

PhD, FHEA-UK, MRAeS, Lead Audit ISO10015
MSc. In Engg. Mangmnt. Programme Coordinator
Industrial Engineering and Engineering Management Dept.
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Summary

An experienced consultant engineer and skilled academic with strong records of achievements in engineering, teaching, and research. These are manifested through 30 years of experience in aeronautical engineering, engineering systems safety, risk management, quality, performance enhancement, leadership and innovation, teaching and supervision of research at the post graduate level with strong focus towards UK and worldwide industry. Professionally, I'm a certified aircraft accident investigator, an auditor of ISO-10015 for quality in higher and vocational education, a member of the Royal Aeronautical Society-UK, and a fellow of the Higher Education Academy – UK.

I vastly believe in consistent self-development, persistence towards perfection, and in supporting my team members broaden their knowledge to give their best to become better professionals and leaders.

Key Expertise

- Aerospace engineering
- Safety and human factors
- Engineering systems safety
- Reliability and risk management
- Technical accidents investigation
- Maintenance operations
- Quality management
- Innovation
- Organizational performance
- Human performance and error

Key Professional Skills

- Student support
- Curriculum design & alignment
- Resourceful challenger
- Inventive capacity builder
- Multi-task management
- Team building and staff leadership
- Effective communicator
- Creative problem solver
- Methodology- driven
- Result-focussed

Personal Details

Nationality: British
Date of Birth: 23 May 1965

Marital status: Married
Languages: English, Arabic

Education

PhD. in maintenance management: Human factors effects on maintenance. *Cranfield University. 2010*
MSc. in mechanical engineering: Tactical solid propellant rocket motors. *Karary Unvessity. 2000*
BSc. in aeronautical engineering. Deformability of rocket launchers. *Engineering academy of Tajoura. 1991*

Professional Qualifications and Memberships

Post-Doctoral Certificate in Academic Practices (PGCertHE), Cranfield University, 2014.
Fellow, Higher Education Academy (FHEA). UK, 2014
Lead auditor, ISO10015: Standards for vocational training and higher education, Geneva. 2008.
Member, Royal Aeronautical Society, UK, 2006
Certified accident investigator, Cranfield University, 2005.

Medals and Awards

Royal Aeronautical Society Centennial Award, London, 2007
Long excellent service medal (military), 2004
Five different accumulative military medals, 1991 - 2003

Key Achievements

- Director of research, Human factors in sociotechnical organizations: Responsible for 50+ MSc and PhD projects in organizational performance and engineering systems. Cranfield University. 2012 - present.
- One of two judge-experts appointed by the Civil Aviation Authority – UK, to evaluate and decide on the positions of various stakeholders (Oil and Gas UK, North Sea offshore transport industry, and UK Governmental Agencies) in regard to the enforcement of safety regulations in the North Sea. 2014-2015.
- Key contributor to HELMGOP 1 and 2: A 2 years' experimental research on behalf of the European Aviation Safety Agency (EASA) that revolutionized the rotorcrafts main gearbox lubrication systems designs to enable 60 minutes run-dry capabilities of the rotorcrafts main gearboxes. The output altered the international regulations of rotorcraft airworthiness certification requirements. 2011 to 2013.

Career Development

Total years of experience: 30 years.

Assistant Professor in Industrial Engineering. 2017- Present

University Of Sharjah - UAE

- MSc. In Engineering Management Programme coordination.
- Teaching at the , BSc, MSc. and PhD. levels in various industrial engineering fields that includes organizational performance, quality, leadership, innovation, and industrial safety engineering.
- Conducting quality research in organizational culture, organizational performance, operations management, and industrial safety.
- Supervision of final projects and theses at the BSc, MSc, and PhD levels.
- Collaborating with industry to implement projects and others research activities.

Lecturer in Organizational Performance and Engineering Safety. 2010 - 2017

Cranfield University -UK

- Teaching at the MSc. and PhD. levels in organizational performance, quality, leadership, and industrial safety engineering.
- Conducting quality research in organizational culture, organizational performance, operations management, and industrial safety.
- Supervision of final theses at the MSc and PhD levels.
- Designing tools for managing maintenance errors in industrial as a complex human/ machine interaction context.
- Collaborating with industry to implement these tools.
- Conducting cutting edge research on quality management and human performance for industry, clients included EASA, AIRBUS, EUROCOPTER, CAA-UK, Thomson Airways, and others.

Founder and Principal Consultant, 2012 - 2017

HSJ Technicals – UK

- Managing director
- Conducting quality research in industrial safety and accident investigation.
- Providing evidence-based consultancy in organizational and human performance enhancement
- Providing training in industrial safety and knowledge transfer theory.

