

GENERAL PROFILE

An able academic with a balanced mix of academic, industrial, consulting and managerial experience of 33 years. Experience in the area of vertical transportation systems (elevators and escalators). Experience with the UK Metro Systems and high-rise building design. Proven track record of running an engineering consultancy business at London Underground of around 10 years in the United Kingdom and private consultancy of around 5 years also in the United Kingdom serving international clients.

Established the Mechatronics Engineering Department at the University of Jordan and headed it for 6 years. Formerly Vice-Dean of Engineering at the University of Jordan. Currently Dean of Engineering and Technology at Al-Hussein Technical University.

A passionate believer in simplifying higher education, with a [You Tube](#) channel on engineering concepts that has 57 thousand subscribers and 8.2 million views. A strong proponent of the use of project-based learning and blended learning in higher education.

Extensive research in the area of elevator traffic analysis, introducing the concept of using the Monte Carlo simulation and thus establishing the concept of Modern Elevator Traffic Engineering (METE) with around 30 papers published in peer reviewed journals on the topic. Co-inventor of 4 patents registered in the USA. Co-author of the 2nd edition of the "Elevator Traffic Handbook" published by Taylor & Francis.

**EDUCATION**

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| Oct. 1992 | Control Systems Centre/ UMIST/ Manchester. Ph.D. degree in the applications and use of simulation and neural networks in vertical transportation systems. Title of thesis: "Predictive Methods in Lift Traffic Analysis". |
| October 1990 | Control Systems Centre/ UMIST/ Manchester. M.Sc. degree by research in "Remote Lift Monitoring" (Design of a real time control system based on 8086 microprocessor system using C++ and Assembler for Remote Lift Monitoring). |
| June 1987 | Jordan University, Amman / Jordan. B.Sc. in Electrical Engineering, with Communication System specialisation (Grade: Very good 78%). Graduation project involved the design and testing of a digital speed controller for an induction motor. |
| Oct. 1995 | Post-Graduate Diploma in Business Administration (D.B.A.) at the University of Westminster/ London. |

EMPLOYMENT

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| Oct 2019 to Date | Professor, Dean of the School of Engineering Technology at Al-Hussein Technical University |
| Sep 2006 to Sep 2019 | Professor, The University of Jordan, Amman, Jordan Vice Dean for Academic Affairs (1 year) Mechatronics Engineering Department Head (6 years) Founding member of the Mechatronics Eng. Dept. |
| 2016 - date | Visiting Professor at the University of Northampton, U.K. |
| 2017 - date | Consultant at Peters Research Ltd., United Kingdom. |
| Nov 2002 – Sep 2016 | Director, Al-Sharif Vertical Transportation Consultancy Ltd, UK. |
| Sep 2001 – Oct 2002 | Associate Director, Buildings Transportation, WSP Group, UK. |
| July 1998 – Aug 2001 | Delivery Manager (Lifts & Escalators/ Electromechanical), Stations, London Underground, London, U.K. Heading a business unit of 60 engineers and administrators in the Station |

Systems Consultancy, who prepare specifications and manage replacement and refurbishment project on London Underground stations. The section turnover £1,500,000 in professional fees. Responsibilities included:

- *Full accountability for the running of business unit, including human resource and workload planning, training, licensing, health and safety and customer relations.*
- *Carrying out feasibility studies, and business case analysis.*
- *Ensuring compliance with British and European standards and HMRI requirements.*
- *Achieving ISO 9001 compliance for the Lift & Escalator section.*

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| June 1998 - June 1999 | Senior Station Modeller, London Underground Ltd., London, U.K.: Senior modeller for the Whole Life Asset (WLAP) Plans for stations. This involved heading a team of spreadsheet modellers, building spreadsheet models for station assets in five areas: Station Premises, Lifts and Escalators, M&E, Fire systems and Communication systems. The work culminated in developing Whole Life Asset Plans for the five asset areas which went into the PPP data room for the bidders to use for the privatisation process. |
| June 1995- May 1998 | Team Leader (Lift & Electrical Projects), London Underground Ltd.: Heading a team of 5 engineers, who solve technical problems, write specifications and provide technical support to refurbishment and replacement projects for lifts and escalators. Responsibility for setting targets, appraising performance, recruitment and resourcing the team. |
| Nov 1992-June 1995 | Senior Electrical Engineer (Lifts & Escalators) in the Chief Engineer's Department, London Underground Ltd. |
| Oct 1989-Oct 1992 | C++ Real Time Software Programmer , Intelev Ltd., Bolton, U.K. |
| Jun 1985 - Sept 1989 | Electronic design engineer and Head of Electrical Department , at the Jordan Lift & Crane Manufacturing , Madaba, Jordan. |

