
DEAN POETH

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SENIOR MANUFACTURING ENGINEER

*Licensed Professional Engineer (PE), State of Ohio ▪ Certified Manufacturing Engineer (C.Mfg.E)
LM21 Lean Six Sigma Green Belt Certified ▪ Active Department of Energy (DoE) Q Clearance*

- ❑ **Expert in manufacturing cost reduction.** Successful career leading the evaluation, identification, and introduction of new processes, tools, methods, and inventions to reduce cost, improve throughput, enhance quality, and increase competitive advantage.
- ❑ **Skilled in planning and ensuring the on-time delivery of key programs.** Strength in partnering with clients, teams, and management to identify needs, resolve issues, and facilitate the design of quality products and systems.
- ❑ **Natural communicator and team leader** with strong motivational skills and ability to build, produce, and succeed.
- ❑ **Published author, instructor, and invited speaker** on manufacturing engineering best practices.

TECHNICAL SKILLS

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| ❑ Design for Manufacturability (DFM) & Affordability (DFA) | ❑ Developing & Conducting Long-Term Research Projects |
| ❑ Manufacturing Cost Reduction & Process Development | ❑ Materials Processing & Characterization Techniques |
| ❑ Technology Evaluation, Implementation & Forecasting | ❑ New Methods, Processes & Tooling Design |
| ❑ Nondestructive Testing Methods & Procedures | ❑ Geometric Dimensioning & Tolerancing |
| ❑ Residual Stress Analysis & Improvement | ❑ High Productivity Machining |

PROFESSIONAL EXPERIENCE

LOCKHEED MARTIN – Schenectady, NY

1994-Present

Built an impressive record of achievements through a dedicated 14-year career with Knolls Atomic Power Laboratory (KAPL), Inc., a contractor-operated government laboratory.

- **Identified and designed 11 key inventions, resulting in 10 patent disclosure awards and 1 possible registered patent.**
- **KAPL liaison to Lockheed Martin Design for Manufacturing (DFM) Working Group** chartered with integrating corporate best practices into product design operations.
- **Conceptualized and created nuclear materials engineering training program.** Designed curriculum, staffed and trained lecturers, and oversaw the delivery of more than 24 technical courses to 95 engineers and managers across 2 subsections within 16 months.
- **Selected to deliver technical presentations to General Manager and staff, Advisory Committee, and Subcontractor** on automated manufacturing technologies, automated fabrication and simulation methods, and successful cost reduction methods for small-volume manufacturing.

Senior Engineer, Advanced Reactor Materials (2006-Present)

Full accountability for researching and identifying new technologies, inventing new methods and systems, designing and delivering training to new engineers, and resolving all design and deliverable issues.

Challenges: To evaluate, recommend, and implement new processes, methods, and tools to minimize costs associated with designing new systems for power plants.

SELECTED ACCOMPLISHMENTS:

- **Identified a commercial manufacturing technology and invented new automated manufacturing system product**, which has the potential to improve performance and reduce costs.
- **Successfully completed scoping studies on the use of Electrochemical Machining (ECM) and High-Speed Machining (HSM) processes** to reduce costs for an advanced technology application.
- **Discovered a non-contact automated visual inspection technology** to examine an advanced technology product. A vendor evaluation of this technology on an unclassified part was completed with positive results.
- **Conceptualized the utilization of C-scan ultrasound to evaluate diffusion welding bonds** in an advanced technology application. Successfully completed proof-of-concept experiment.
- **Championed the use of simulation modeling** to reduce costs, improve designs, facilitate data-driven trade decisions, and create robust, fact-based cost estimates.

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LOCKHEED MARTIN – Continued

Principal Engineer, NASA Space Program (2004-2006)

Scope of responsibilities spanned evaluating and reviewing designs for manufacturability and cost effectiveness; conducting investigations on design flaws and issues; and recruiting, training, and mentoring new hires.

Challenges: To ensure the successful and on-time design of components for the build-out of nuclear power plant in support of NASA deep space probe.

SELECTED ACCOMPLISHMENTS:

- **Granted Department of Energy Award for superior technical reports.**
- Led 2 technical programs to evaluate lithium hydride utilizing atomistic modeling and experimental methods, **reducing forecasted lithium hydride fabrication costs by \$180K.**

Principal Engineer, Electronic Technician Maintenance School (2000-2003)

Evaluated needs and issues, created realistic project schedules, negotiated deliverables with client, and led teams in successfully executing projects to ensure the appropriate delivery of electronics maintenance and troubleshooting training to enlisted personnel. Directed all aspects of multiple, simultaneous projects, from initial inception through completion. Defined scope, costs, and deliverables. Designed and delivered status reports to commanding officers, senior officers, and senior enlisted personnel. Led cross-functional team of 30 to ensure the on-time deployment of new technologies, standards, and best practices across 5 technical schools globally.

Challenge: To define turnaround strategy for 2-year behind U.S. Navy Program.

