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TEACHING INTERESTS

- Engineering Economics
- Contracts and Legislation
- Quality Control
- Facility Location Models
- Operations Research I, II
- Production Planning and Control
- Design and Analysis of Experiments
- Probability and Statistics for Engineers
- Project Management
- Work Study
- Management and Marketing
- Advanced Statistical Analysis
- Multivariate Statistical Modeling and Optimization Techniques
- Statistical Process Control
- Simulation
- Six Sigma
- Mathematical Programming and Optimization
- System Reliability and Maintainability
- Primavera, SAS 9.0, SPSS 17.00, Minitab 15.1, MATLAB, GAMS 22

RESEARCH PROJECTS

- Lean Six Sigma (completed)
- Lean Manufacturing With Simulation (completed)
- Start-up time reduction for batch and continuous processes using optimization (completed)
- A comparative and evaluative study of cellular manufacturing systems using clustering techniques (completed)
- System simulation of the health center at the university of Houston main campus (completed)
- Development of engineering education project from 1993 to 1995 for college of engineering at Helwan university, Cairo Egypt (completed)
- Shop floor control and scheduling during 1993 as a graduation project in Egypt (completed)

EDUCATION

Ph. D., Industrial Engineering – Awarded December 2008

University of Houston, Houston, TX, USA

- Title: “Start-up Time Reduction for Batch and Continuous Processes using Optimization”
- GPA: 3.94
- ***Courses:*** Operations Research, Production Planning and Control, Statistical Process Control, Computer Aided Manufacturing, Quality Control, Integer Programming, Advanced Statistical Analysis, Materials Handling, Reliability Analysis, Simulation, Project Management, Optimization, Advanced Engineering Economics, Six-Sigma, and Non-Linear Programming.

Master of Science, Production Engineering – Awarded January 1998

- Title: “A comparative and evaluative study of cellular manufacturing systems using clustering techniques”
- University of Helwan, Egypt
- Major: Operations Research, Curriculum Focus: Cellular Manufacturing

Bachelor of Engineering, Production Engineering – Awarded August 1993

- University of Helwan, Egypt

TECHNICAL SKILLS

Computer:

- Operating systems: UNIX, DOS, and Windows XP and Vista
- Programming Languages: C, C++, BASIC, Visual BASIC, MATLAB
- Software: MATLAB, Microsoft Office, SAS 9.1, Minitab 15, MHAND, RELPAC, TORA, SPSS17, GAMS 22.0, Arena, Simulink, Primavera 6, Autocad
- Web design: HTML, MS Front Page, Dreamweaver, and Adobe Photoshop.

Numerical Methods:

- SIMPLEX and interior Point Optimization Methods

ACADEMIC EXPERIENCE

Assistant Professor, Department of Mechanical Engineering (Industrial Engineering Division), University of Helwan, Helwan, Egypt (June 2009 - present)

Lecturer, Department of Mechanical Engineering, CIC, Egypt (February 2010 – June 2010)

Lecturer, Department of Industrial Engineering, MSA, Egypt (February 2010 – present)

Adjunct Professor, Department of Industrial Engineering, University of Houston, Houston, TX, USA (Jan 2009 – June 2009)

Instructional Assistant, University of Houston, Houston, TX, USA (Jan. 2005 – December 2008)

- Assisting faculty members with developing online courses using HTML, Photoshop, and WebCT Vista

Graduate Assistant, University of Houston, Houston, TX, USA (Jan. 2004 – July 2004)

- Conducted research on scholarships, and grant writing

Assistant lecturer, Production Engineering Department, Helwan University, Egypt, (Feb. 1998 – July 2001)

- Helping faculty members in teaching many production engineering courses

Demonstrator, Production Engineering Department, Helwan University, Egypt, (Sep.1993 – Jan 1998)

- Helping faculty members in teaching many production engineering courses

HONORS

- Graduate Scholarship, Ministry of High Education in Egypt
- Undergraduate Scholarship, Ministry of High Education of Egypt, 1988-1993
- Ranked First in the Bachelors Degree Program (1993)

PROFESSIONAL ACTIVITIES

- Paper Reviewer in the IIE research Conference (Houston, TX, 2004)
- Co-Chair for ISOMA-04 (WAC-04, Spain)
 - Session Title: Managing Logistics for Mass Customization

PROFESSIONAL and SCIENTIFIC AFFILIATIONS

- The Institute of Operations Research and the Management Sciences (INFORMS)
- Institute of Industrial Engineers (IIE)
- Alpha Pi Mu (Industrial Engineering honor Society)

PUBLICATIONS

1. Araby I. Abdel-Rahman and Jino J. Lim “A nonlinear partial least squares algorithm using quadratic fuzzy inference system”, Journal of chemometrics, accepted for publication May 18, 2009 (Available on line).
2. Araby I. Abdel-rahman and Jino J. Lim , “Process Startup Adjustment Methodology Using Multivariate Statistical Modeling and Optimization Techniques” working paper
3. Araby I. Abdel-Rahman and Jino J. Lim , “Process Startup Adjustment Methodology Using Quadratic Fuzzy PLS and Optimization Techniques” working paper
4. Araby I. Abdel-rahman and Jino J. Lim , “Partial Least Squares (PLS): Analysis and Applications” ongoing edited book.
5. Kamrani, Ali K.; *Abdel-Rahman, Araby* (2004). A methodology for managing complexity within a MC environment. Image Processing, Biomedicine, Multimedia, Financial Engineering and Manufacturing - Proceedings of the Sixth Biannual World Automation Congress. Jun 26-Jul 1. pp. 365-370.
6. Kamrani, Ali K.; *Abdel-Rahman, Araby*; Adat, Arun K. (2004). A simulation based methodology for manufacturing complexity analysis. IIE Annual Conference and Exhibition. May 15-19. Houston. TX. pp. 1627-1631.
7. Selim, Hassan M.; Abdel Aal, Reda M.S.; *Mahdi, Araby I.*, (2003). Formation of machine groups and part families: A modified SLC method and comparative study. Integrated Manufacturing Systems. Vol. 14. No. 2, pp. 123-137