
MURAT ALI

PROFESSIONAL CHARTERED ENGINEER · MECHANICAL · MANUFACTURING · PRODUCTION · DESIGN · RESEARCH AND DEVELOPMENT · LEADER

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“Chartered engineer with interdisciplinary professional industry and academic experience. I have a broad interest in engineering and the interaction between humans and technology, and how engineering can improve and even save lives. My goal and ambition in life is to improve lives through engineering, research, development, effective management, mentorship and leadership.”

EXPERIENCE

Senior Manufacturing Engineer (R&D)

Southend-on-Sea, UK

Olympus Keymed

Feb. 2017 - current

- Leading role developing highly regulated medical products following a Product Development Procedure (PDP).
- Lead engineer on an R&D project to introduce a new product to the market (Project value: >£1.3m)
- Completed design verification of medical products within a production environment.
- Completed process validation planning (IQ, OQ and PQ) and defined manufacturing requirements of new medical products.
- New product development including sheet metal fabrication, injection moulding, tooling and fasteners involving supplier interfacing.
- Led and completed PFMEA (Process Failure Mode and Effect Analysis) activities and risk assessments of new products.
- Developing and using Design for Manufacture (DFM), Design for Assembly (DFA) and Design for Production (DFP) processes.
- Review and approval of technical drawings, including engineering transfer of components and part setups for production.
- Developed and managed the product cost of a new product during design development.
- Worked closely with designers, engineers, product management, quality, production and manufacturing staff.
- Dealt with customer complaints and quality issues and was responsible for carrying out complaint investigations.
- Research and development of innovative manufacturing and production processes including assembly tooling and equipment.

Key Skills Developed

- *Managing and leading technical and project negotiations, and implementing manufacturing solutions into production.*
- *Leadership and management of a team to deliver under pressure on projects which can not slip.*
- *Delivering and presenting work at design reviews leading to continuation of the project.*
- *Implementing new design for excellence approach within a commercial environment to remain competitive.*
- *Leading and managing engineering transfer from R&D to production, with minimal disruption to customer orders.*

Engineering Research Fellow

Leeds, UK

Institute of Medical and Biological Engineering, University of Leeds

Oct. 2013 - Feb. 2017

- Experimental hip simulation research within an ISO 9001 laboratory to deliver world class research.
- Planned and managed validation and verification of electromechanical simulators to ISO standards and beyond (PV: £178.3K)
- Managed over ten different experimental hip joint simulator wear, friction and biomechanical tests using different bearing materials
- Developed and managed operating procedures, quality and health & safety documents, risk and COSHH assessments
- Measurement and inspection including coordinate measurement machines, surface profiling, component weighing and microscopy.
- Collaborative development of electromechanical experimental simulators and dealing with factory acceptance tests (FAT).
- Funders/collaborators: IKC, MeDe Innovation, EPSRC, WELMEC, TSB, DePuy Synthes and Simulation Solutions.

Key Skills Developed

- *Project management of funded research projects involving working within a team and on my own.*
- *Presented at world leading international conferences. Completed journal papers and quality documents.*
- *Managed the operation of continuous experimental work, tests and machines for 24 hours a day.*
- *Supervised, mentored and provided support to researchers during their projects.*
- *Managed laboratory equipment, and provided training and supervision to others.*
- *Technical and project related problem solving under pressure*

Project Leader for EPSRC Research Project

Coventry, UK

School of Engineering, The University of Warwick

Jun. 2017 - Oct. 2017

- A Low Cost Portable Computer for Developing Countries. Funded by the EPSRC (Project budget £5k).
- Led a team to develop a unique solar powered computer for developing countries.
- Presented at the Computer science and Electronic Engineering Conference (CEEC 2013), receiving nomination for top paper.

Key Skills Developed

- *Project management and leadership involving responsible innovation.*
- *Managing a tight budget, negotiating within a research environment and multidisciplinary research.*
- *Established and managed a multidisciplinary team to complete a project on time and budget.*
- *Improved programming and computer hardware skills to deliver new and innovative solutions.*

Project Engineer
ITP Engines UK Ltd.