SELECTED ACCOMPLISHMENTS:

- **Completely turned around program and achieved high success program ratings.**
- **Designed a mission-critical Navy system**, currently being deployed throughout the sub-surface fleet. Constructed the operational microprocessor-based system prototype, utilizing VME-64 technology.
- **Directed the standardization and conversion of training materials to MS PowerPoint format**, improving professionalism and productivity.
- **Managed the research, design, development, contract manufacturing, and testing of multiple electronic cabinets.**
- **Championed the introduction of COTS components, saving \$160K across 3 years.**

Senior Engineer, Manufacturing Group (1996-2000)

Chosen to evaluate, recommend, and implement new processes, methods, and tools to enhance the manufacturing of ceramic materials. Reviewed drawings to improve manufacturing productivity and reduce costs. Created training guides and delivered training to production personnel on new tools and processes.

SELECTED ACCOMPLISHMENTS:

- **Created Design for Affordability and Introduction to Manufacturing Processes training modules, which have been subsequently adopted into the corporate training curriculum.** Trained new employees on newly developed modules utilizing both classroom and online methods.
- **Developed and implemented new methods and tools, improving productivity by 400%.**
- **Led a research subprogram to develop a surface residual stress improvement method to reduce stress corrosion cracking (SCC) susceptibility for a multimillion-dollar component** produced from a high-nickel (Inconel) superalloy. Success was verified utilizing X-ray diffraction analysis.
- **Oversaw a manufacturing cost reduction team in developing plan to save \$3 million** on multimillion-dollar project.

Engineer, Non-Destructive Testing Group (1994-1996)

Recruited as a critical skill hire to invent new systems to enhance overall quality of product.

SELECTED ACCOMPLISHMENT:

- **Designed an in-situ ultrasound thin film measurement system** for a test loop that is currently in operation.

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**** Additional Experience ****

Adjunct Professor, THE GRADUATE COLLEGE OF UNION UNIVERSITY
Consulting Engineer, MANUFACTURING ENGINEERING CONSULTING
Graduate Student / Teaching Assistant, PENNSYLVANIA STATE UNIVERSITY
Product Design Engineer, RANCO CONTROLS, INC.
Manufacturing Engineer / Owner, DP PRECISION MOLDING
Researcher, BATTELLE MEMORIAL INSTITUTE

SELECTED ACCOMPLISHMENTS:

- As Adjunct Professor, taught Design for Manufacturing, and Case Studies in Failure and Ethics in Engineering.
- As Consulting Engineer, provided manufacturing productivity improvement and cost reduction expertise to Peebles-Herzog, Inc. client.
- As Graduate Student, conducted advanced machining research and inspection methods research.
- As Teaching Assistant, taught Ethics for Engineers and X-ray Laboratory for a Materials Evaluation course; lectured on metal forming, plastic injection molding, welding, brazing, and machining.
- As Product Design Engineer, reduced overall costs while improving performance of a production valve.
- As Manufacturing Engineer / Owner, designed, developed, tested, and manufactured injection molding dies for an injection molding machine, and over 7,000 precision nylon and polyethylene components.
- As Researcher, set up an electronic system evaluation and testing program, wrote maintenance and troubleshooting manuals, created test plans and maintenance schedules, and conducted electrical safety analysis for a fully automated manufacturing cell.

EDUCATIONAL BACKGROUND & CREDENTIALS

Ph.D. in Industrial and Manufacturing Systems Engineering

PENN STATE UNIVERSITY, University Park, PA

Dissertation: The Development of the Methodology for the Optimization of Neutron Opaque Penetrants for Use in the Evaluation of Manufacturing Damage in Monolithic and Composite Materials (1993)

Master of Science in Industrial and Manufacturing Systems Engineering

PENN STATE UNIVERSITY, University Park, PA

Thesis: The Application of a Silicon Dioxide Coating to Polymeric Armor (1990)

Bachelor of Science in Industrial and Manufacturing Systems Engineering

THE OHIO STATE UNIVERSITY, Columbus, OH

Publications & Technical Papers

- D. F. Poeth, "Not Made in the USA, Recalls of Asian-Produced Toys Point Up Loss of American Ability to Manufacture Products," Daily Gazette, 2008.
- D. F. Poeth, "Time-tested Practices Show Environmental Sense is Good Business" Daily Gazette, 2007.
- D. F. Poeth, "U.S. Manufacturers Can Turn Offshoring to Their Advantage," Daily Gazette, 2007.
- D. F. Poeth, "Small Business Manufacturing in a Global Environment," The Graduate College of Union University, 2006.
- D. F. Poeth, "Manufacturing Management Strategies for the Small Business Competing in an Offshoring Economy," 2006.
- D. F. Poeth, "Introduction to Surface Mount Technology and Surface Mount Devices for the Small Manufacturer and Hobbyist: Prototype Manufacturing, Rework, and Repair Techniques," 2004.

Presentations

- Invited Speaker, ASM / TMS Spring Symposium, 2006
A Method for Evaluating Manufacturing Damage in Monolithic and Composite Materials
- Invited Speaker, 2nd Annual Tech Valley Engineering Symposium, 2006
Manufacturing Management Strategies for the Small Business Competing in an Offshoring Economy