

Salah Haridy

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Areas of Interest

Quality Engineering, Statistical Process Control, Engineering Statistics, Reliability Analysis, Six Sigma, Design of Experiments, Operations Management, Healthcare Systems Engineering, Manufacturing Optimization.

Career Snapshot

- **Assistant Professor**, University of Sharjah, United Arab Emirates.
- **Postdoctoral Fellow**, Georgia Institute of Technology (1st Industrial Engineering Program in *U.S. News & World Report*), USA.
- **Assistant Professor**, Benha University, Egypt.
- **Postdoctoral Research Associate**, Northeastern University, USA.
- **Ph.D.** in Mechanical and Aerospace Engineering, Nanyang Technological University (11th in *QS World Rankings*), Singapore.
- **M.Sc.** in Mechanical Engineering Technology, Benha University, Egypt.
- **B.Sc.** in Mechanical Engineering Technology, Benha University, Egypt.

Education

- 2009 - 2014: **Ph.D.** (Systems Engineering and Management) from Nanyang Technological University.
Thesis: Attribute Control Charts for Effective Statistical Process Control.
- 2006 - 2008: **M.Sc.** (Industrial Engineering) from Benha University, Egypt.
Thesis: Univariate and Multivariate Statistical Process Control for Quality Improvement in Sheets Cold Rolling Processes.
- 1999 - 2004: **B.Sc.** (Manufacturing Engineering) from Benha University, Egypt.
Project: Design and Manufacturing of a 3-Axis CNC Drilling Machine.

Academic Work Experience

- Feb 2017 – Present: **Assistant Professor** with University of Sharjah, Sharjah, United Arab Emirates.
Teaching, research, mentoring and supervision.
- Aug 2016 – Jan 2017: **Postdoctoral Fellow** with Georgia Institute of Technology, Atlanta, USA.
Research on process monitoring, fault detection and big data analytics.
- Aug 2014 - Jul 2016: **Assistant Professor** with Benha University, Benha, Egypt.
Teaching, research, mentoring and supervision.
- Oct 2013 - Jul 2014: **Postdoctoral Research Associate** with Northeastern University, Boston, USA.
Research on improving quality, efficiency, logistics, safety, flow, effectiveness and access in healthcare.
- Jun 2013 - Sep 2013: **Visiting Scholar** (awarded by DAAD) with Helmut Schmidt University, Hamburg, Germany.
Research on process monitoring, control charts for variables & attributes, Markov chain and curtailment.
- Aug 2009 - May 2013: **Teaching Assistant/Lab Instructor** with Nanyang Technological University, Singapore.
Quality Engineering, Design of Experiments and Non-Destructive Testing.
- Sep 2006 - Jul 2009: **Assistant Lecturer** with Benha University, Benha, Egypt.
Quality Control, Operations Research, Project Management and Applied Statistical Engineering.

Industrial Work Experience

- Apr 2012 - Oct 2012: **Intern** with TÜV SÜD PSB Pte. Ltd., Singapore.
Development of a training program on statistical process control to improve productivity and ensure quality of the current activities such as testing, auditing and inspection.
- Jan 2006 - Dec 2008: **Part-time Consultant** with Engineering Consultation Center, Cairo, Egypt.
3D modeling and Finite Element Analysis (FEA).
- Jun 2004 - Dec 2004: **Quality Engineer** with Kuwesna Company for Paper Industry, Kuwesna, Egypt.
Testing and continuous quality improvement.
- Jul 2003 - Oct 2003: **Intern** (awarded by IAESTE) with ATZ-EVUS Entwicklungszentrum, Sulzbach-Rosenberg, Germany.
Research on thermal spraying and the development of processes for coating technologies.

