**Kambiz Farahmand, PhD, PE**

Currently is a Professor and interim chair of Industrial and Manufacturing Engineering Department at North Dakota State University, where he also served as the Department Head from 2005 to 2011. He is an internationally recognized expert in Productivity Improvement. He has published over 110+ refereed papers in addition to 40+ technical papers, has over $5.7 million in research, and is a recipient of numerous awards. He just published the 3rd edition of his “Workstation Design” and the second edition of his “Evaluation of Engineering Data” textbooks. As an Industrial engineer/consultant for the past fifteen years with quality systems such as Malcolm Baldrige and Toyota Production system, Dr. Farahmand has worked with quality award recipients such as Delphi Mexico, Delco Electronics, and TI Automotive in receiving the Shingo prize and Caterpillar and TI Instrument receiving Baldrige national awards.

Dr. Farahmand has been involved in joint research and consulting with DOE, ARMY, NAVY, NASA, VHA, and industry.  Most recent research areas include healthcare system redesign for VA involving Clinical Space Optimization, LEAN implementation and Reusable medical equipment reprocessing, portable life support systems for NASA astronauts’ space ensemble and adverse environment protecting garment, thermal and respiratory physiology, cooling systems, hypothermia, and respiratory heat and mass transfer for NAVY. He has also served as subject matter expert in Lean Manufacturing, Quality Control and ISO 9001, ISO 14001, AS9100, and OHSAS 18001implementation and certification of US Army command.  He was the invited Key Note Speaker addressing ISO CAPA in Medical Research at the U.S. Army Medical Research and Materiel Command, Institute of Surgical Research, Fort Sam Houston, Texas. He is a registered professional engineer in the states of Texas and North Dakota and past president of IIE Coastal Bend Chapter.

**Research and Other Information**

Ergonomics Design, Healthcare, Facilities and Production Layout - Planning & Management, Human Exposure and Physiology Simulation, ISO 9001-Quality Management System, AS9110-Aerospace Maintenance Standards, ISO 18001–Occupational Health and Safety Management Systems Standards, Productivity Analysis & Waste Management, Respiratory& Life Support System, Lean Manufacturing, Safety and Human Factors Engineering, Manufacturing Systems, Simulation & Modeling, Operations & Materials Management and Strategic Planning, Computer Network Management.

**Professional Certification/Management Training**

* ISO 9001:2015 Quality Management System
* AS 9110A Aerospace Maintenance Management System LA Certification
* OHSMS 18001:2007 Occupational Health & Safety Management System Certification
* ISO 14001:2004 Environmental Management System LA Certification
* ISO 9001:2008 Quality Management System LA Certification
* Professional Mid-Management Administrator Training
* ISO 9000:2004 Quality Management System LA Certification
* American Society of Quality LEAN Manufacturing Training
* Western Petroleum Services Research & Development Simulation Design Training
* Western Petroleum Services Research & Development Fracturing Design Training
* Western Petroleum Services Research & Development Cementing Design Training

**Textbooks**

1. Ergonomic Workstation Design, 3rd Edition, Farahmand, Linus Publishing, ISBN 13: 978-1-60797-035-4, 2019.
2. Evaluation of Engineering Data, 2nd Edition, Farahmand, Linus Publishing, ISBN 10: 1-60797-925-X, ISBN 13: 978-1-60797-925-8, 2022.
3. Evaluation of Engineering Data, 1st Edition, Farahmand, Linus Publishing, ISBN 10: 1-60797-925-X, ISBN 13: 978-1-60797-925-8, 2022.
4. Ergonomic Workstation Design, 2nd Edition, Farahmand, Linus Publishing, ISBN 13: 978-1-60797-828-2, 2019.
5. Ergonomic Workstation Design, 1st Edition, Farahmand, Linus Publishing, N.Y., ISBN 13: 978-1-60797-828-2, 2018.