Leicester, UK
Feb. 2008 - May. 2009

- Gas turbine engineering project management (EBU, Engine Mounts and Exhaust) from kick-off to delivery (Total project value \$10M)
- Led a successful tender to win a multi-million pound gas turbine design and analysis contract (Tender project budget £10k).
- Rolls Royce IT support project - Managed an IT customer support project (Project budget £5k).
- Company process improvements - Developed the company tendering tools, processes, procedures and quality plans

Key Skills Developed

- *Project management, team building, chairing meetings, leading teams, deliver customer/management expectations.*
- *Team working skills with various disciplines, negotiations, financial budgeting and cost control for monthly reports.*
- *Effective communication skills gained from project work, writing quality plans and producing procedural documents.*
- *Worked with the company leaders to provide monthly updates of organisation engineering resource forecasts*

Graduate Engineer
Alstom Aerospace

Leicester, UK
Sept. 2006 - Feb. 2008

- GE/Honda fan booster gas turbine test rig project - Completed graduate placements in design (with stress analysis), procurement, build and commissioning from concept design to manufacture and delivery.
- Six Sigma and Gauge repeatability and reproducibility process improvements for gauging equipment.
- Steam turbine diaphragm key adjustment group project - Design project to reduce key adjustment time.

Key Skills Developed

- *Technical skills including design, computer aided engineering, engineering calculations, stress analysis.*
- *Innovation and creativity, with problem solving and decision-making skills developed during the test rig build.*
- *Engineering, design, stress analysis, procurement, and engine test rig building.*
- *Six Sigma green belt training, quality processes and process improvement.*

EDUCATION AND INTERNSHIP PLACEMENT

Doctorate of Philosophy (PhD)
School of Engineering, The University of Warwick

Warwickshire, UK
Oct. 2009 - June. 2013

- PhD Project - Computational and Theoretical Modelling of Orthopaedic Hip Implant Devices

Mechanical Engineering (MEng), 1st Class Honours Degree
Brunel University

London, UK
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Oct. 2001 - July. 2006

- Major Group Project BR-7 Formula Student Project - Team Principal and Unsprung Group Leader
- Design, Development and Manufacture of Suspension Uprights and Formula Student vehicle BR-6.

Intern Manufacturing Project Engineer
Eli Lilly and Company

Basingstoke, UK
July. 2003 - Aug. 2004

- Participated and led in all aspects of local capital engineering projects following an asset delivery roadmap.
- Led the development of site service engineering, conceptual designs, scope development and cost estimations.
- Re-engineering dust collectors - explosion protection, minimised manual handling and dust containment.
- Waste management and minimisation - Documented and improved control of site waste streams.
- Set up a waste governance group and delivered a waste minimisation and conservation plan.
- Pharmaceutical glove bag dispensing design and packaging band labeller tender project.

Key Skills Developed

- *Understanding of manufacturing, quality, packaging, site utilities and engineering within the pharmaceutical industry.*
- *Planning and controlling projects, resources and cost to deliver the scope of the project.*
- *Making changes to the scope and project plans when necessary and minimising the impact.*

A Levels and GCSEs
Havering Sixth Form College (A Levels) and The Albany School (GCSEs)

Essex, UK
Sept. 1999 - July. 2001

- *A levels: Mathematics, Physics, Design and Technology (1999-2001)*
- *GCSEs: 13 A*-C's including Mathematics, Science and Design and Technology (1994-1999)*

TRAINING AND PERSONAL DEVELOPMENT

PDP and Medical Device Training Programme at Olympus Keymed

Completed the Product Development Procedure (PDP) including validation, GDP (Good Document Practice), GMP (Good Manufacturing Practice), Health and Safety (H&S), Failure Mode and Effect Analysis (FMEA) and Risk Assessments.

