PhD in Technology Management Newsletter

Fall 2011

The Dissertation

The dissertation can be daunting for students but it doesn’t have to be. The main functions of the dissertation is to provide students with the opportunity to design and conduct fairly rigorous research investigations, thereby proving to committee members that they have acquired the skills necessary to do such investigations, and, to contribute new knowledge to the student’s field of study.

The tradition of the dissertation is long and rich. Most doctoral programs in the United States use the word dissertation to represent the culminating research product of a doctoral student. A few programs may use the word thesis to represent such research.

Although academics frequently cite the emergence of the dissertation along with the establishment of the “modern” university in the Middle Ages, it wasn’t until the 1920’s that the dissertation became popular as a final product of a new scholar’s schooling.

The process of conducting dissertation research requires an investigator to stand on the shoulders of those who have previously researched similar and related topics. The student then formulates a problem that requires the identification, collection and analysis of data unique to their problem. Once data analysis is completed, the researcher then draws inferences from his/her data to solve their original problem. All of this is done with one’s advisor and dissertation committee. The product of a student’s investigation was the ink-on-paper report until a few years ago. Now, the actual product is uploaded as an electronic file. This process makes one’s research product instantly available to many readers due to the search and
archival function of a database. For those interested (all of you, right?). You can find abstracts of dissertations through your library electronic search capacity. Check it out at: ProQuest Dissertations & Theses A&I.

The examination of the student’s investigation is focused on two aspects: the oral defense, and, the product (the dissertation is actually a written report of one’s work). Historically throughout the English-speaking world including the United Kingdom and Ireland, the oral examination of the dissertation is referred to by the Latin “viva voce” (meaning a short oral defense). In our PhD program, the examination (or defense) is conducted by the dissertation committee selected by the student. In other programs, especially overseas, the examination committee includes faculty or experts external to the university.


RECOGNITION

Kicklighter Doctoral Scholarship Recipient

Monty Hilburn has recently been awarded the Kicklighter Doctoral Scholarship, which is offered through The Association of Technology, Management, and Applied Engineering (ATMAE).

Hilburn is a graduate of Texas A&M-Commerce with BBA, MBA and MS in Technology Management. He his Six Sigma Black Belt certified, and is a Certified Quality Engineer and Certified Quality Manager from ASQ (American Society of Quality). He is also certified in Production & Inventory Manager from APICS.

Hilburn has been in the PhD program since summer 2010 and hopes to begin prelims/dissertation activities in late 2012. He is currently employed by Hamilton Sundstrand Power Systems, a division of United Technologies Inc., in San Diego, CA as the

Nominated as ASQ’s 40 New Voices of Quality

Nicole Radziwill is an Assistant Professor in the Department of Integrated Science and Technology at James Madison University, active in the American Society for Quality, Certified by ASQ as a Manager of Quality and Organizational Excellence (CMQ/OE), and an ASQ Certified Six Sigma Black Belt (CSSBB). She served as Chair of the ASQ Software Division from August 2009 to April 2011, as a national Examiner for the Malcolm Baldrige National Quality Award (MBNQA) in 2009 and 2010, and has a PhD in Technology Management and Quality Systems from Indiana State University.

"My role is to educate and inspire as the workforce of the future evolves. I’ll continue teaching my students how to structure and solve quality-related problems for their companies and communities, and connect them with opportunities to do quality-related community service. I want to inspire students from all different majors to understand and promote the value of quality in their fields, and spread the message of improvement."
OUR GRADUATES

Dr. Michael DeVore specialized in Manufacturing Systems at his home institution of Bowling Green State University. He successfully defended his dissertation, “An Experimental Study on Reducing the Formation of Dross when Cutting 1018 HR Steel Using a CNC Plasma Cutter” and graduated in Spring 2011.

Dr. Craig Schroeder specialized in Manufacturing Systems at his home institution of Bowling Green State University. He successfully defended his dissertation, “A Study of Model Centric Engineering and Its Effects on Time-To-Market and Ability to Accommodate Market Change” and graduated in Spring 2011.


Dr. Jeff Daniels specialized in Digital Communication at his home institution of Indiana State University. He successfully defended his dissertation, “Assured Identity for the Cloud” and graduated in Summer II 2011.

Dr. Suanu Bliss Wikina specialized in HRD and Industrial Training at his home institution of North Carolina A & T State University. He successfully defended his dissertation, “Diversity and Inclusion in the Information Technology Industry: Relating Perceptions and Expectations to Demographic Dimensions” and graduated in Summer II 2011.

