**Dr. Saqib Anwar**

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**Profile:**

Industrial and Manufacturing engineer with a strong background in manufacturing, finite element modelling and CNC machining. Strengths include extensive experience in finite element modelling of manufacturing processes, research and teaching experience in leading institutes of UK and Saudi Arabia.

**Awards and honours**

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| **Distinction in MSc** from The University of Nottingham, UK | **Nov, 2009** |
| **High Flier Student Award** from the Faculty of Engineering, The University of Nottingham, UK in recognition of academic excellence in MSc. | **Feb, 2009** |
| **Fee scholarship (50%)** towards PhD from The University of Nottingham, UK | **Aug, 2009** |
| **Developing Solutions Scholarship** from The University of Nottingham, UK, Scholarship Amount: 25% towards tution fees for one year M.Sc. | **Sept, 2008** |
| **Gold medalist** from University of Engineering and Technology, Lahore, Pakistan for scoring highest marks in all four years of B.Sc. | **Nov, 2007** |

**Education**

**Ph.D, Manufacturing Engineering 2009 – 2013**

***The University of Nottingham, UK***

Thesis title: Modelling of abrasive waterjet milled footprint

Supervisor: Prof. Dragos Axinte

Research highlights: The aim of the research was to develop accurate models for predicting the abrasive waterjet (AWJ) milled footprints in superalloys such as Ti–6Al–4V. During the modelling process, most of the real life conditions occurring during the AWJ machining were considered as compared to the state of the art in modelling of AWJ machining. Two modelling approaches; finite element (FE) modelling and mathematical modelling were presented in this work. The research provides the reliable models that can be employed for accurate prediction of the abrasive waterjet milled footprints at various process parameters which is a necessary step towards the exploitation of the AWJ machining for controlled depth cutting applications and its automation. The work was accomplished under European FP7 funded Conformjet project (<http://conformjet.eu/>).

**M.Sc, Manufacturing Engineering and Management 2008 – 2009**

***The University of Nottingham, UK***

Passed in distinction with overall 72.3% percentage *(****2nd highest in the department****)*

Scored 82% marks in the MSc Project (thesis)

Thesis title: A preliminary investigation of employing finite element method for predicting the influence of abrasive waterjet on the target surfaces made of aerospace Ti based superalloy

*M.Sc Courses*

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| 1. | Introduction to maufacturing |  | 7. | Plant location and design |
| 2. | Computer integrated and flexible manufacturing |  | 8. | Modelling and simulation |
| 3. | Robotics and automation technology |  | 9. | Project management |
| 4. | Manufacturing process capability |  | 10. | Supply chain planning and management |
| 5. | Rapid product development |  | 11. | Managing international operations |
| 6. | Lean manufacturing |  |  |  |

