheeler, American Axle and Manufacturing (Tonawanda Forge)
- 1998 Consultant to Generative Learning Systems
Designed and developed a high level process flow map for Foster Wheeler's upper level management
- Consultant to CVC Products
Developed statistically based specification limits for critical process parameters
- Consultant to Canandaigua Wine
Directed a root cause analysis process to identify and eliminate the major sources of downtime in their bottling operations
- 1997 Consultant to Danka Office Imaging
Developed a family of regression models to predict service intervals for copy systems based on product volume.
- 1996 Consultant to Generative Learning Systems, an organizational development firm specializing in the development of intellectual capital. 1996 clients included Bausch and Lomb, Saab North America, Seal Right Corporation, and American Axle and Manufacturing (Tonawanda Forge)
- 1995 Cofounded Generative Learning Systems, an organizational development firm specializing in the development of intellectual capital. 1995 clients included Kodak, Wegman's, Ivoclar North America, Garlock, and Volvo
- 1994 Consultant to Xerox Corporation
Assisted Xerox Corporation in developing the specifications for enhancing their simulation based manpower planning model.
- Consultant to McAlpin Industries
Assisted McAlpin Industries in evaluating the effectiveness of simulation modeling to address capacity questions.

- 1993 Consultant to Saatchi & Saatchi
Assisted Saatchi & Saatchi in developing an experiment to evaluate the effectiveness of their mass mailing marketing strategy.
- 1987-1989 Consultant to Xerox Corporation
Designed and administered an experimental protocol to assess the effectiveness of a proposed productivity improvement system.

- **Research Publications**

Thorn, B.K., Carrano, A.L., Plaz, C.R., and Wood, C.R., Giunta, M., Villanueva, A., Gasparin, H.; Design, Development, and Deployment of Low Impact Solar Ovens for Impoverished Populations; to be included in the *Proceedings of the 15th Industrial Engineering Research Conference*; May, 2006; Orlando, Florida.

Carrano, A.L., Thorn, B.K., Plaz, C.R., and Wood C.R., Gasparin, H., Guedez, E., Dacarrett, J., Giunta, M., Villanueva, A.; User Driven Design of Low Cost, Low Impact Solar Ovens for Rural Populations in Developing Countries; to be included in the *Proceedings of the International Solar Cookers Conference*; July, 2006; Granada, Spain.

Carrano, A.L., and Thorn, B.K.; The Construction of Trend-Free Experimental Plans on Split-Plot Designs; under review, *SME Journal of Manufacturing Systems*.

Thorn, B. K., and Carrano, A. L.; A Multidisciplinary Approach to Sustainable Product and Process Design; under review, *SME Journal of Manufacturing Systems* (special issue in sustainability).

Thorn, B.K., Carrano, A.L., Plaz, C.R., and Wood, C.R. ; User-Driven Design of Low-Cost, Low Impact Solar Ovens for Rural Populations in Developing Countries; under review, *Journal of Engineering for Sustainable Development: Energy, Environment and Health*.

Carrano, A.L., and Thorn, B.K.; The Construction of Multi-Dimensional Trend-Free Experimental Plans on Two Level Split-Plot Designs; *Proceedings of 13th Industrial Engineering Research Conference*, May 2004.

Thorn, B. K.; A Design Tool to Assist with Selection of Product Retirement Strategy; *Proceedings of 12th Industrial Engineering Research Conference*; May 2003.

Thorn, B. K., and Rogerson, P.; Take It Back; *IIE Solutions*; April 2002.

Thorn, B. K., Becker, M., Haselkorn, M., Jessop, S.; Closing the Loop: Design Tools for Sustainable Products; report submitted by NCRRR to the US Environmental Protection Agency; July 2002.

Connolly, T., and Thorn, B.; Discretionary Data Bases: Theory, Data, and Implications; *Organizations and Communication Technology*; J. Fulk and C. Steinfield, eds.; 1990; Sage.

Connolly, T., and Thorn, B.; Discretionary Data Bases: A Theory and Some Experimental Findings; *Communication Research*, 14, 1987.

Connolly, T., and Thorn, B.; Predecisional Information Acquisition: Effects of Task Variables on Suboptimal Search Strategies; *Organizational Behavior and Human Decision Performance*, 39, 1987.

- **Professional Presentations**

Thorn, B.K., and Carrano, A. L.; Incorporating Sustainable Design In the Engineering Capstone Experience; presented at the *2005 National Conference of Engineers for a Sustainable World*; October 6, 2005.

Thorn, B.K.; “Sustainable Product Design Workshop”; delivered for professional engineering credit; Rochester Institute of Technology; October, 2003; October, 2004.

Thorn, B.K.; “Sustainable Product Design”; presented to KGCOE Multidisciplinary Capstone students; November, 2003, 2004.

Thorn, B.K.; “RIT and CIMS; a Partnership to Assist Industry”; an invited presentation delivered at the Kanazawa Institute of Technology, Kanazawa, Japan; June, 1998.

CV Joint Project Report; presented to APRA CV Joints and Axles group; Chicago, Ill, April 27, 1997.

Thorn, B.K.; “Reverse Engineering for Remanufacturing and Long Term Design Improvement”; delivered to Xerox Worldwide Remanufacturing personnel; Rochester, NY; August 5, 1997.

