Surname	**ZIED**	**Address:**	36 Almasjed Alkabeer Street, Taqseem Omar Ebn Elkhatab, Gasr Alswees, Cairo, Egypt
Forename:	Khaled Mohamed	**Telephone**	+20226636676 Home +20169070360 Mobile
Date of Birth:	25/01/1969	**E-mail address**	kmzied@hotmail.com

Current Position

Assistant Professor, Mechanical Design Department Faculty of Engineering, Mattaria, Helwan University, Cairo, Egypt. Postcode 11718.

Most Recent Job

June 2006- July 2008
Research and Teaching Fellow, CMRI, University of Bolton, UK
   Duties include:
   a. Joining the Auxetic group activities and working with the group leaders to achieve projects targets
   b. Fulfilling the current research project objectives
   c. Liaising with consortium partners to achieve the project objectives
   d. Carrying out FE modelling
   e. Carrying out wide range of experimental work including fabrication of samples and characterisation
   f. Writing up papers for publication in high impact factor journals
   g. Attending national and international conferences and workshops related to the research project
   h. Supervising and helping PhD students to achieve the targets assigned by the group leader
   i. Contributing to the department activities such as teaching and research activities as required.

Previous Jobs

Past positions and Experience (Academic)

Apr 01 – Jun06   **Lecturer, Engineering Department, Lancaster University**. Duties include teaching and final examination of the following modules:
   1. Mechanics and Actuators for MEng and MSC students in mechatronics.
   2. Integration and Interfacing (LabVIEW Programming for DAQ systems) for MEng and MSC Students
   3. Materials for Design for Second year students
   4. Engineering Mechanics (Dynamics)
   5. 3D Modelling of Dynamical Systems (Pro-engineer)

Jul 05-Nov 05   The Lancaster University UK Energy Policy Conference (UKEPC 2005) Administrator. Duties for this post include the following:
   a. Providing high level secretarial support for the organising committee
   b. Liaise with the conference sponsors

     c. Communication with all relevant organisations to attract delegates to the conference
     d. Exhibition organisation
     e. Bookings and other relevant services for delegates and speakers
     f. Conference prints and flyers design
     g. Conference website developing and update
        www.engineering.lancs.ac.uk/ukepc2005/home.htm
     h. Conference proceeding preparation

Oct 04 – Mar 05   **Research assistant at the Engineering Department, Lancaster University (Composite Structures)**
Responsibilities:
     a. To prepare and test full length GRP columns for buckling tests
     b. FE modelling and analysis of short and long GRP columns
     c. Using new techniques such as DeltaTherm in prediction of stresses induced during buckling tests
     d. Cyclic load applications on GRP beams to determine fatigue properties of such beams

Jun 04 – Sept 04   **Part-time research assistant at the Engineering department, Lancaster University (Vision System Design)**
The main responsibility is to build a test rig for dimensions measurement using a vision system. This helps in evaluation of geometry imperfection of GRP columns prior buckling test. The buckling loads obtained experimentally are greatly affected by the initial imperfection of columns. The required hardware and software are finished and measurements are already taken.

Mar 04 – Aug-04   **Part-time research assistant at the Centre of Construction Innovation Salford University (The START Program)**
The main objective of the post is to gather information about the available technology in the filed of construction to help in building of database for researchers and people in the filed of construction industry to emerge this technologies for safer construction sites.. Please visit www.start-org.com

Oct 1992-Sept 1999   **Teaching fellow/Assistant Lecturer, Mechanical Design Department, Helwan University, Cairo, Egypt.**
Main duties include teaching of the following courses:
1. Stresses Analysis   2. Material testing 3. Mechanical Vibrations 4. IC Engine Design 5. Mechanical parts design and selection

Past positions and Experience (Industrial)

May 1995- Aug 1998   **Part time (25%) Design Engineer, Centre for Spare Parts, Cairo University, Cairo, Egypt.**
This work was part of continuous training program through my university to increase practical design knowledge and to gain industrial experience. I was involved in many innovation projects deal with replacement and development of exiting factories and manufacturing units in the Tobacco industry. Duties include:
1. preparing working and assembly drawings for machines and components 2. Material selection for components 3. Stresses analysis.