Researcher in Maintenance Operations, Safety and Human Factors (PhD. Studentship). 2005 - 2010

Cranfield University - UK

- Performing a 5 years span scientific research in aviation safety and accidents investigation. The research was the first to introduce an industry-oriented tool for proactively monitoring and controlling human errors in helicopter maintenance. The research was awarded the Royal Aeronautical Society Centennial Scholarship Award 2007', London, UK. The research, which is considered by the European Safety and Reliability Association as a pioneering step forward for proactively prevent accidents and incidents in aviation, was acknowledged by the aviation industry within UK, Italy and The EU Joint Research Centre-Ispra. The research product is now in the process of being commercialized.

Lecturer in Mechanical Engineering. 1996- 2005

Karary University - Sudan

- Lecturing at the BSc. And MSc. Levels in aerodynamics, helicopter flight dynamics, aircrafts engines, aircraft systems, aircraft structure, aircraft design, aircraft maintenance management, rocket propulsion, missile aerodynamics, missile guidance, rocket internal/ external/ terminal ballistics, 1996 – 2004.
- Head, Admissions and registration office - College of Technology - Karary University, 2000 – 2002.
- Visiting Lecturer, Mechanical engineering and Aeronautical engineering departments – Faculty of Engineering - University of Science and Technology, 2000 – 2005.

Aeronautical Engineer / Military Officer (Lieutenant Engineer to Colonel Engineer). 1987-1996

Air force - Sudan

- Conducting all military tasks and handling all responsibilities of an officer at my ranks (Lieutenant Engineer to Colonel Engineer).
- Working as a licensed maintenance engineer and a flight engineer on the following aircraft types:
 - Mi-24 helicopter senior maintenance engineer 1994- 1996.
 - Puma SA330L/H helicopters overhaul maintenance engineer 1993- 1994.
 - First and second lines helicopter maintenance engineer/ flight engineer in Bell 205, Bell 212, Puma 330L, Puma 330H helicopters. 1991 - 1993.
- Member / Head, Aircraft incidents/ accidents boards of inquiry/ investigation teams – 1991- 2004.

Teaching Activities & Research Interests

A. At the postgraduate level

i. Academic management roles:

Coordinator, MSc MEM programme – University of Sharjah - UAE– 2018 – Present

The role involves planning, execution, and authentication of all the teaching and research activities that are carried by students and staff members in fulfilment of the requirements of the all component of the Masters OF Science in Engineering Management Pprogramme. The programme recruits more than 450 students at various stages of their studies. Some of the duties that I undertake within this role:

- Preparing a multi-year forecast plan for students' intake to the courses and research components of the programme. .
- Preparing time plans for each academic year's activities, including courses, projects, and theses.
- Approval of students research topics, methodologies, and expected impacts.
- Official appointment of research internal and external supervisors.
- Facilitating required links with industry to allow access to data generation and testing.
- Approval and facilitating of relevant training for students in regards to their projects requirements
- Providing periodic monitoring and progressive assessments of research activities.
- Approval of research projects and theses assessment procedures, rubrics, timings, and format.
- Providing for external evaluation of the research activities and theses quality to international standards.
- Providing for communicating research output via relevant conferences and journal publication.

Director, MSc research programmes – Cranfield University – UK – 2013-2017

<http://www.cranfield.ac.uk/courses/masters/safety-and-human-factors-in-aviation.html>

The role involves planning, execution, and authentication of all the research activities that are carried by students and staff members in fulfilment of the requirements of the research component of the programme. The research activity, that spans a full academic year, aims to provide each student with an opportunity to apply the technical and analytical skills taught during the course, in a practical way. Around a total of 40 different theses are executed per academic year. Some of the duties that I undertake within this role:

- Preparing a multi-year forecast plan for students' intake to the research component in specific topics relevant to the industry interests.
- Preparing a full year time plan for the current academic year's activities.
- Approval of a research topic, methodologies, and expected impact.
- Official appointment of research internal and external supervisors.
- Facilitating required links with industry to allow access to data generation and testing.
- Approval and facilitating of relevant training for students in regards to their projects requirements
- Providing periodic monitoring and progressive assessments of research activities.
- Approval of research theses assessment procedures, rubrics, timings, and format.
- Providing for poster presentation of theses outputs.
- Providing for external evaluation of the research activities and theses quality to international standards.
- Providing for communicating research output via relevant conferences and journal publication.

ii. Taught courses

Industrial Engineering and Organizational behavior topics: University of Sharjah – UAE – 2017 – Present

- Leadership & innovation management (PhD)
- Engineering asset management (MSc.)
- Accident investigations – Special topic (MSc.)

Organizational behavior and human performance topics: Cranfield University – UK – 2010 – 2017

- Safety and human factors in aviation (MSc.)
- Human – machine interaction (MSc.)
- Accident investigations (MSc.)
- Task analysis (MSc.)
- Organizational performance (MSc.)
- Decision making (MSc.)
- Innovation leadership (MSc.)
- Crew resource management (MSc.)
- Safety engineering (MSc.)

