

## **Tamer Mohamed Ahmed Khalaf**

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College of Engineering  
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### **A. Education**

**Ph.D.** Department of Industrial Engineering, University of Louisville, Louisville, Kentucky, USA, December 2007.

*Dissertation:* A Nonlinear Time Series Analysis of Four Trunk Muscles' Surface EMG and of Trunk Kinematics during Manual Lifting.

*Advisor:* Prof. Waldemar Karwowski

**M.Sc.** Department of Industrial Engineering, University of Louisville, Louisville, Kentucky, USA, May 2004.

*Dissertation:* Ergonomic Evaluation of Three Computer Keyboard Designs.

*Advisor:* Prof. Waldemar Karwowski

**B.Sc.** Department of Mechanical Engineering, Al-Azhar University, Cairo, Egypt, May 1994.

### **B. Employment**

1. Certified Assessor of the KSU Board of Assessors, KSU Internal Auditor and Assessor, February 2016 – Present.
2. Assistant professor: Department of Industrial Engineering, College of Engineering, King Saud University, Riyadh, KSA, September 2011 – present.
3. Assistant professor: Department of Mechanical Engineering, Faculty of Engineering, Al-Azhar University, Nasr City, Cairo, Egypt, August 2008 – present.
4. Adjunct professor: Department of Mechanical Engineering, 10th of Ramadan Higher Technological Institute, 10th of Ramadan City, Egypt, October 2008 – May 2011.
5. Adjunct professor: Department of Industrial Engineering, Higher Institute for Engineering, 6th of October City, Egypt, September 2010 – January 2011.
6. Lecturer, Department of Mechanical Engineering, Faculty of Engineering, Al-Azhar University, Nasr City, Cairo, Egypt, February 2008 – August 2008.
7. Research assistant, Center for Industrial Ergonomics, University of Louisville, Louisville, Kentucky, USA, July 2003 – December 2007.

8. Student assistant, Office of Library Technologies (OLT), University Libraries, University of Louisville, Louisville, Kentucky, USA, July 2001 – April 2005.
9. Student assistant, Health Science Library, University Libraries, University of Louisville, Louisville, Kentucky, USA, September 2000 – July 2001.
10. Teaching assistant, Department of Mechanical Engineering, Al-Azhar University, Nasr City, Cairo, Egypt, August 1995 – April 2000.

## **C. Teaching**

### **C.1. King Saud University (currently)**

- Advanced Methods in Design and Work Measurement (IE 635)
- Design of Experiments (IE 333)
- Engineering Experimental Design (IE 520)
- Human Factors Engineering (IE 341)
- Project Management (GE 404)
- Safety in the work Place (SFE 501)
- Work Analysis and Design (IE 342)

### **C.2. King Fahd Security College**

- Safety Standards and Regulations (SYS 407).

### **C.3. Courses Taught Earlier**

- Engineering Drawing
- Engineering Economy
- Operations Management
- Operations Research
- Production Engineering and Manufacturing Technology
- Theory of Machine Design

### **C.4. Teaching Interests**

- Human Performance
- Human Reliability and Human Error

## **D. Research**

### **D.1. Publications: refereed journals**

1. Riyad A. Al-Ashaik, Mohamed Z. Ramadan, Khalid S. Al-Saleh, **Tamer M. Khalaf** (2015). Effect of safety shoes type, lifting frequency, and ambient temperature on subject's MAWL and physiological responses. *International Journal of Industrial Ergonomics*, 50, 43-51.  
<http://dx.doi.org/10.1016/j.ergon.2015.09.002>
2. **Khalaf, Tamer**; Karwowski, Waldemar; and Sapkotab, Nabin (2015). A nonlinear dynamics of trunk kinematics during manual lifting tasks. *Work: A Journal of*

3. **Khalaf, Tamer**; Karwowski, Waldemar; Quesada, Peter M.; and Sherehiy, Bohdana (2007). Effects of three keyboard designs on wrist and forearm postures and typing task performance. *Occupational Ergonomics*, 7(2), 115 - 123.
4. Karwowski, Waldemar; Sherehiy, Bohdana; Gaddie, Paul Ray; **Khalaf, Tamer**; and Quesada, Peter M. (2007). The effects of lifting instructions on the psychophysically selected lifting load limits: A need for reappraisal. *Occupational Ergonomics*, 7(1), 43 - 51.