Publications

Refereed Journal Articles

- **Haridy S.**, Wu Z. (2009) Univariate and Multivariate Control Charts for Monitoring Dynamic-Behavior Processes: a Case Study. *Journal of Industrial Engineering and Management*, 2, 464-498.
- **Haridy S.**, Wu Z., Castagliola P. (2011) Univariate and Multivariate Approaches for Evaluating the Capability of Dynamic-Behavior Processes (Case Study). *Statistical Methodology*, 8, 185-203.
- **Haridy S.**, Gouda S. A., Wu Z. (2011) An Integrated Framework of Statistical Process Control and Design of Experiments for Optimizing Wire Electrochemical Turning Process. *International Journal of Advanced Manufacturing Technology*, 53, 191-207.
- **Haridy S.**, Wu Z., Khoo M. B. C., Yu F. J. (2012) A Combined Synthetic & np Scheme for Detecting Increases in Fraction Nonconforming. *Computers and Industrial Engineering*, 62, 979-988.
- **Haridy S.**, Wu Z., Flaig J. (2012) Chi-squared Control Chart for Multiple Attributes. *International Journal of Industrial and Systems Engineering*, 12, 316-330.
- **Haridy S.**, Wu Z., Shafik A. (2012) An Educational Scheme for a CNC Drilling Machine. *International Journal of Manufacturing, Materials and Mechanical Engineering*, 2, 1-11.
- **Haridy S.**, Wu Z., Yu F. J., Shamsuzzaman M. (2013) An Optimization Design of the Combined np-CUSUM Scheme for Attributes. *European Journal of Industrial Engineering*, 7, 16-37.
- **Haridy S.**, Wu Z., Lee C. K., Bhuiyan N. (2013) Optimal Average Sample Number of the SPRT Chart for Monitoring Fraction Nonconforming. *European Journal of Operational Research*, 229, 411-421.
- **Haridy S.**, Wu Z., Lee C. K., Rahim M. A. (2014) An Attribute Chart for Monitoring the Process Mean and Variance. *International Journal of Production Research*, 11, 3366-3380.
- **Haridy S.**, Wu Z., Abhary K., Castagliola P., Shamsuzzaman M. (2014) Development of a Multiattribute Synthetic-np Chart. *Journal of Statistical Computation and Simulation*, 84, 1884-1903.
- **Haridy S.**, Wu Z., Chen S., Knoth S. (2014) Binomial CUSUM Chart with Curtailment. *International Journal of Production Research*, 52, 4646-4659.
- El-Taweel T. A., **Haridy S.** (2014) An Application of Fractional Factorial Design in Wire Electrochemical Turning Process. *International Journal of Advanced Manufacturing Technology*, 75, 1207-1218.
- Shamsuzzaman M., Khoo M. B. C., **Haridy S.**, Alsyouf I. (2014) An Optimization Design of the 3-EWMA Scheme for Monitoring Mean Shifts. *International Journal of Advanced Manufacturing Technology*, 74, 1061-1076.
- Ou Y., Hu J., Li X., **Haridy S.** (2014) Real-Time Anomaly Detection Approach Based on Condition-Based Statistical Process Control. *International Journal of Precision Engineering and Manufacturing*, 15, 1-10.
- Khoo M. B. C., Tan E. K., Chong Z. L., **Haridy S.** (2015) Side-sensitive Group Runs Double Sampling (SSGRDS) Chart for Detecting Mean Shifts. *International Journal of Production Research*, 53, 4735-4753.
- **Haridy S.**, Ou Y., Wu Z., Khoo M. B. C. (2016) A Single X Chart Outperforming the Joint \bar{X} & R and \bar{X} & S Charts for Monitoring Mean and Variance. *Quality Technology & Quantitative Management*, 13, 289-308.
- Shamsuzzaman M., Khoo M. B. C., **Haridy S.**, Alsyouf I. (2016) An Optimization Design of the Combined Shewhart-EWMA Control Chart. *International Journal of Advanced Manufacturing Technology*, 86, 1627-1637.
- **Haridy S.**, Maged A., Kaytbay S., Araby S. (2017) Effect of Sample Size on the Performance of Shewhart Control Charts. *International Journal of Advanced Manufacturing Technology*, 90, 1177-1185.
- Araby S., Zaied R., **Haridy S.**, Kaytbay S. (2017) Grooves into Cylindrical Shapes by Wire Electrochemical Machining. *International Journal of Advanced Manufacturing Technology*, 90, 445-455.
- **Haridy S.**, Rahim M. A., Shokri Z. Selim, Wu Z., Benneyan J. (2017) EWMA Chart with Curtailment for Monitoring Fraction Nonconforming. *Quality Technology & Quantitative Management*, 14, 412-428.
- Maged A., **Haridy S.**, Shamsuzzaman M., Alsyouf I., Zaied R. (2018) Statistical Monitoring and Optimization of Electrochemical Machining using Shewhart Charts and Response Surface Methodology. *International Journal of Engineering Materials and Manufacture*, 3, 68-77.
- Baker A., **Haridy S.**, Salem J., Ilies I., Ergai A., Samareh A., Andrianas N. Benneyan J., Sexton D., Anderson D. (2018) Performance of Statistical Process Control Methods for Regional Surgical Site Infection Surveillance: A 10-Year Multi-Center Pilot Study. Accepted for publication by *BMJ Quality & Safety*, 27, 600-610.
- Shamsuzzaman M., **Haridy S.**, Alsyouf I., Rahim M. A. (in press) Design of Economic \bar{X} Chart for Monitoring Electric Power Loss Through Transmission and Distribution System. Accepted for publication by *Total Quality Management & Business Excellence*.
- Maged A., **Haridy S.**, Kaytbay S., Bhuiyan N. (in press) Continuous Improvement of Injection Molding using Six Sigma: Case Study. Accepted for publication by *International Journal of Industrial and Systems Engineering*.

