

CURRLICUM VITEA



PERSONAL DETAILS

Full Name : Khaled Ahmed Ali Yehia
Date of Birth : 31.8.1962
Place of Birth : Alexandria – Egypt
Nationality : Egyptian .
Marital Status : Married, 4 children.
Current Position Associate Professor; Mechanical Engineering Dept., National Research Centre, Tahrir st., Dokki, Giza, Egypt.
Associate Prof. - 2008 Jan. 2008 – Mechanical Engineering – Applied Mechanics.
Ph D - 1995 Feb. 1995 - Nottingham University, UK, Mechanical Engineering, Stress Analysis.
BSc. - 1984 July 1984 – Mechanical Engineering Production & Design Department, Faculty of Engineering, Cairo University.
Address : Work: Mechanical Engineering Dept., National Research Center, Tahrir street Giza, Egypt
Home: 258, Karya Seyahia 6, Hay Motameyz, 6 October , Giza, Egypt.
Correspondence Address PO Box 56 – Mina Garden City – 12582 - 6 October Giza - Egypt.
Telefax : (00202) 38240536
Tel.: (00202) 38240537
Mobile : 0100 6685903
E-mail : yehiak@asme.org – ka.ahmed@nrc.sci.eg

EXPERINCE

Process Equipment Design Manufacturing and Erection
Steel Storage Tanks
Process Digestion Tanks
Process Piping
Pumps, Valves, fitting equipment
Silos, Conveyors, powder and bulk material handling equipment.
Mixing equipment, reactor design.
Mechanical Equipment for Water and waste water treatment plants.
Design Codes API650, B31.3, B31.8, B31.4, etc.

Experience examples of Projects and Roles :

1- Supervision on students' graduation projects involving design and construction of prototypes for complete operating systems (HIE 2010 – 2015):-

- Separation of agriculture products based on non-mechanical properties, colour, odor, taste.
- Development of CNC Machine by increasing one axis.
- Vehicle glass recycling unit
- Electrostatic painting production line
- Tire recycling unit
- Twisting square bar Machine
- Garage for vertical parking automatic park in call out system
- Irrigation system using solar energy operated water pump

2 - Design and construction of Hydrogen reactor tank, tested at 45 bar pressure, Hydrogen storage Project 2008 – 2009.

3- The recovery of residual oil entrained in the industrial waste water of oil factories. For the benefit of :- Extracted oils and its by-products company, Alexandria. STC Project, Industrial Waste Management Scheme.

Role :

Design of mechanical equipment, supervision of the manufacture of the treatment unit at the Arab Authority for Manufacturing, Aero- Engines Factory.

Design of the piping system for the unit in the field. Supervision and inspection on the erection of the unit and the piping and welding operations.

Approval of the logic and components of the control panel for the treatment unit process control.

Testing of the various components of the control panel for the treatment unit process control .

Testing of the various components (i.e. pumps, valves, air valves, solenoid valves, level controllers, floats, ...etc.) individually and as system components working in synchronization with the process requirements.

4- Recovery of urea and its derivatives from the industrial waste water obtained during the production of urea fertilizer.

For the benefit of :- Abou- Qir company for fertilizer and chemical industry, Alexandria. STC project, Industrial Waste management Scheme.

Role:

Design of the mechanical components of the treatment unit pilot plant. Supervision of the manufacturing of the equipment in Abou- Qir for Engineering industries company. Inspection of welds in the unit evaporators, leakage test performed on the tube-shell steam chest. The erection of the pilot plant at Abou-Qir company for fertilizer and chemical industries. Mechanical design consultant for the scaled- up treatment unit.

5- Sewage sludge treatment, anaerobic treatment of sewage to produce biogas. Waste water capacity of 500 m³/day.

Role :

Mechanical design of guiding mechanism to guide the movement of the floating roof of the gas tank. Mechanical design of gas holder and digester. Supervision of the manufacture and erection of the unit.

6- Technical and Economical Feasibility Study for Manufacture of Solenoid Valves.

Role :

Principle investigator. Director of the project.