TRAINING COURSES GIVEN

Prepared the material and presented a number of training courses:

1. Courses on using MOODLE in running quizzes for higher education (2018, 2019) at the University of Jordan.
2. Course on Project Based Learning (2019) at the University of Jordan.
3. Three day training course, "Instrumentation and Process Control", 16th, 17th and 18th February 2011, delivered to the Mauritius Industrial Training and Development Board, Government of Mauritius, Mauritius.
4. Two day training course, "Escalators: Standards, Engineering, Human Factors and Planning", 14th and 15th February 2011, delivered to the Mauritius Industrial Training and Development Board, Government of Mauritius, Mauritius.
5. Five-day course entitled "Practical Process Control for Engineers & Technicians", 11th to 15th January 2009, Dubai, UAE.
6. One day special course on "Braking Systems for Escalators" delivered to Metronet Rail Ltd, Tube Lines and London Underground in London, United Kingdom, 28th January 2009.
7. Three-day course, "Introduction to Vertical Transportation Systems", Industrial and Vocational Training Board, Mauritius Government, Mauritius, 20th to 22nd May 2009.
8. One day special training course on "Braking Systems for Escalators" delivered to London Underground in London, United Kingdom, 12th October 2009.
9. One day special training course on "Escalator Control Systems" delivered to London Underground in London, United Kingdom, 13th October 2009.
10. One day special training course on "Escalator Control Systems" delivered to Tube Lines Ltd. in London, United Kingdom, 30th November 2009.

11. Vertical Transportation Systems course, delivered in Amman, Jordan for the Jordan Engineers Association (30 hours), 28th March 2010 – 10th April 2010.
12. Two-day course, “Escalators: Standards, Engineering, Human Factors and Planning”, London, United Kingdom, 17th, 18th, May 2005.
13. One day tutorial on vertical transportation systems, Hong Kong, 11th October 2004.
14. One Day “Elevate” Training Course, Arup Engineering Consultants, Hong Kong 14th October 2004.
15. Two-day course, “Escalators: Standards, Engineering, Human Factors and Planning”, London, United Kingdom, 13th, 14th April 2005.

Memberships, Standards and Technical Activities

Author of Mechatronics Module for the Saylor Foundation, USA (<http://www.saylor.org/team/>)

You Tube Channel containing course lectures with 8.2 million views and 56,000 subscribers.

Member of European escalator standard (EN115) electrical risk assessment committee, United Kingdom.

Member of the panel redrafting of the British Standard: Safe Working on Escalators standard (BS 7801).

Member of the British Standards Institution subcommittee on mechanical handling equipment, MHE4/3/2

Former Vice Chairman of the CIBSE lift group, UK.

Former member of the Executive Team of the Building Electrical Technology Professional Network of the IET (formerly IEE).

Corporate Member of the IET and Chartered Electrical Engineer.

External examiner for Ph.D. viva at Brunel University (Richard Peters), London, United Kingdom, January 1998.

External examiner for Ph.D. viva at Aalto University (Juha-Matti Kuusinen), Finland, May 2015.