## **D.2. Mentoring**

### **D.2.1. Graduation projects King Saud University:**

1. "Design and Manufacturing of a system to assist in lowering the 5-Gallon Water Bottles from their Delivery Truck". Department of Industrial Engineering, College of Engineering, King Saud University, 2014 – 2015.
2. "Design and Manufacturing of a Portable System to Generate Electricity from Solar Energy". Department of Industrial Engineering, College of Engineering, King Saud University, 2014 – 2015.
3. "Redesign of Banking Services and Layout in the Arab National Bank to Accommodate Clients with Disabilities". Department of Industrial Engineering, College of Engineering, King Saud University, 2013 – 2014.
4. "Lifting & Carrying an 11-kg LPG Cylinder: A New Tool Development And Validation". Department of Industrial Engineering, College of Engineering, King Saud University, 2013 – 2014.
5. "Design of an Early Warning System for Pedestrians in a Local Shopping Area: Prince Mohammed Bin Abdulaziz Street", Department of Industrial Engineering, College of Engineering, King Saud University, 2012 – 2013.
6. "Design of an Early Warning System for Pedestrians in a Local Industrial Facility: Al Babbain Factory for Poles and Galvanized Masts", Department of Industrial Engineering, College of Engineering, King Saud University, 2012 – 2013.
7. "Evaluation of work conditions for nursing staff at Dallah Hospital", Department of Industrial Engineering, College of Engineering, King Saud University, 2011 – 2012.
8. "Design of office work station that fits Saudi population", Department of Industrial Engineering, College of Engineering, King Saud University, 2011 – 2012.

### **D.2.2. Graduation projects – King Fahd Security College:**

1. "The Role of the Development of Preventive Awareness Among Industrial Safety Workers: A Survey on the Security Forces Hospital in Riyadh, KSA",

in fulfillment of the Higher Diploma in Industrial Safety and Security, King Fahd Security College, Spring 2015.

2. "Measurement of the Impact of Education Level and Standard of Living on the Level of Awareness of the Importance of Fire Protection Procedures: Applied Study on the Suburb of Hawiye, Taif, KSA", in fulfillment of the Higher Diploma in Industrial Safety and Security, King Fahd Security College, Spring 2015.

**D.2.3. Graduation projects – Al-Azhar University:**

1. "Investigation of hazards associated with steel galvanization", Department of Mechanical Engineering, Faculty of Engineering, Al-Azhar University, 2010 – 2011.
2. "Literature review of occupational hazards", Department of Mechanical Engineering, Faculty of Engineering, Al-Azhar University, 2008 – 2009.

**D.3. Participation in Research Projects**

1. "Investigating chaotic behavior of physiological and biomechanical responses of human trunk under low and high lifting conditions"; research assistant; internal research project funded by Center for Industrial Ergonomics; Department of Industrial Engineering; University of Louisville; Louisville, KY; (August, 2006 – September, 2007).
2. "Ergonomic evaluation of a new keyboard design"; research Assistant; Internal research project funded by Center for Industrial Ergonomics; Department of Industrial Engineering; University of Louisville; Louisville, KY; (February, 2003 – July 2003).

**E. Consulting**

1. Developing guidelines for the National Center for Assessment in Higher Education's (NCAHE) Basic (Level-1) Engineering Test. In essence, the Instruction Manual represents the "bridge" between the developed Engineering Abilities and the actual phrased questions, which constitute the tests to be administered; Riyadh, Kingdom of Saudi Arabia; October 2013 – May 2014
2. Developing "Instruction Manual for Preparation of the National Center for Assessment in Higher Education's (NCAHE) Engineering Qualification Test Questions: Industrial Engineering Discipline"; as part of developing "A Framework for Assessing Learning Outcomes in Engineering"; Riyadh, Kingdom of Saudi Arabia; April – September 2012.
3. Mechanical Works and Consulting Office, Al-Azhar University. Committee for preparing the technical specifications' tenders and for final inspection of the following projects:
  - i. One biohazards disposal truck for the University Hospital, Medical School, Al-Azhar University, Cairo, Egypt, August 2011.