Teaching Experience

Assistance in teaching laboratory experiments for Basic Design Analysis and Thermo-fluids courses; for 1st and 2nd year students of Mechanical Engineering Department, Nottingham University, UK, academic years 1991-1992 & 1992-1993, during my study for Ph.D.

Assistance in teaching Mechanical Drawing and Descriptive Geometry for preparatory year students. At October 6 University; academic year 2006/2007 1st and 2nd terms.

Syllabus	group	Academic year	University	Dept./faculty
Production Technology	Level 1	1 st term 2014-2015	Culture & Sciences City (CSC-6 October)	Foundation Year / High Institute of Engineering
Computer Aided Design	Level 4	1 st term 2014-2015	CSC - 6 October	Mechatronics & Industrial Eng. Depts. / HIE
Fundamentals of Economics	Level 3	1st term 2012 - 2013	CSC - 6 October	All Depts./ HIE
Scientific Thinking	Level 2	2nd term 2012 - 2013	CSC - 6 October	All Depts./ HIE
Applied Operations Research	Level 5	1st term 2011 - 2012	CSC - 6 October	Industrial Eng./ HIE
Industrial Project Evaluation	Level 4	1st term 2011 - 2012	CSC - 6 October	Industrial Eng./ HIE
Mechanics of Materials	Level 3	1st term 2011 - 2012	CSC - 6 October	Industrial Eng./ HIE
Mechanics of Materials	Level 3	1st term 2011 - 2012	CSC - 6 October	Mechatronics./ HIE
Strength of Materials Laboratory	Level 2	2nd term 2010 - 2011	CSC - 6 October	Construction&Bldg./ HIE
Project Management	Level 5	2nd term 2010 - 2011	CSC - 6 October	Industrial Eng./ HIE
Computer Applications in Industrial Engineering	Level 5	2nd term 2010 - 2011	CSC - 6 October	Industrial Eng./ HIE
Materials Technology	Level 3	2nd term 2010 - 2011	CSC - 6 October	Industrial Eng./ HIE
Materials Technology	Level 3	2nd term 2010 - 2011	CSC - 6 October	Mechatronics./ HIE
Mechanical Vibrations	Level 4	1st term 2010 - 2011	CSC - 6 October	Mechatronics./ HIE
Dynamics of Rigid Bodies	Level 3	1st term 2010 - 2011	CSC - 6 October	Mechatronics./ HIE
Industrial Project Evaluation	Level 4	1st term 2010 - 2011	CSC - 6 October	Industrial Eng./ HIE
Financing and Costing	3 rd Year	1st term 2007 - 2008	October 6	Industrial/Engineering
Industrial Relations	1 st Year	2nd term 2006 - 2007	October 6	Industrial/Engineering
Engineering of Mechanical Systems	3 rd Year	2nd term 2006 - 2007	Fayoum	Industrial/Engineering
Theory of Machines	2 nd Year	2nd term 2006 - 2007	Fayoum	Industrial/Engineering
Tribology	3 rd Year	1 st term 2006 - 2007	Fayoum	Industrial/Engineering
Design of Engineering Experiments	4 th Year	1st term 2006 - 2007	Fayoum	Industrial/Engineering
Environment & Industrial Safety	1 st Year	1st term 2006 - 2007	October 6	Industrial/Engineering
Financing and Costing	3 rd Year	1st term 2006 - 2007	October 6	Industrial/Engineering
Metallurgy for Dental Students	PhD	2nd term 2004-2005	Cairo	Dental Materials/Dental Medicine

Capabilities

Language:

Arabic	Native
English	Fluent
French	Basic knowledge
German	Good

Computer Skills

Stress analysis software packages	Professional, e.g. ABAQUS, COSMOS, ANSYS
CAD packages for Heat exchangers, Pressure vessels, piping, ...etc.	Good, e.g. COADE, COMPRESS, KPIPE, CEASERII.....etc.
Office applications	Excellent
Drawing software packages	Good, e.g. AUTOCAD, FREELANCE, 3DSTUDIO
Graphical and statistical analysis	Very Good, e.g. Harvard Graphics, Quatro Pro, Supercalc., ...etc.