INVITED SPEECHES AND LECTURES

1. Regular speaker at the Phi Research and Innovation Summit (2017, 2018, 2019).
2. Invited keynote speaker at the CIBSE Guide D one day symposium, Hong Kong, 24th August 2012.
3. Invited speaker at the 1st Symposium of lift and escalator technologies, “The Use of Monte Carlo Simulation to Evaluate the Passenger Average Travelling Time under Up-Peak Traffic Conditions”, 29th September 2011, University of Northampton.
4. Invited speaker, “Topics in Escalator Step Design and Testing”, presented at the Carlo Distaso Memorial Lectures, Milan, Italy, 23rd November 2000. (*Reprinted in: Elevatori [in English & Italian], January/February 2001.*)
5. Invited keynote speaker at the first international conference on building electrical technology (Hong Kong 13th October 2004).
6. Invited lecturer at University of Northampton, “Passenger Behaviour, Accidents & Design”, United Kingdom, 28th January 2005.
7. Invited keynote speaker at the second international conference on building electrical technology (Kuala Lumpur, Malaysia, 1st November 2006).
8. Invited speaker by the A/E Business Council on the topic of Vertical Transportation Systems, Amman, Jordan, 24th March 2008.
9. Invited speaker by the Jordan Engineers Association, “Modern Assessment Parameters for elevator systems”, Electrical Considerations for High Rise Buildings, one day symposium, 30th October 2010, Amman, Jordan.
10. Invited lecture to Jordan Engineers Association, “Introduction to Variable Speed Drive Systems”, 2nd March 2011, Amman, Jordan.
11. Invited Speaker, “Introduction to Vertical Transportation systems”, Project Management Institute, Jordan Chapter, 22nd January 2011, Amman, Jordan.
12. Keynote speaker, International Symposium on Mechatronics and its Applications (ISMA '13), Amman, Jordan, 10th April 2013. Title: “Future Trends in Elevators: 2D Elevator Systems”.

CONFERENCES ORGANISED

1. Member of the Steering Committee for the 7th Jordanian International Mechanical Engineering Conference (JIMEC'7) held in Amman/Jordan 27th to 29th September 2010, in Hyat Amman Hotel.

2. Member of the Steering Committee for the one-day workshop: “Prospects of Engineering Education”, held at the Faculty of Engineering & Technology, 3rd May 2011, Amman, Jordan.

AREAS OF TECHNICAL EXPERIENCE

- Design of vertical transportation systems for high rise buildings, shopping centres, hospital and hotels.
- Traffic calculations for elevators and escalators in buildings.
- Practical experience in the use of the G5/4 standard in assessing drive compliance with harmonic distortion requirements especially in railway environments.
- Analogue and digital system design of elevator variable speed controllers and logic controllers. Experience in real time applications such as elevator remote monitoring.
- Energy modelling for elevators and escalators.
- Sizing and selection of elevators and escalator motors.
- Statutory inspections for elevators and escalators.
- The use of Non-Destructive Testing (NDT) in preventative maintenance management.
- AC and DC motor modelling and testing (testing of motors for railway applications).

AREAS OF MANAGERIAL EXPERIENCE

- Developing an organisational structure and resourcing it by recruitment for a medium size business unit.
- Business case analysis for projects and the ability to use the cost-benefit analysis methodology for public sector projects.
- Internal verifier (D34) of an NVQ (National Vocational Qualification) centre for a maintenance unit within London Underground.
- Development of a licensing system to demonstrate the on-going competence of consultant engineers within London Underground.

MAJOR ACHIEVEMENTS

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| Educational | You Tube channel on Engineering Principles, with 8.25 million views and 57k+ subscribers. Introduction of Project Based Learning and Problem Based learning to the Mechatronics Engineering Department. Leading the School of Engineering efforts at the University of Jordan to obtain ABET accreditation for four departments (Nov 2018). |
| Technical | Tested and evaluated the first ever intelligent braking systems (hydraulic and electrically based) for London Underground, UK. |
| | Developed the first and only generalised theory on Escalator Energy consumption, with full theoretical background, calculations and examples |
| | Conceived and developed the first ever Elevator Energy Consumption Model (Simulation and Analysis) |
| | Co-inventor of three patents of energy system products for elevator systems |
| | Designed and implemented a close loop DC field control system for escalators on the Central Line at London Underground to overcome the effect of the new regenerative rolling stock (system still in operation today). |
| | Design of vertical transportation systems for an 88 floor tower in Moscow and a 60 storey tower in Kuwait and first high rise complex in Amman, Jordan (Jordan Gate). |
| Managerial | Implemented ISO9001 quality system for a medium size consultancy business |
| | Conceived and implemented an asset management model for the elevators and escalator assets for London Underground, two models developed: one in 1998, the second in 2010. |
| | Established an engineering business consultancy and ran it for 3.5 years, with growth rates of around 50% per annum. |
| Academic | Developed and expanded the Department of Mechatronics Engineering at the University of Jordan as Head of Department, September 2008 to 2018. |

LANGUAGES

Fluency in Arabic & English. Basic command of French and German.