Thorn, B.K.; “Design Capture for Remanufacturing and Long Term Design Improvement”; delivered at the General Motors Technical Center, Detroit, Michigan; September 30, 1996.

- **Research Support/Grants**

U.S. Environmental Protection Agency (P3 Award) EPA # XXX; ” Deployment of Solar Ovens with Minimum Ecological Impact in Developing Countries”; Amount: \$75,000. Andres Carrano, PI, Brian Thorn, Co-PI; (2005).

U.S. Environmental Protection Agency Environmental Education Program; “Development of a Programmatic Minor in Sustainable Product Design and Development”; Amount: \$22,000; Brian Thorn, PI; Andres Carrano and Margaret Bailey, Co- PIs; (2005); under review.

U.S. Environmental Protection Agency Environmental Education Program; “Estimation of the Carbon Footprint of the Rochester Institute of Technology”; Amount: \$12,000; Andres Carrano, PI; Brian Thorn and Margaret Bailey, Co- PIs; (2005); under review.

National Collegiate Inventors and Innovators Alliance; “Development of a Seminar Series in Sustainability through Socially-Responsible Entrepreneurship”; Amount: \$18,500; A. Carrano, PI; B. Thorn and M. Bailey, Co- PIs; (2005); under review.

Provost’s Learning Innovation Grant; funding to support development of a tour series that will expose undergraduate students (primarily engineering students) firsthand to local social and environmental issues of importance. Brian Thorn and Andres Carrano, Co-PIs; (2006); under review.

U.S. Environmental Protection Agency (STAR Grant - P3); “Conversion of Wind Power to Hydrogen”; Amount \$10,000; Brian Thorn, PI; Andres Carrano, CoPI; the grant funded a multidisciplinary design team to develop a feasibility assessment and a technical roadmap that would assist Harbec Plastic in capturing more power from its wind turbine; (2004).

U.S. Environmental Protection Agency (STAR Grant – P3); “Design and Development of a Low Cost, Multifunction, Regionally Appropriate Solar Oven for Developing Countries in Latin America”; Amount \$10,000; Andres Carrano, PI; Brian Thorn, Co-PI; the grant funded a multidisciplinary design team whose task was to design, develop, and test low cost, mass producible solar ovens suitable for use in Latin America. (2004).

Provost’s Learning Innovation Grant; funding (with L. Hermsen) to develop a program intended to enhance the technical research and writing skills of ISE MS students; Amount: \$8800; Brian Thorn, PI; Lisa Hermsen, CoPI. (2003).

- **Courses Taught**

- Rochester Institute of Technology**

- EIEI-101 Freshman Seminar
 - EIEI-201 Introduction to Industrial Engineering
 - EIEI-204 Computer Tools for Increased Productivity
 - EIEI-302 Computing for Engineers
 - EIEI-401 Introduction to Operations Research
 - EIEI-481 Management Theory and Practice
 - EIEI-503 Simulation
 - EIEI-510 Applied Statistical Quality Control
 - EIEI-511 Applied Linear Regression Analysis
 - EIEI-520 Engineering Economy
 - EIEI-715 Probability and Statistics for Engineers
 - EIEI-716 Applied Linear Regression Analysis
 - EIEI-750 Management of Quality Control Systems
 - EIEI-756 Decision Analysis
 - EIEI-758 Design of Experiments
 - EIEI-762 Manufacturing Systems Modeling & Performance Analysis
 - EIEI-785 Engineering Risk Benefit Analysis
 - EIEI-790 Fundamentals of Sustainable Product Design
 - EIEI-791 LifeCycle Assessment and Costing

- **MS Graduate Students**

Hurst, K. (MSIE-2006) “Making Sustainable and Environmental Improvements Through Focused Factories”.

Mariano, M. (MSIE-2005) “Evaluation of Remanufacturing to Reduce Environmental Impacts”.

Wuotinen, J. (MSIE-2003) “Utilization of Statistical Tools to Identify Assignable Causes of Variability and Model Performance of a Wet Electrostatic Precipitator”.

Kataria, H. (MSIE-2003) “Parametric Modeling of Tooling-Workpiece Interaction With Engineered Abrasives”.

Batista, J. (MSIE-2000) “Product Clustering for Focused Factories and Cellular Manufacturing”.

Sciortino, J. (MSIE-2006) “Using Systems Architecture to Maximize Environmental Performance”.

Gammie, M. (MSME-1996) “Process Improvement to the Anodize Line Through Design of Experiments”.

- **Service Activities**

- **Service to Profession**

- Evaluator for the Accreditation Board for Engineering and Technology; Institute of Industrial Engineers.

- Cofounder and coadvisor, RIT Student Chapter of Engineers for a Sustainable World (2005)

- **Service to RIT**

- Developing a programmatic minor in Sustainable Product Development (2006)

- KGCOE representative to the Academic Senate

- KGCOE representative to Institute Council

- KGCOE Curriculum committee

- Middle States Accreditation Steering Committee

- Member, Institute Environmental Management System Working Team

- Member, Reporter Advisory Board

- **Professional Organizations**

Engineers for a Sustainable World

Institute of Industrial Engineers

American Society for Engineering Education