Computer Programming

FORTRAN, BASIC, GWBASIC	Very Good
Machine / Assembly language	Basic Knowledge

EDUCATION AND QUALIFICATIONS

Primary stage :	1973 El-Nasr Boys' School, Alexandria. English language private school kinder garden and primary stage.
Preparatory & Secondary:	1979 Gezira Language School, Zamalek, Cairo. English language private school.
First Degree :	July 1984, BSc (Mechanical Engineering), Cairo University Faculty of Engineering,
General Grade:	Very Good (81.2%).
Project Grade :	Distinction

Project Title : Computerised Production Management System. Made use of a computer package called “**P R O M P T**” **P**roject **R**eviewing **O**rganizing and **M**onitoring of **P**erformance **T**echniques working on ICL mainframe computer.

Post Graduate : **February 1995, Ph D in Mechanical Engineering, The University of Nottingham, Nottingham, UK.**

Field of Study : Stress Analysis.

Other Qualifications: Patent, Solenoid Valve, October 2012.
Approved as an engineering fields’ insurance expert by the “Egyptian Insurance Supervisory Authority” Reg.no. 808/312/1995, 20/11/1995.

Affiliations : Egyptian Engineering Syndicate Mechanical Engineering Branch membership no. 6110/23 ,1984.
ASME member, 1995, Member # : 5212717

EMPLOYMENT RECORD

Current Position Associate Professor; Mechanical Engineering Dept., National Research Centre, Tahrir st., Dokki, Giza, Egypt

Sep. 2011 – Sep. 2015 Asstociate Professor; Head of Mechatronics & Industrial Engineering Department, Managerial Board Member, High Institute of Engineering, Culture & Sciences City, 6 of October.

Sep. 2010 – Sep. 2011 Associate Professor; High Institute of Engineering, Culture & Sciences City, 6 of October. **Sabbatical from** Mechanical Engineering Dept., National Research Centre, Tahrir st., Dokki, Giza,

2008 - 2010 Associate Proffessor; Mechanical Engineering Dept., National Research Centre, Tahrir st., Dokki, Giza, Egypt.

2003 - 2008 Researcher; Mechanical Engineering Dept., National

- Research Centre, Tahrir st., Dokki, Giza, Egypt
- 1995 - 2003** Researcher; Mechanical Engineering Design and Stress Analysis of Equipment used in Chemical industry.
Chemical Engineering & Pilot Plant Dept., National Research Centre, Tahrir st., Dokki, Giza, Egypt.
- 1991-1995:** Research Student; Stress Analysis Group, Mechanical Engineering Department, University of Nottingham, Nottingham. UK.
- 1988-1991:** Assistant Researcher, Chemical Engineering & Pilot Plant Department, National Research Centre.
- 1985-1988:** Maintenance Manager, Modern Egyptian Press, Shobra El-Kheima, Cairo, Egypt.

PUBLICATIONS :

M. F. Nasr, K. A. Yehia, "Stress Analysis of a Shredder Blade for Cutting Waste Plastics", Journal of International Society for Science and Engineering Vol. 1, No. 1, 09-12 (2019)

K. A. Yehia, "Carbon Nano-sheets Production Using a Small Ball mill Unit Used in Enhancement of Diesel Engines Performance"; 7th International Conference & Exhibition on Clean Energy, Aug. 6-8,2018, Laval University, Quebec, Canada.

M.S.Gad, K.A. Yehia, A. A. Abdelhakeem. 2018. "Effect of Multi Carbon Nanosheets on Diesel Engine Performance and Emissions." Fullerenes, Nanotubes and Carbon Nanostructures Journal(Taylor &Francis), Vol.26, No.8, pp.1-7, 2018

A. A. Yehia, K. A. A.; Abdelhakeem, "Prototype Ball Mill With Circular Orbit Developed By a Four Bar Mechanism Coupler," in To be Published; 4th International Conference of Engineering Division - National Research Center.