Conference Papers and Presentations

- **Haridy S.**, Wu Z. (2011) Synthetic- np Chart for Attributes. *Proceedings of the IEEE International Conference on Industrial Engineering and Engineering Management (IEEM 2011)*, 1471-1475, Singapore.
- **Haridy S.**, Wu Z., Ker D., Chen S. L. (2012) A Challenging X Chart for Monitoring the Mean and Variance. *Proceedings of the Engineering Lean & Six Sigma Conference*, Louisville, KY, USA.
- **Haridy S.** (2012) An Attribute Control Chart for Monitoring A variable. *8th World Congress in Probability and Statistics*, Istanbul, Turkey.
- **Haridy S.**, Wu Z., Chen S. L., Bhuiyan N. (2012) Optimal np -CUSUM Scheme for Monitoring Fraction Nonconforming. *Proceedings of the IIE Asian Conference*, 17-24, Singapore.
- Qu L., **Haridy S.**, Wu Z., Bhuiyan N. (2012) Monitoring Multiattribute Processes Using Synthetic-type Control Charts. *Proceedings of the IIE Asian Conference*, 192-199, Singapore.
- **Haridy S.** (2013) An Application of Curtailment in Control Charts. *30th Quality and Productivity Research Conference*, Niskayuna, NY, USA.
- **Haridy S.**, Anderson D., Baker A., Benneyan J., Martinez D. (2014) Optimized Dual Shewhart-EWMA Statistical Control Charts for Hospital-acquired Infection Surveillance. *INFORMS Annual Meeting*, San Francisco, CA, USA.
- Baker A., Andrianas N., **Haridy S.**, Anderson D., Sexton D. (2014) Empirical Performance of Statistical Process Control Methods for Regional Hospital-Acquired Infection Surveillance: A 10-Year Multi-State Study. *IDWeek*, Philadelphia, PA, USA.
- Baker A., Anderson D., Sexton D., Benneyan J., **Haridy S.**, Andrianas N. (2014) Technical and Logistical Issues in Incorporating Statistical Process Control into Healthcare-Associated Infection Surveillance Programs. *IDWeek*, Philadelphia, PA, USA.
- **Haridy S.** (2015) SPRT Chart with Optimal Charting Parameters for Monitoring Attributes. *4th International Symposium on Statistical Process Monitoring*, Padua, Italy.
- Shamsuzzaman M., **Haridy S.**, Zhang L. (2018) Design of Multiattribute EWMA Chart. *Proceedings of the Conference on Industrial Engineering and Operations Management (IEOM)*, 538-543, Bandung, Indonesia.

Grants & Awards

- Richard A. Freund International Scholarship by the American Society for Quality (ASQ)
- Mary G. and Joseph Natrella Scholarship by the Quality and Productivity Section of the American Statistical Association (ASA)
- Research Grant for Doctoral Candidates and Young Scientists by the German Academic Exchange Service (DAAD)
- Grant by the Bernoulli Society, Biometrika, European Mathematical Society and International Mathematical Union
- Singapore International Graduate Award by the Agency for Science, Technology and Research (A*STAR)
- Practical Training Grant by the International Association for the Exchange of Students for Technical Experience (IAESTE)

Certificates

- International Computer Driving License (ICDL) Certificate
- ISO 9001:2008 Interpretation, Documentation & Implementation Training Certificate
- ISO/IEC 17025:2005 Interpretation, Documentation & Implementation Training Certificate
- Internal Quality Auditor Training Certificate
- Understanding of WSH Act, WSH Regulations and Risk Assessment Methodology Training Certificate

Professional Activities

- Reviewer: Computers & Industrial Engineering, Annals of Operations Research, European Journal of Operational Research, International Journal of Quality & Reliability Management, Total Quality Management & Business Excellence, International Journal of Production Research, Journal of Statistical Computation and Simulation, Journal of Applied Statistics, Quality Engineering.
- Steering Committee: The Conference on Industrial Engineering and Operations Management (IEOM).

Professional Memberships

- International Association of Engineers (IAENG)
- International Society for Business and Industrial Statistics (ISBIS)
- European Network for Business and Industrial Statistics (ENBIS)
- Egyptian Syndicate of Engineers

Computer Skills

- Programing Languages: C and CNC Programming
- Softwares / Tools: AutoCAD, Microsoft Office, MINITAB, Statgraphics Centurion, Stat-Ease Design Expert, SolidWorks (COSMOS Xpress), Microsoft Expression Web and WinQSB

References

- Available upon request