Dr. Mark Chandler specialized in Quality Systems at his home institution of Bowling Green State University. He successfully defended his dissertation, “Quality System for a Distance Doctoral Consortium: Determination and Analysis of Specific Indicators” and graduated in Summer II 2011.

Dr. Richard Schneider specialized in Manufacturing Systems at his home institution of Bowling Green State University. He successfully defended his dissertation, “The Differences in Perceived Acceptance of a Modified Advanced Product Quality Planning (APQP) Model for Health Care” and graduated in Summer II 2011.

Construction Management

We are living in an era in which organizations are making sustainability part of their strategic agenda. Sustainable building design requires a keen understanding of new green building construction methods. In order to have a competitive advantage, construction firms are pressured to keep up with industry best practices and standards to plan and execute these sustainable designs. In doing so, the most advanced sustainable construction techniques have to be implemented. Developing and presenting ideas for Lean construction demonstrates visionary thinking for sustainability. Leadership within construction management is not limited to effectively monitoring tasks, planning, monitoring, and controlling the progress of a project. At Indiana State University, students can work alongside professors and colleagues to develop sustainable concepts for firms. Our professors are ready to work with students who are enthusiastic and ready to explore new and ground-breaking research ideas in construction management.
Digital Communication

Cloud computing is using technology, computing, and communication power to share information, documents, and resources over a network or located outside the firewall including the Internet. Cloud computing is a marketing term for technologies that provide computation, software, data access, and storage services that do not require end-user knowledge of the physical location and configuration of the system that delivers the services. It is an entrusting data to information systems that are managed by external parties on remote servers in the cloud. There are various models for the cloud computing. These models include public cloud, community cloud, hybrid cloud, and private cloud. One of the critical issues in the cloud computing arena is the privacy issue. Managing the privacy in cloud computing is controlling and monitoring all activities that occur over the network and preventing any illegal activities that aims to reach to a sensitive data in an organization database who are interested in conducting research in cloud commuting as they will be resourceful to organizations that are on the cutting-edge of technological innovation.

Manufacturing systems

One of the new techniques that has emerged in the manufacturing arena is the Virtual Engineering Composite Cell (VEC), also called the “Chinese Box”. The VEC technique provides integrated control of the capital requirement and process control. This is will also lead to better management for customers’ needs and workers’ satisfaction. The “Chinese Box” will be revolutionary in the future of manufacturing, and is expected be a breakthrough for manufacturing in the year of 2020 as it has the ability to replicate parts easily with the highest quality. This will allow companies to install manufacturing cells anyplace in the world to optimize production. Manufacturers are able to use this technique to produce any type of complex product. In addition, the VEC can be customized for thousands of products with high quality and efficiency. Professors within the consortium program are able to support students with advanced knowledge that will guide the students to gain success and become leaders in their fields.

Human Resource Development & Industrial Training

The 2012 Academy of Human Resource Development (AHRD) International Research Conference in the Americas will be hosted in Colorado from February 29th -March 4th in 2012. The theme of this conference is “HRD & Technology: Exploring the Intersectionality”. There is a demand for human resource development to collaborate with technologists to effectively address organizational performance needs. The Human Resource Development and Industrial Training program within the consortium provides students with an in-depth knowledge of human resources development in the technology environments. Our program provides a scholarly approach to human resource development theories, processes, and practices within diverse arenas. Our doctoral students are provided the opportunity to interaction with scholars and professionals from multiple disciplines and from across the globe. Graduates are well prepared to address a wide spectrum of challenges facing organizations in an era that thrives on innovation and human performance.

Quality System Specialization

FMEA evaluates the variety of ways (modes) a system, subsystem, or component can fail, how frequent it may fail, and consequences associated with failure by an inductive method. Simply put, it evaluates risk level of a system, design, process, and service. FMEA ranks the probability of the failure mode occurrence, the severity of its failure effect, and the probability of the failure being detected on a numeric scale from 1 to 10. The products of these rankings give the Risk Priority Number (RPN). Simply put, RPN index is equal to the multiplication of Severity, Occurrence, and Detection indexes. The major disadvantage of this approach is that various sets of these three indexes may have an identical value of RPN. Most FMEA analysts use Analysis of Variance (ANOVA) to compare means of RPN values resolves the limitations of traditional FMEA approach and also depend on competent team members. Students are encouraged to conduct further research in FMEA as it is an area requiring further research.
CAMPUS NEWS

Bowling Green State University

College of Technology's Cooperative Education Program has been helping students for over four decades to obtain practical experience for the first job leading to a career. The program was recently reaccredited by the Accreditation Council for Cooperative Education. BGSU's program is one of just 12 across the country to receive the distinction. The council granted full accreditation through December 2017. The program had to meet a strict set of standards covering everything from the program's mission to student-learning outcomes to qualify for the honor. The co-op program is mandatory for all technology majors. As for the future of the program they will continue to develop resources to serve students and embracing the latest technology. It is important to be leaders in the technology industry and pay attention to societal trends, capitalizing on social media to attain and retain students.