- ii. Two dump trucks for the Girls Dorm, Al-Azhar University, Cairo, Egypt, May 2011.
- iii. Five ambulance cars for the Suburbs Dorms, Al-Azhar University, Egypt, April 2011.
- iv. Salvaging two vans for El-Said Galal University Hospital, Medical School, Al-Azhar University – Cairo, Egypt, December 2010.
- v. One sedan car for the International Islamic Center for Population Studies and Research, Al-Hussein Campus, Al-Azhar University, Cairo, Egypt, September 2010.
- vi. One four-ton truck for the Girls Dorm, Al-Azhar University – Zagazeig, Egypt, December, 2009.
- vii. Two ambulance cars, two double cabin pickup trucks and one four-ton truck for the University Hospital, Medical School, Al-Azhar University – Cairo, Egypt, August, 2009.
- viii. Overall maintenance of a burned van. El-Said Galal University Hospital, Medical School, Al-Azhar University – Cairo, Egypt, July, 2009.

#### **F. Professional Development and Workshops Attended**

- 1. “Projects and Research Proposals Writing”. Deanship of Skills Development, King Saud University, Riyadh, KSA, March 8 – 9, 2016.
- 2. “Academic Programs Outcomes Evaluation”. Deanship of Skills Development, King Saud University, Riyadh, KSA, March 6 – 7, 2016.
- 3. “Refreshing Workshop Training for Members of the Board of Assessors – KSU – Quality Management System”. Marriot Court Yard, Riyadh, KSA, February 17 – 18, 2016.
- 4. “KSU – KPIs and Benchmarking”. Deanship of Skills Development, King Saud University, Riyadh, KSA, February 7 – 8, 2016.
- 5. “Research Qualitative Analysis”. Deanship of Skills Development, King Saud University, Riyadh, KSA, February 2 – 3, 2016.
- 6. “Academic Program Specification and Report”. Deanship of Skills Development, King Saud University, Riyadh, KSA, December 6 – 7, 2015.
- 7. “Preparing Auditors for Quality Management – KSU Board of Assessors – Level 3”. Deanship of Skills Development, King Saud University, Riyadh, KSA, November 16 – 18, 2015.
- 8. “Preparing Auditors for Quality Management – KSU Board of Assessors – Level 2”. Deanship of Skills Development, King Saud University, Riyadh, KSA, September 8 – 10, 2015.
- 9. “Statistical Analysis using SPSS”. Deanship of Skills Development, King Saud University, Riyadh, KSA, September 1 – 3, 2015.
- 10. “KSU Board of Assessors’ Training for KSU – Quality Management System”, Workshop I. Deanship of Skills Development, King Saud University, Riyadh, KSA, May 10 – 12, 2015.
- 11. Workshop on “Flipped classrooms as global approach”, Deanship of Skills Development, King Saud University, Riyadh, KSA, May 4, 2015.

