

## **Professional Experience**

### **University of Pittsburgh**

**January 2020 – Present**

#### **Assistant Professor of Industrial Engineering**

**January 2020 – Present**

Responsible for teaching courses and developing curricula in the areas of supply chain management, quality assurance, and statistical quality control. Research focuses on engineering education, manufacturing operations and processes, predictive analytics, reliability optimization of complex systems, and supply chain risk management.

### **Next Ridge Technologies, LLC**

**September 2019 – Present**

#### **Owner and Principal Consultant**

**September 2019 – Present**

Deliver solutions to clients' most challenging operational problems by integrating people, processes, technology, and performance management. Expertise includes supply chain management, Lean/Six Sigma, root cause analysis, risk management, quality systems, analytics, and change management. For more information, please visit [www.nextridgetech.com](http://www.nextridgetech.com).

### **Curtiss-Wright**

**March 2011 – December 2019**

#### **Lead, Forensic Analysis**

**January 2019 – September 2019**

Responsible for developing and implementing methodologies to identify the problem, root cause(s) and contributing cause(s), and develop corrective and preventive actions for an equipment event that occurred at a nuclear power plant.

- Co-authored report that was submitted to the customer and regulatory authority for approval.
- Led forensic material analysis and laboratory testing to determine failure modes and ultimate causes.
- Member of team that presented findings to the customer, utility, and regulatory authorities.
- Conducted quantitative probabilistic risk assessments to ascertain probability of recurrence.
- Developed methodology for in-situ inspection to monitor installed plant equipment.
- Coordinated root cause analysis process and facilitated brainstorming, FMEA, and other sessions.

#### **Senior Manager, Supplier Quality Excellence**

**February 2014 – December 2019**

Responsible for transforming processes related to supplier performance based on Lean and Six Sigma methodologies. Implement APQP and PPAP methodologies with key suppliers to prevent quality and delivery issues. Establish leader standard work and visual management tools for improved resource planning. Additional responsibilities include managing the site's internal audit program.

- Member of site's Leadership Council responsible for developing leadership expectations.
- Proposed and implemented a shift in responsibilities of work that led to a >50% reduction of backlog.
- Led efforts that have reduced supplier-related rework by more than 27% since 2013.
- Designed concept for and implemented a cloud-based solution to manage >1,000 supplier witness points.

## **Senior Manager, Process Improvement**

**February 2013 – February 2014**

Responsible for establishing the division's Continuous Improvement Organization and chartering the implementation strategy. Coached, led, and facilitated subsequent deployment activities utilizing Lean and Six Sigma tools to drive improvements in Safety, Quality, Delivery, and Cost. Implemented and served as Chairperson for the division's Continuous Improvement Steering Committee. Aligned, coached, and directed the work of Lean Six Sigma Master Black Belt and Continuous Improvement Engineers. Led Root Cause Analysts, improved division's corrective action request process, and facilitated root cause analysis and problem-solving sessions. Developed and conducted training focused on Six Sigma tools for the Continuous Improvement Organization as well as for the division. Facilitated the division's Hoshin planning process.

- Oversaw kaizen events and projects yielding >\$750k in savings and a 25% reduction in labor hours.
- Facilitated and/or managed 35 kaizen events focused on improving quality and reducing lead time.

## **Manager, Quality System Excellence**

**February 2012 – February 2013**

Responsible for the Root Cause Analysis and Corrective Action process team, Quality Assurance process improvements, implementing data-based decision methodologies, Quality Council, leading monthly leadership Quality Review process, Strategy Deployment, and supporting continuous improvement initiatives across the division.

- Led team of 12 individuals responsible for facilitating root cause analysis and problem solving.
- Served as lead analyst on 3 critical issue root cause analyses and oversaw >130 corrective actions.

## **Manager, Quality Assurance Engineering**

**March 2011 – February 2012**

Responsible for Quality Assurance Engineering activities for the Defense, Process, and Commercial Nuclear market segments, Supplier Quality Engineering, improving Quality System processes through the use of Lean and Six Sigma methodologies, leading Hoshin Planning and Strategy Deployment initiatives, and serving as an internal consultant for Lean deployment throughout the division.

- Implemented a cross-functional quality review process based on quantitative decision-making.
- Coached site executives on Lean thinking and served as liaison for benchmarking activities.
- Implemented a qualification process for use in succession planning for NDE Level III personnel.

## **Precision Therapeutics**

**September 2009 – March 2011**

### **Director, Quality Systems and Improvement**

**July 2010 – March 2011**

Reporting to the CEO, responsible for directing, establishing, and improving all corporate quality management systems (cGMP-based environment), which included Operational Excellence, Quality Control, Laboratory Training, and Regulatory Affairs. Involved in and led bioinformatics studies used to identify causal relationships between outcomes and process variables.