IMechE Monitored Professional Development Scheme (MPDS)

Became a chartered mechanical engineer whilst being mentored by chartered engineers.

Alstom Graduate Training Scheme

Completed a graduate training scheme including training courses in the following: Thinking skills, influencing and negotiation, meeting skills, teamwork and leadership, time management and goal setting, managing people, presentation skills and commercial awareness.

Health and Safety

Direct experience and responsibilities of health and safety within industry and academia with continuous training in the following areas: Risk assessments, COSHH assessments, manual handling, fire hazards, health and safety in the workplace, laboratory and engineering workshop health and safety training.

Quality and Technical

High emphasis of quality within industry and academia such as the following: Eli Lilly pharmaceutical quality system and documentation training, Alstom Six Sigma Green Belt Training, Eli Lilly asset care maintenance programme training, working in an ISO 9001 accredited laboratory.

Academia

Collaborative world class research, training and personal development within academia. Training courses have included: Working with your supervisor, time management, project management in academia, writing your thesis, academic writing for engineers and scientists.

HONOURS AND AWARDS

2017	Science, Engineering, Technology and Mathematics (STEM) Ambassador
2015	Invited to write a journal paper for the IMechE special issue and the UHMWPE Handbook
2015	Awarded MeDe Innovation funding for experimental hip simulator research and testing
2013	Awarded IKC/EPSRC funding for experimental hip simulator research and testing
2013	EPSRC Sandpit project funding award
2012	Best Paper Award of The 2012 International Conference of Mechanical Engineering
2012	Conference funding awarded from the Warwick School of Engineering
2009-12	Formula Student design judge (2012, 2011 & 2009) and presentation judge (2010 & 2008)
2009	EPSRC (Engineering and Physical Sciences Research Council) funding award
2007-08	Alstom Design Group Head Awards (2007 and 2008) for gas turbine engineering
2006	Formula ATA MSc Award for Best Virtual Team Development

SKILLS

Technical:	Computer Aided Design (CAD), Finite Element Analysis (FEA), Engineering Calculations, General Engineering, design, manufacturing.
Research and Development:	Journal/scientific writing, Statistics, brainstorming.
Project work:	Team working, new product development, problem solving.
Management and Leadership:	Leading teams, project management and team development.
General Software:	Microsoft Office, Lotus/IBM Notes, MS Project, Open Office, LaTeX, Wordpress, Inkscape
Engineering and Scientific Software:	SIMULIA Abaqus, Autodesk products, MathCAD, Ansys, Fluent, Solidworks, UniGraphics, AutoCAD, SMath Studio, MATLAB, Simpleware, Origin Lab.
Computing and programming:	Windows, Linux, Python, Visual Basic, PC hardware.

INTERESTS AND CHARITY WORK

- Engineering and technology, automotive engineering and riding bikes.
- Travelling, experiencing different cultures, events and new adventures. Cycling and going to the gym.
- Seyhan and Mehmet Ali Memorial Cup '05-'14 (Make-A-Wish, Bone Cancer Research and Cancer Research).
- TLC in the Park 6 Km 2011 (The Laura Centre), Rutland Bike Ride 2010 (supporting ACES Charity).
- 15 Km Sponsored Walk 2009 (Friends of Al-Aqsa Charity) and 5-a-side football tournament 2005 (London Hospital Kidney Patients and Leukemia Research).

PUBLIC ENGAGEMENT

- The Discovery zone at the Great Yorkshire Show (July 2016).
- The Discovery zone at University of Leeds (March 2016).
- MeDe Innovation exhibitor at the British Orthopaedics Research Association conference. (Sept 2015).
- Delivered public engagement at local school. Participated in an event with activities to inspire children to study science and engineering (2014).
- Engineering and ALSTOM, Leicester High School for Girls, Promoting engineering and ALSTOM (Apr 2007).
- Team leader during Formula Student marketing events including The International Autosport show (2005-06).