Qualifications

1999-2004   PhD in Engineering, Lancaster University, Thesis Title " Investigation of Tools and Processes for Rapid Development of Intelligent Robotic Systems"

1998-1999   Postgraduate studies taught courses (PhD Level), Helwan University. Theory of Plasticity, Finite Element Analysis and Condition monitoring of mechanical systems.

1994-1998   MSc honours in Mechanical Design Engineering, Helwan University, Cairo, Egypt, the main topic of the thesis was Structures Dynamics. The sub topic was mechanical vibration of structures. Thesis Title "Improving the Dynamic Rigidity of beam Type structures Using Multi material parts, Metallic, Composite and Ceramic"

1992-1994   Postgraduate Studies Taught course in Mechanical Design (MSc Level) in Mechanical Vibration, Composite Materials Mechanics I &II, Plasticity, Noise reduction, Software Engineering, Numerical Methods in Engineering Design and Optimal Design

1988-1992   B Sc in Mechanical Engineering, Helwan University, Cairo Egypt, the first honours rank (The second of 218 class). Distinction grade for the graduation project (The use of new fuels in Diesel Engines

Professional Qualifications

Membership Body	Title of Qualification	Method of Qualification	Date of Election
1. Egyptian Syndicate for Engineers	Professional Design Engineer	Local assessment	01/10/1992
2. The International Association for Automation and Robotics in Construction IAARC	Member	Application	05/04/2004
3. Institute of Materials, Minerals and Mining	Member/CEng	Application/Interview	In Progress

Teaching Experience

I have broad experience in teaching the following subjects:

1. Mechanics
2. Engineering Drawing
3. Mechanical Drawing
4. Strength of Materials
5. Stresses Analysis
6. Finite Elements
7. Mechanical Design
8. IC Engines Design
9. Mechanical Vibrations
10. Theory of Machines
11. Mechanics of Composite Materials
12. 3d Modelling
13. Sensors and Actuators
14. Mechatronics
15. Robotics
16. Software Engineering

Research Skills

- Mechatronic systems design
- Design and 3D modelling of mechanical systems and components
- Modal analysis and dynamics of vibratory systems such as vehicles
- Controller design for dynamical system
- Experienced in using simulation programs such as Simulink and Workspace for robots simulation.
- Signal processing and data acquisition
- Sensors interface and other instruments.
- Excellent programming skills within LabVIEW and MATLAB programming environments
- Experiments design and instrumentation
- Design of graphical user interfaces
- Other skills in technical reports and scientific papers writing and presentation
- Research projects management

Published Work and Press Release

1. K. Zied, S. H. Farghaly, 1995, "An exact frequency equation for an axially loaded beam/mass/spring system resting on Winkler elastic foundation". Journal of sound and vibration, 185, 357-363.

2. Zied, K., Seward, D., Dolman, A. and Reihl, J., 2000, "The development of a robotic system for tool deployment in hazardous environment, ISARC 17, Taipei, Taiwan, p179-184.

3. Seward, D. W. and Zied, K., 2001, "The use of simulation results in the economic analysis of robotized construction tasks". Proceedings of t*he 18th ISARC, International Symposium for automation and robotics in construction,* 12-15 Sept. Poland

4. Seward, D. Quayle, S., Zied, K. and Pace, C., 2002, "Data interpretation from Leuze Rotoscan sensor for robot localization and environment mapping",19th ISARC, Sept. 2002, p343-349, NIST Gaithersberg, USA

5. Seward, D. W. and Zied, K., 2004, "Graphical Programming and the Development of Construction Robots, Computer-Aided Civil and Infrastructure Engineering. **19** [**1**] 64-80

6. Zied, K. and Seward, D., 2003, "Criteria For Selection of Software Development Environment For Construction Robotic Systems", 20th ISARC, Sept. 2003, Eindhoven , Holland.

7. Zied, K. and Seward, D., 2003, "Towards a Comprehensive Feasibility Analysis for the Use of Robots in the Construction Industry", 20th ISARC, Sept. 2003, Eindhoven , Holland.

8. Zied, K., Seward, D. W. and Riehl, J. 2004, "Technology transfer of robotic applications for safer construction", ISORA, WAC2004, Spain June 2004.

9. Zied, K. Shaban, E. M., Taylor, J. and Seward, D., "nonlinear control system design for construction robot: estimation, partial linearization and state dependent parameter control" ISARC 05, Sept 2005, Ferrara, Italy.