East Carolina University (ECU)

East Carolina University’s College of Technology and Computer Science has forged a new partnership with a local college to support several training initiatives for Spirit AeroSystems based at the North Carolina Global Transpark in Kinston, NC. The CITE Program within ECU’s College of Technology and Computer Science will collaborate and share training resources with Lenoir Community College to develop and deliver support of Spirit’s Customized Training Program. CITE, the Center for Innovation in Technology & Engineering, provides a portal to the technical resources of the college, making them more readily accessible to regional business and industry. Training will be provided training for Spirit employees in CATIA®, an engineering based CAD (Computer Aided Drafting) program, and ISO based GD&T (Geometric Dimensioning and Tolerancing) class, designed to help technicians read blueprints more effectively.

Indiana State University

Dr. Tad Foster, professor of Human Resource Development and former dean of the College of Technology, delivered a lecture on strategic planning at Shenzhen University College of Business and also at Wuhan Institute of Technology on strategic planning and distance education in April 2011. The large metropolitan of Wuhan has become the hub of science and technology for China, providing forum for researchers and engineers to present and discuss advances, new techniques and applications in their fields. Dr. Foster was also keynote speaker at the Conference on Electric Information and Control Engineering (ICEICE) held in Wuhan.
North Carolina A&T State (NCAT)

NCAT is one of 13 institutions selected per a national competition sponsored by the Association of American Colleges and Universities (AAC&U) to partake in Preparing Critical Faculty for the Future (PCFF), a project which supports women of color faculty in science, technology, engineering, mathematics (STEM) disciplines in becoming strong academic and administrative leaders on campus and within their respective disciplines. Funds for this PCFF project are provided by the National Science Foundation’s Historically Black Colleges and Universities-Undergraduate Program (HBCU-UP). The National Science Foundation (NSF) has informed NCAT that it will renew funding for the Engineering Research Center (ERC) for Revolutionizing Metallic Biomaterials for the 2012 fiscal year at $4 million, the full amount requested. The 2012 funding will bring the NSF’s support of the ERC to more than $15 million since fiscal 2009.

University of Central Missouri

UCM’s Office of Community Engagement and the School of Technology co-sponsored “The Gearing Up Technology Fair” with DuBois Learning Center and the Black Family Technology Awareness Association of Kansas City, which featured a variety of exhibits, presentations and demonstrations that took place on the 12th of November. University students and faculty were provided opportunities to see robotics demonstrations, learn about electric cars, and view Cisco applications. There was also a robotic scrimmage presented. The Kansas City Soap Box Derby will be there with a display, and 4-H will provide interactive games for young children. Representatives of the Kansas City Public Library, Science Pioneers, the Greater Kansas City Chapter of the Tuskegee Airmen, UCM’s Automotive Technology Management and Electronic Engineering Technology programs were in attendance.
SPECIAL FEATURE

Ronald Woolsey, PhD
UCM PhD Program Campus Coordinator
Professor of Industrial Management

Currently, Dr. Woolsey is a Professor of Industrial Management and the PhD Program Coordinator for the UCM Campus. Dr. Woolsey has a PhD in Industrial Education and Technology from Iowa State University and MS in Industrial Arts Education and Technology, Northwest Missouri State University.


Since 1992, he has taught at the university level and done hundreds of consulting projects with numerous companies in widely varying industries, including Otis Elevator, SonyDADC, Bemis, Biomet, Boston Scientific, Johnson Controls, and numerous others. This eclectic industrial background enables him to assist in many different areas of technology and engineering.

GENERAL INFORMATION
ABOUT THE PROGRAM

The consortium program is offered in cooperation with Bowling Green State University, East Carolina University, Indiana State University, North Carolina A & T University and the University of Central Missouri.

The doctoral program meets the needs of today’s technical professionals. An academically rigorous program of study, the Doctor of Philosophy Program in Technology Management offers research and scholarship experiences and in-depth study in a specialization selected from the areas of:

- Construction Management
- Digital Communication Systems
- Human Resource Development and Industrial Training
- Manufacturing Systems
- Quality Systems

For Additional information about the PhD in Technology Management, visit our website at http://technology.indstate.edu/consortphd/
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