Engineering-based topics: Cranfield University – UK – 2010 – 2017

- Airworthiness (MSc.)
- Maintenance operations (MSc.)
- Aerospace vehicle design (MSc.)
- Design for maintainability (MSc.)
- Aerospace maintenance mngmnt. (MSc.)

iii. Supervision Experience: Cranfield University - UK (2010–2017) + University of Sharjah (2017 – Present)

Samples of supervised final year projects at PhD. and MSc. Levels:

- Improving the Inventory System of Emirates Airline. MSc. Thesis 2018.
- The influence of Organisational Culture on Continuous Improvement in the Kingdom of Saudi Arabian higher education institutes. PhD thesis. 2017
- Exploring factors influencing leadership performance in the public health sector in Saudi Arabia: A study of the health sector of the Saudi national guard. PhD thesis 2017
- Developing a framework for Employee Engagement in large organisations in the Arabic Gulf region by leveraging national culture. PhD thesis 2016
- Developing a framework for improving the strategy implementation in large Saudi services organizations. Phd thesis 2016
- Developing a framework to cultivate Continuous Improvement culture in Saudi Non-for-profits organizations. Phd thesis. 2015
- The Technology-Culture Interference and its impact on aviation safety: A North African perspective. PhD thesis 2015
- Enhancing industrial safety in the developing regions through motivation. PhD thesis.
- Developing a frame work for aviation accident and Incident investigation in Libya. PhD thesis.
- A framework for strategy implementation by integrating strategic execution process and project portfolio management process in the manufacturing industry. PhD thesis.
- The Impact of Leadership Behaviours and Organisational Culture on Knowledge Management Practices and Business Growth in Saudi Arabia, PhD thesis.
- Similar deficiency, different judgment; Engineering decisions in a military environment, an explorative study. MSc Thesis.
- An analysis of RAF fast-jet human factors related accidents with regards to pilot age and experience, and a comparison with supervisors perceptions. MSc Thesis.
- A comparison of two predictive maintenance error tools (ErroDetect-W and Safety Health of Aviation Maintenance Engineering (SHoME)). MSc Thesis.
- Accident investigation versus political framework (Nigeria as a case study). MSc Thesis.
- A Study of the implementation of Safety Management Systems (SMS) for Maintenance and Repair Organizations (MROs) operating in the Arabian Gulf region. MSc Thesis.
- Air-prox risks in the Nigerian Helicopter Industry; A prediction of the expected impact of ADSB and Multilaterations system. MSc. Thesis.
- Optimising crew pairings to mitigate the risk of fatigue in a fixed flight schedule. MSc Thesis.
- Understanding the usability of BowTie. MSc Thesis.
- A consideration of typographical methods for minimizing deviations when following written maintenance procedures. MSc Thesis.
- Does Crew Resource Management (CRM) training in its current format give offshore helicopter pilots the knowledge and practical skills they require? MSc. Thesis.
- Investigation into the effect of differing vertical speed tape displays on pilot interpretation and the conditions for the occurrence of speed reversal error. MSc Thesis.
- Fatigue Risk Management. MSc. Thesis.

B. At the undergraduate level

i. Taught engineering courses : Karary University – Sudan 1996 -2004

General Mechanical Engineering Courses

- Engineering mechanics
- Mechanics of solids
- Heat and mass transfer
- Manufacturing processes
- Gas turbines
- Materials science

Aerospace/ Aviation Courses:

- Aviation management
- Aerodynamics I, II
- Flight mechanics
- Aerospace systems
- Aerospace design and manufacture
- Aircraft performance

- Aerospace maintenance management
- Rocket propulsion
- Missile aerodynamics
- Missile guidance
- Rocket internal, external, and terminal ballistics

i. Supervision Experience:

The list of supervised final year projects at BSc. level is long, it can be provided elsewhere on request.

C. Themes for Research Interests

- Mechanical systems reliability
- Aerospace systems
- Organizational performance and management
- Ergonomics and human factors
- Risk Management
- Industrial safety and accident investigations
- Safety engineering: Proactive safety advancement within high complex industries
- Quality (lean production)
- Innovation

Recent Publications

Please refer to the attached record of publications.

Recent Sample Industry-based Research Projects

- i. Human Factors Effects in Helicopter Maintenance: Monitoring and Damping Techniques (2007- 2010).
- ii. Project EASA.2011/5: Helicopter Main Gearbox Loss of Oil Performance Optimization – HELMGOP 1 (2011- 2012).
- iii. Project: EASA. 2011. CP.23: Helicopter Main Gearbox Loss of Oil Performance Optimization – HELMGOP 2 (2012- 2013).
- iv. Fatigue: A State of The Art Review for Thomson Airways (2013- 2014)
- v. Fire Protection on Unmanned Helidecks: An Independent Review on behalf of the civil aviation authority – UK. 2014-2015.
- vi. Aircraft maintenance and airworthiness: A safety enhancement project for improved helicopter operations in the North Sea – UK and Norway. On behalf of Bristow Group. UK – Research is now on going.

References

Available upon request.