12. Workshop on "Supporting Mechanisms Required for Providing Information Needed for Implementing KSU's Quality Management System", Deanship of Skills Development, King Saud University, Riyadh, KSA, April 26-27, 2015.
13. Workshop on "Principle KPIs and Reference Comparisons According to KSU System", Deanship of Skills Development, King Saud University, Riyadh, KSA, April 20-21, 2015.
14. Workshop on "Quantitative Performance Assessment According to KSU System", Deanship of Skills Development, King Saud University, Riyadh, KSA, April 12-13, 2015.
15. Workshop on "LEED: Leadership in Energy & Environmental Design", Deanship of Skills Development, King Saud University, Riyadh, KSA, April 5-7, 2015.
16. Workshop on "Educational Podcasting and Mobile", Deanship of Skills Development, King Saud University, Riyadh, KSA, April 2, 2015.
17. Workshop on "Redesigning of KSU's Buildings and Facilities for People with Special Needs", Deanship of Skills Development, King Saud University, Riyadh, KSA, March 30 – April 1, 2015.
18. Workshop on "Students Learning Support", Deanship of Skills Development, King Saud University, Riyadh, KSA, March 12, 2015.
19. Workshop on "Operations and Supply-Chain Management", Deanship of Skills Development, King Saud University, Riyadh, KSA, March 4, 2015.
20. The Egyptian Engineers Association Monthly Technical Day on "Value Engineering", Radisson Blue, Riyadh, KSA, February 28, 2015.
21. Workshop on "Introduction to Mobile Learning and Delivery Methods", Deanship of Skills Development, King Saud University, Riyadh, KSA, February 16-17, 2015.
22. Workshop on "Cloud Storage", Deanship of Skills Development, King Saud University, Riyadh, KSA, February 11, 2015.
23. Workshop on "Teaching with Problem Solving", Deanship of Skills Development, King Saud University, Riyadh, KSA, February 8, 2015.
24. Workshop on "Sampling Techniques and Statistical Criteria for Questionnaires Design", Deanship of Skills Development, King Saud University, Riyadh, KSA, February 3-4, 2015.
25. Workshop on "The Scholarship of Educational Leadership in Higher Education", Deanship of Skills Development, King Saud University, Riyadh, KSA, February 2, 2015.
26. Workshop on "Smart Classrooms" Deanship of Skills Development, King Saud University, Riyadh, KSA, February 1, 2015.
27. Workshop on "Safe and Comfortable Learning Environment", Deanship of Skills Development, King Saud University, Riyadh, KSA,, January 29, 2015.
28. Workshop on "Learning Theories", Deanship of Skills Development, King Saud University, Riyadh, KSA, January 28, 2015.
29. The Egyptian Engineers Association Monthly Technical Day on "Occupational Health and Safety in Construction", Radisson Blue, Riyadh, KSA, October 25, 2014. , KSA, October 25, 2014.
30. The Egyptian Engineers Association Monthly Technical Day on "Renewable Energy", Radisson Blue, Riyadh, KSA, September 27, 2014.
31. Future Professor Program at the University of Louisville (August 2003 – May 2004).
  - A credit-bearing graduate course on college teaching.
  - Seminars on professional topics like: grant proposal writing, mentoring, assessment of learning outcomes and new professor challenges.
  - Work with a faculty mentor.

## **G. Professional Memberships**

1. Registered Mechanical Engineer, Egyptian Professional Engineers' Syndicate.
2. Member of the Egyptian Engineers Association in Riyadh, Kingdom of Saudi Arabia.
3. Member of the Saudi Society for Systems and Industrial Engineering.

## **H. Awards**

1. Teaching Assistantship from Department of Industrial Engineering, University of Louisville, Kentucky, USA, July 2005 – December 2007.
2. PhD Scholarship, Ministry of Higher Education, Egypt, May 2000 – May 2005.
3. Student of the Year (Egyptian Professional Engineers' Syndicate, 1994).
4. Student of the Year (The National company for Mechanical and Electrical Supplies, 1994).

## **I. Conferences**

1. Member of the Scientific Committee in the 7<sup>th</sup> annual symposium of the Egyptian Engineers Association in Riyadh, KSA, May 21-23, 2015.
2. Coordinator of the Project Management session in the 6<sup>th</sup> annual symposium of the Egyptian Engineers Association in Riyadh, KSA, May 8-10, 2014.
3. Coordinator of the Project Management session in the 5<sup>th</sup> annual symposium of the Egyptian Engineers Association in Riyadh, KSA, May 15-17, 2013.

## **J. University Service Activities**

### **J.1. King Saud University**

#### **J.1.1. Departmental (Industrial Engineering) Committees**

1. Member of the Alumni and Graduation Project Committee, February 2016 – Present.
2. Member of the Summer Training Committee, September 2015 – Present.
3. Member of the Quality and Academic Accreditation Unit, August 2014 – Present.
4. Member of the Student Advising Unit, August 2014 – September 2015.
5. Coordinator of the Academic Accreditation Unit, January – August 2014.
6. Member of the Academic Accreditation Unit, October 2011 – December 2013.