10. Khaled Zied, 2007. "An augmented framework for the development of construction robotic systems" International Journal of Advanced Robotic Systems, V 4 No 4 pp 410-431.

11. Bakari, MJ, Zied, KM, Seward, DW, 2007. "Development of a Multi-Arm Mobile Robot for Nuclear Decommissioning Tasks" International Journal of Advanced Robotic Systems, V 4 No 4 pp 502-524.

12. Paolo Innocenti, Fabrizio Scarpa, (University of Bristol) Naveen Ravirala, K M Zied, Andrew Alderson, Kim Alderson – University of Bolton W Miller, Chris W Smith, Ken E Evans – University of Exeter. "The transverse elastic properties of chiral honeycombs". Journal of Composites Science and Technology. In press.

13. A. Alderson, K. L. Alderson, N. Ravirala, K.M. Zied. The in-plane linear elastic constants of hybrid re-entrant trichiral and re-entrant anti-trichiral honeycombs" Journal of Composites Science and Technology. In press.

14. Andrew Alderson*, Kim L Alderson, Dapne Attard, Kenneth E Evans, Pierre S Farrugia, Ruben Gatt, Joseph N Grima Wayne Miller***, Naveen Ravirala, Chris W Smith, Khaled M Zied. The in-plane linear elastic constants of 3-,4- and 6- connected chiral and antichiral honeycombs. Journal of Composites Science and Technology. In press.

15. Ravirala, N., Zied, K., Alderson, K.L. Alderson, A. "Design, Modelling and Characterisation of Novel Chiral Honeycomb Structures" In prep.

16. <u>Zied</u>, K, Ravirala, N., Alderson, K.L. Alderson, A. "Compression properties of auxetic and conventional chiral honeycomb structures and their sandwich assemblies " In prep.
17. Ravirala, N., <u>Zied</u>, K., Alderson, K.L. Alderson, A. "Design, Modelling and Characterisation of Novel Chiral Honeycomb Structures" International conference on Auxetics and Annulus systems 2006, Exeter, UK
18. <u>Zied</u>, K., Ravirala, N., Alderson, K.L. Alderson, A. "Fabrication techniques of novel chiral honeycombs Structures" International Workshop on Auxetics, 2007, Malta.
19. A. Alderson, K. L. Alderson, G. Hudson, F. Nazare, D. Skertchly, <u>K. Zied</u>. The use of auxetic polymeric fibres to reduce thermal distortion and residual stresses in composites. International conference on Polymer Fibres 2008, Manchester, UK
20. G. Chirima, K. L. Alderson, A. Alderson, N. Ravirala and <u>K. Zied</u>, 2008, Modelling of auxetic particulate filled adhesive systems. Auxetics 2008, Bristol, UK
21.

Teaching Materials:
1. Mechanics, Engr105 2001-2004, Lectures notes, Engineering Department, Lancaster University
2. Materials for Design, Engr273, Lectures notes, 2003-2005
3. Mechanics and Actuators, Engr404 and Engr504, Lectures notes,2003-2005
4. Software Development, Engr505 2004-2006
5. LabVIEW Tutorials, Engr405 2004-2006
6. DAQ systems, Engr405 2004-2006
7. Guidelines for the use STRAIN SMART systems 2004
8. Guidelines for the use of INSTRON testing machine
9. Guidelines for the use of the 8800 controller for 50kN INSTRON actuator
10. Guidelines for the buckling test for Full scale pultruded columns
11. Guidelines for the coupon tests for composite columns

Theses:
1. MSc thesis: "Improving the Dynamic Rigidity of beam Type structures Using Multi material parts, Metallic, Composite and Ceramic", 1998, Helwan University, Cairo, Egypt
2. PhD thesis: "Investigation of Tools and Processes for Rapid Development of Intelligent Robotic Systems", 2004 Lancaster University, Lancaster, UK.

My name and photos were appeared in many international newspapers and the website of Ministry of International Affairs because I was participating in a cutting edge technology development in the field of robotics for construction industry.
1. 21/12/2000, "Construction News"
2. 21/05/2002 Norwegain newspaper, "Moderene Produksjon"
3. 19/06/2002, Norwegain Newspaper,, "Ingenior Nytt"
4. September 2002, "Made In Britain", Italian version