K. Y. Malaawi, A. M. Abouel-Fotouh, M. El Bayoumi, Khaled Ahmed Ali Yehia, July 2016, "Design of composite pipes conveying fluid for improved stability characteristics", International Journal of Applied Engineering Research, Volume 11, Number 12 (2016), ISSN 0973-4562, pp 7633-7639.

K.A.A.Yehia, July 2015, "Enhancement of Batch Operations Based on a Contamination Free Valve Design", International Journal of Technology Enhancements and Emerging Engineering Research, Vol. 3, Issue 07, ISSN 2347-4289, pp 79-83, July 2015.

K. A. A. Yehia, 2012, "Solenoid Valve"; 2003121061, Patent Gazette; Issue No. 734, October 2012, Ministry of Scientific Research, Academy of Scientific Research & Technology, Cairo, Egypt.

K. A Yehia, 2007, "Roll Press Prototype Design for Fine Powders Agglomeration", Journal of Applied Science Research; 3(11), 1275-1278, 2007.

K. A Yehia, 2007, "A Design of Modified Solenoid Valve without Diaphragm", Journal of Applied Science Research; 3 (8), 741 – 746, 2007.

K. A. Yehia, 2007, "Estimation of Roll Press Design Parameters Based on the Assessment of a Particular Nip Region", Powder Technology 177 (2007) 148 – 153.

K. A. Yehia, 2006, "A New Approach for Designing Solenoid Valves", Journal of Applied Science Research; 2(12), 1099-1105, 2006.

N. El-Chazly, K. A. Yehia and A. M. Abouel-Fotouh, 2006, "Investigation of the Efficiency of Hydrogen Storage Systems in the Form of Metal Hydrides", Journal of Applied Science Research, 2(10), 765-762, 2006.

K. A Yehia, A.M. Amin, and T.H. Hyde, 1998, "Statistical Assessment of Reference Stress for One and Two-Materials Structures undergoing Creep", Proceedings of First international conference on civil engineering, vol. II pp 65-76, Cairo 24-26 March 1998, Civil engineering Department, Helwan University, Mataria, Cairo, Egypt.

K. Bell, K. A. Yehia, and T. H. Hyde, 1997, "The development of an impression creep technique to characterise weldment properties", TWI technical report 600/1997, March 1997. **(This research report is for the exclusive use of subscribing members of TWI)** TWI, Abington Hall, Abington, Cambridge CB1 6AL, UK.

T.H. Hyde, K.A. Yehia and W. Sun, 1996, "Observations on the Creep of Two-Material Structures". Journal of Strain Analysis for Engineering Design, Vol. 31 No.6 1996.

T.H. Hyde, K.A. Yehia and A.A. Becker, 1996, "Application of Reference Stress Interpretation of Impression Creep Test Data", High Temperature Technology Dec. 1996.

T.H. Hyde, K.A. Yehia and A A Becker, 1993, " Interpretation of Impression Creep Data Using a Reference Stress Approach", International Journal of Mechanical Sciences, Vol. 35 pp 451-462, June 1993.

TEACHING, COURSES AND EXPERIENCES :

- Teaching Engineering of Mechanical Systems Course for Industrial Engineering 3rd year students, 2006. Faculty of Engineering, Fayoum University.