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1. Roth, K. & Farahmand, K. A Socio-Technical Study of Industry 4.0 and SMEs: Recent Insights from the Upper Midwest. Sustainability, 15 (16), 2023, 12559. https://doi.org/10.3390/su151612559
2. Roth, K., & Farahmand, K. A Study of Current Socio-Technical Design Practices in the Industry 4.0 Context among Small, Medium, and Large Manufacturers in Minnesota and North Dakota. Sustainability, 15(23), 16438, 2023. https://doi.org/10.3390/su152316438
3. Farahmand, K. Mahmoud, M., Wadhwa, S. S. Risk-based decision-making process in the context of Quality Management System – A case study of a startup company. International Journal of Industrial Engineering & Technology (IJIET). December 2020.
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5. Dharmadhikari, N., Farahmand, K. Piling Centers Location Optimization for Sugar Beets under Supply Variation. Infrastructure, infrastructures-470667, March 2019.
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8. Dharmadhikri, N., Farahmand, K. Location Allocation of Sugar Beet Piling Centers using GIS and Optimization (vol. 2, pp. 17). Infrastructures. https://doi.org/10.3390/infrastructures4020017
9. Wadhwa, S. S., Farahmand, K. Site Selection Using Multi Attribute Decision Analysis in GIS - A Case Study on Brownfields of Minnesota. International Journal of Engineering Research and Innovation (IJERI). July 2018.
10. Farahmand, K., Wadhwa, S. S. Optimization of Surgical Referrals to Minimize Cost. Journal of Translational Medicine & Research. May 2018. http://medcraveonline.com/OAJTMR/volume\_issues?issueId=2170&volumeId=542
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12. Dharmadhikari, N., Farahmand, K., Lee, E., Vachal, K., Ripplinger, D. (2017). Yield Forecasting to Sustain the Agricultural Transportation under Stochastic Environment. ***International Journal of Research in Engineering and Science (IJRES)***. 05.08 (2017): 51- 60.
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**Patents**

[Apparatus for Obtaining Temperature and Humidity Measurements](http://www.techlinkcenter.org/cgi-) (Patent Number: 6659963, Issue Date: December 9, 2003)

* Design and development of an Oral probe to measure heat and mass transfer coefficient in the human oral cavity.
* Design and development of a Nasal probe to measure intra-airway heat and vapor transfer in the human nasal cavity.

**Summary of Research Activities**

* Developing a Hybrid Supply Chain to Handle Disruptions in the Wake of Pandemic and War
* Surgical Patients Referral Simulation from Rural Areas
* Use of Andon in Healthcare
* Smart Farm/Farm Logistics
* PMU Location Optimization to Increase Smart Grid Reliability
* Clinical Space Optimization
* Reusable Medical Equipment
* CFD Simulation of Human Airway System
* Productivity & Flow Improvement in Clinic and Hospitals
* Health care Simulation and LEAN Productivity Improvement through Optimization of Space, Flow, and Function
* Border Security – Surveillance
* RFID
* Non-Destructive Testing
* Portable Life Support System
* Low TRL Co2 Removal System
* ISO 9000 assessment, implementation, and certification
* Fine Thermocouple Time Constant Determination.
* Lean Manufacturing assessment and Implementation
* APACS (Advanced Portable Air Conditioning System)
* Human Cognitive Performance & Mental Capacity Measurement.
* High velocity Air Temperature Measurement.
* Design, Implementation, and Control of Manufacturing Systems.
* U.S. NAVY Meta suite studies.
* Inspiration and expiration temperature and relative humidity measurements.
* Simulation of Manufacturing Systems.
* Investigating the source of hearing disorders in electronics manufacturing plant.
* Design, Implementation, and Control of Manufacturing Systems.
* Application of concurrent engineering in bottleneck operations and product innovations.
* Knowledge based expert system for "American with Disabilities Act (ADA) of 1990" facility layout and accessibility guidelines.
* Worker's lifting capacity based on initial assessment of Anthropometric measurements.
* Ergonomics and human engineering, man-machine systems
* The effect of KANBAN on manufacturing throughput and order completion times.
* Level of modification required adopting the physical work to the handicapped worker.
* Operational analysis, task optimization, WHATABURGER, INC.
* Design of automated systems, WHATABURGER, INC.
* Working with Microbolometry technology (Lockheed Martin’s IR Technology) to characterize fluid flow rate and temperature.