- Led project responsible for reducing defect rate, which resulted in a 25% improvement in laboratory yield.
- Led actions to mitigate a quality issue that saved approximately \$800,000 using Six Sigma techniques.
- Developed and executed quality strategy through the use of Toyota Production System methodologies.

**Operational Excellence Leader****September 2009 – July 2010**

Responsible for coaching and mentoring members of the Operations team in problem solving using Lean manufacturing and Six Sigma methodologies. Led, developed, and implemented Lean Six Sigma training, metrics, and continuous improvement programs. Through the use of statistical methods, led root cause analysis investigations.

- Developed and delivered training programs on the principles of Lean and Six Sigma.
- Led a team to improve the laboratory value stream's productivity, flow, and standardized work methods.
- Responsible for statistical analysis in support of corporate-wide projects and process improvements.

**Kennametal Inc.****July 2005 – September 2009****Plant Manager and Site Leader****September 2007 – September 2009**

Site Leader responsible for managing and integrating all facets of operations related to a newly acquired business, which included overseeing production, Lean manufacturing, maintenance, quality, safety, planning, inventory control, customer service, financial reporting, and purchasing functions. Implemented the Kennametal Value Business System and led cultural change based on Lean principles.

- Championed Lean initiatives to grow capacity of product used in the oil and gas industry by 67%.
- Achieved \$1.7 million in Lean savings during the first full year of Lean implementation.
- Reduced OSHA DART rate from 13.6 to 5.5 in less than one year's time.
- Administered successful mitigating steps to ensure that labor union organization did not occur.
- Implemented controls yielding a 41% reduction in OPEX and 60% reduction in COS within one year.
- Oversaw a \$1M building reconstruction, which included engineering controls to ensure safer operations.

**Manager, Operational and Manufacturing Projects****April 2007 – November 2007**

Responsible for managing a variety of manufacturing and process improvement projects as assigned. Utilized Lean principles in designing and establishing a production system to produce Defense products, which included transferring material science and production technology knowledge from an international manufacturing facility to the United States. As part of this project, directed an international cross-functional project team that included more than 30 team members. Additional projects focused on continuous improvement, new product development, Six Sigma, and capital purchases.

- Led global project team in transferring a Defense product line from Germany to the United States.
- Led a Six Sigma project to reduce dimensional variability that yielded \$80,000 in annualized savings.
- Participated on a team chartered by the CEO to investigate a new market opportunity for the company.
- Part of team that designed and implemented corporate Quality Function Deployment training programs.

**Manager, Quality and Manufacturing Engineering****July 2005 – April 2007**

Responsible for designing and implementing standardized quality systems throughout the facility. Analyzed key manufacturing data and recommended continuous improvement and optimization projects. Developed systems, procedures, and conducted training to prepare the facility for ISO9001:2000 certification. Directed and oversaw the day to day activities of the material analysis lab.

- Mentored successor in leading facility to ISO9001:2000 certification following promotion out of position.
- Designed and implemented relational database to track external and internal quality costs.
- Led a variety of projects that utilized VSM, QFD, FMEA, 5-S, Standard Operations, and Six Sigma tools.

## Education

- PhD, Industrial and Systems Engineering, Mississippi State University, 2018
- MBA, Carnegie Mellon University, 2008
- MS, Industrial Engineering, Penn State University, 2001
- BS, Materials Science and Engineering, Penn State University, 1999

## Professional Training and Certifications

Certified Six Sigma Black Belt (ASQ, 9963)  
Certified Quality Function Deployment Green Belt (QFD Inst.)  
Graduate, Center for Creative Leadership  
Kennametal Value Business System – Lean Certifications

Professional Engineer (PA, PE084940)  
ASME NQA-1 Qualified Lead Auditor  
Dale Carnegie Leadership Training  
Curtiss Wright Way Practitioner – Level I

## Awards

- Mississippi State University, J. Ron Walsh Outstanding ISE Graduate Student Award, 2017
- Kennametal Value Business System Award: Product Development Technical Excellence, 2009
- Kennametal Advanced Materials Solutions Group Excellence in Leadership Award, 2008

## Professional Activities

- Member, Mars Area School District Gifted Education Advisory Board, 2021 – Present
- Board Member, LSC Division, Institute of Industrial and System Engineers (IISE), 2019 – Present
- Order of the Engineer Initiate, 2018
- Baseball Coach, Mars Baseball and Fastpitch Association, 2016 – Present
- Adjunct Faculty Member - Robert Morris University, Chatham University, Duquesne University
- Member, Institute of Industrial and System Engineers (IISE)
- Member, Institute for Operations Research and the Management Sciences (INFORMS)
- Healthcare Conference Finance Chair, American Society for Quality-Pittsburgh Section, 2010
- Board Member, Penn State Industrial and Manufacturing Engineering Society, 2006 – 2013
- Representative, Nuclear Industry Assessment Committee (NIAC), 2014 – 2017