- Teaching Theory of Machines Course for Industrial Engineering 2nd year students, 2006-2007. Faculty of Engineering, Fayoum University.
- Teaching Industrial Relations Course for Industrial Engineering 1st year students, 2006-2007. Faculty of Engineering, October 6 University.
- Teaching Tribology (Fundamentals of Friction, Wear and Lubrication) Course for Industrial Engineering 3rd year students, 2006. Faculty of Engineering, Fayoum University.
- Teaching Engineering Experiment Design Course for Industrial Engineering 4th (final) year students, 2006. Faculty of Engineering, Fayoum University.
- Teaching Financing and Costing Course for Industrial Engineering 3rd year students, 2006. Faculty of Engineering, October 6 University.
- Teaching Industrial Safety and Environment Course for Industrial Engineering 1st year students, 2006. Faculty of Engineering, October 6 University.
- Teaching Engineering Drawing and Projection Fundamentals Course for Foundation year students, 2006-2007. Faculty of Engineering, October 6 University.
- Teaching Metallurgy for Dentistry; course for PhD students, 2004/2005. Dental Materials Department. Faculty of Oral & Dental Medicine Cairo University.
- Delivering few training courses on: "Corrosion Failures and Design Considerations to Avoid Corrosion", September 2004.
- The erection and installation of Multi-Purpose Pilot Plant for chemical industries, involving piping fabrication, assembly, installation, and testing, National Research Center, Chemical Engineering & Pilot Plant Department, Feb. 2004. The pilot plant is a Gift from the Chinese Government to NRC.
- Consultant for fabrication and installation of fire fighting piping hydrant network, National Research Center, May – Oct. 2003.
- Testing, inspection, and commissioning for diesel engine generation unit for standby power plant, National Research Center. Jun, 2003.
- Director of Engineering Fire Fighting Committee, equipment maintenance and rehabilitation, National Research Center, Jul. – Nov. 2003.
- The design of two steel water storage tanks 300 cum each, 6m high 8m diameter, designed according to **API 650**, for automatic fire extinguishing at F18, Aug 1998.

- The design and erection of fire alarm system (120 smoke and heat detectors) in Mansoura knitting factory. Sep. 1997.
- The investigation of the air – conditioning machine failure at Montaza Sheraton. Sep. 1997.
- The commissioning of fire alarm and fire safety system at Conrad Sharm El-Shiekh. June 1997.
- The evaluation and development of the fire fighting system at Ras-Dieb Petroleum field. May 1997.
- The investigation of failure of a 5. Ton Liebherr telescopic crane working for PETROJET at Ras-Bakr site and the evaluation of loss for the estimation of insurance compensation. Nov. 1996.
- The investigation of the minor explosion in the auxiliary boiler at Arish power station. Oct. 1996.
- The evaluation of Dar Al-Maaref printing press equipment for the assessment of the insurance compensation. Aug. 1996.

Finite element analysis: 1994, Mech. Eng. Dept., Nottingham University
Introduction, linear application, plasticity applications, creep application, application to problems with non-linear geometry and contact mechanics problems.

Pressure Vessels, 1996, Course involving design of pressure
Design & Inspection. vessels according to **ASME VIII**, tall vessel design with wind load and seismic analysis. Fabrication and inspection of welds where also considered.

Technical procedures in the field 2002, Course involving QC and QA in the
Mechanical and Electromechanical installation of mechanical equipments, e.g.
Installation of Equipments. Central air conditioning units with duct work, pipeline & piping work, electrical power transformers, cables, engines, pumps, fire alarm, fire fighting....etc.

-Very good experience with ABAQUS software package and finite element analysis techniques, FORTRAN and BASIC programming and PC applications, 1991-1996.

-Teaching experiments classes in laboratories of Mechanical Engineering Department, Nottingham university, Nottingham, UK, 1991-1992, 1992-1993, 1993-1994, Basic Design analysis, Mechanics of solids I & II and Thermo-fluids courses, for first and second year students of Engineering.

-Fundamentals of water treatment plants design, 1989 National Research center.

- Printing Machines maintenance courses and operation courses, 1986, 30 Sep.-30 Nov., Heidelberg Druckmaschinen, Heidelberg, Germany.

-Very good experience with printing machines maintenance and production management in printing presses.

- Post graduate courses, 1985, Aeronautical Department, Faculty of Engineering, Cairo University. The courses has involved Project management, Maintenance management including analysis of different systems and scheduling and life estimates for several components. Another course was on reliability of systems involving analyses based on failure probability density functions to obtain reliability of systems in terms of its subsystems, hence constituents with the use of several identifications of systems being systems with spares or systems with repair. Knowing times required for repair or changing a spare the availability of the system for certain period or at a certain time can be evaluated thus a risk assessment may be performed.

- **German language:** Primary stage, courses 1-6, 1985-1987, Goethe Institute, Cairo.

- Colour matching for printing and ink manufacturing, fundamentals of printing, course at Ault&Wiborg Printing ink factory, Slough, UK, July – August 1978.