7. Member of the Alumni and Graduation Project Committee, October 2011 – December 2013.
8. Member of the Graduate Studies Committee, October 2011 – February 2012.

#### *J.1.2. University Wide Services*

1. Member of preparation committee Standard 11, “Institutional Relationships with the Community”, – Evaluation in Relation to Quality Standards – NCAAA Institutional Accreditation Renewal. February 2016 – Present.
2. Member of the board of assessors’ review team on the Information Systems Program in the College of Computer and Information Sciences – according to KSU-QMS.
3. Member of the board of assessors’ review team on the Software Engineering Program in the College of Computer and Information Sciences – according to KSU-QMS.

### **J.2. Al-Azhar University**

#### *J.2.1. University Wide Committees*

1. Member, Board of Directors, Mechanical Works and Consulting Office, January 2011 – September 2011.

#### *J.2.2. College of Engineering Committees*

1. Member of the Committee of Education Quality Assurance and Accreditation, December 2008 – May 2009.
2. Volunteer in the organizing committee of the College of Engineering Conference December 1999.
3. Volunteer in the organizing committee of the College of Engineering Conference December 1997.

### **K. Lectures and Presentations**

1. “Human Capabilities: Vision”. The Egyptian Engineers Association, Dabab St. Main Office, Riyadh, KSA, October 12, 2015.
2. “Effect of Environment Stress on Human Error”. The 7<sup>th</sup> annual symposium of the Egyptian Engineers Association, Radisson Blue, Riyadh, KSA, May 21-23, 2015.
3. “Human Factors Engineering and Workplace Design”. The Egyptian Engineers Association, Dabab St. Main Office, Riyadh, KSA, May 13, 2015.
4. “Introduction to Human Factors Engineering”. The Egyptian Engineers Association Monthly Technical Day on “Occupational Health and Safety in Construction”, Radisson Blue, Riyadh, KSA, October 25, 2014.



## **L. Training Courses Taught**

1. ***"Maintenance Planning and Scheduling"***. INMA Kingdom Training and Development Center (IKTDC), Tulip Andalusia Hotel, Riyadh, Saudi Arabia, December 17 – 21, 2011.
2. ***"Production Planning and Control"***. CAME Tech: Technical & Engineering Consulting and Training; Triumph, Heliopolise, Cairo, Egypt. July 6, 2010.
3. ***"Workshop Drawing and Production Documents"***. CAME Tech: Technical & Engineering Consulting and Training; Triumph, Heliopolise, Cairo, Egypt. June 17, 2010.
4. ***"Risk Assessment and Management"***. Al-Amal Training Center, Nasr City, Cairo, Egypt. November 15, 2009.
5. ***"Project Management"***. Al-Amal Training Center, Nasr City, Cairo, Egypt. November 15, 2009.
6. ***"Pumps Technology"***, Training and Development Center, 10<sup>th</sup> of Ramadan Higher Technological Institute, 10<sup>th</sup> of Ramadan City, Egypt, August 8 – 11, 2009.
7. ***"Project Management"***. Al-Amal Training Center, Nasr City, Cairo, Egypt. May 10, 2009.
8. ***"Quality Control: Inspection Using Acceptance Sampling Plan System"***. Egyptian Organization for Standardization and Quality, Nasr City, Cairo, Egypt. May 3 & 25, 2009.
9. ***"Advanced Industrial Turnaround Management"***. Technical Pioneers, Holiday Inn, Nasr City, Cairo, Egypt. October 25 – 28, 2008.
10. ***"Capability Assessment Program"***. International Human Resources Development Corporation (IHRDC), Doha, Qatar. September 16 – 29, 2008.
11. ***"Pumps Technology and Applications in Petroleum Industry"***. Technical Pioneers, Semiramis InterContinental, Cairo, Egypt. June 8 – 12, 2008.