**B.Sc, Industrial & Manufacturing Enginnering 2003 – 2007**

**(Gold medalist)**

***University of Engineering and Technology, Lahore, Pakistan***

Overall percentage: 83.4% *(****highest in the department****)*

**Publications**

1. A. Al-Ahmari, E. Abouel Nasr, K. Moiduddin, **S. Anwar**, M. Al Kindi, A. Kamrani, “A comparative study on the customized design of mandibular reconstruction plates using finite element method”, Advances in Mechanical Engineering, , vol. 7, no. 7, pp. 1687814015593890, 2015. (**Impact factor: 0.640**)
2. D. A. Axinte, B. Karpuschewski, M. C. Kong, A. T. Beaucamp, **S. Anwar**, D. Miller,M. Petzel, “High Energy Fluid Jet Machining (HEFJet-Mach): from scientific and technological advances to niche industrial applications,” *CIRP Annals Manufacturing Technology,* vol. 63, no. 2, pp. 751-771, 2014. (**Impact factor: 2.492**)
3. **S. Anwar.** *Modelling of abrasive waterjet milled footprint*. PhD diss., Department of Mechanical, Materials and Manufacturing Engineering, University of Nottingham, 2013.
4. **S. Anwar**, D. A. Axinte, and A. A. Becker, “Finite element modelling of overlapping abrasive waterjet milled footprints,” *Wear*, vol. 303, pp. 426–436, 2013. (**Impact factor: 2.323**)
5. **S. Anwar**, D. A. Axinte, and A. A. Becker. “Finite element modelling of abrasive waterjet milled footprints.” *Journal of Materials Processing Technology,* vol. 213, no. 2, pp. 180–193, 2013. (**Impact factor: 2.359**)
6. M. C. Kong, **S. Anwar**, J. Billingham, and D. A. Axinte, “Mathematical modelling of abrasive waterjet footprints for arbitrarily moving jets: Part I—single straight paths,” *International Journal of Machine Tools and Manufacture*, vol. 53, no. 1, pp. 58-68, 2012. (**Impact factor: 3.315**)
7. **S. Anwar**, D. A. Axinte, and A. A. Becker, “Finite element modelling of a single-particle impact during abrasive waterjet milling,” *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, vol. 225, no. 8, pp. 821-832, 2011. (**Impact factor: 0.907**)

**Teaching experience**

**Assistant Professor (Sept 2014 – to date)**

**King Saud University, Riyadh, Saudi Arabia**

Working as an Assistant Professor in the department of Industrial Engineering, College of Engineering.

Subjects taught: Manufacturing processes – I, Manufacturing processes – II, CAD/CAM, Manufacturing Materials.

Supervisions: Supervising BSc graduation projects. Co-Supervising a MSc project on Rotary Ultrasonic Drilling of difficult to cut materials Ti6Al4V and BK7 glass. Co-Supervising a MSc project on producing nano-particles from nobles metals.

Administration**:** Currently working as an active member of ABET accreditation committee and Lab committee in the Industrial Engineering department.

**Assistant Professor (Nov 2013 – Aug 2014)**

**University of Engineering and Technology, Lahore, Pakistan**

Worked as an Assistant Professor in the department of Mechanical, Mechatronics & Manufacturing Engineering, KSK campus.

Subjects taught: Engineering Mechanics – I (Statics), Machining technology – II, Quality Control, Finite Element Analysis Lab.

Supervisions: Supervised a final year BSc project on modelling and analysis of cooling fins in a heat exchanger.

Supervised a MSc project: Investigation of cutting forces, temperature generation and chip formation during orthogonal machining of H13 by using various numerical techniques.

**Mentored BSc final year project (2012 – 2013)**

**The University of Nottingham, UK**

Mentored a BSc project with Prof. Dragos Axinte inMechanical, Materials and Manufacturing Engineering department on the evaluation of a cutting fluid for Rolls Royse Plc.

**Tutoring ABAQUS software (2010 – 2012)**

**The University of Nottingham, UK**

I have tutored ABAQUS, a finite element analysis software,inMechanical, Materials and Manufacturing Engineering department for sessions 2010-2011, 2011-2012. Main tasks were **(i)** teaching students who are new to Abaqus **(ii)** supporting MSc and BSc students who are working on finite element modelling and simulation in their final year projects.

**Lab instructor (2010 – 2012)**

**The University of Nottingham, UK**

I have worked as a Lab instructor for module Measurement and Control inMechanical, Materials and Manufacturing Engineering department for sessions 2010-2011, 2011-2012. Main tasks were to **(i)** organize the lab manuals **(ii)** conducting the lab with students **(iii)** marking and feedback on reports from students.

**Research experience**

**Co-investigator** on a National Science, Technology, and Innovation Plan (NSTIP) funded project on the “Development of dissimilar metal transitional welds for high temperature steam generator applications using friction welding”. **(Oct, 2015 – To date)**

**Co-investigator** on a funded project on the machinability aspects of EBM printed Ti based superalloys (Gamma-Ti and Ti6Al4V)for medical impants and aerospace applications. **(Dec, 2014 – To date)**

**Mentored two Ph.D projects** at The University of Nottingham, UK for three months with Prof. Dragos Axinte inMechanical, Materials and Manufacturing Engineering department. First Ph.D student working on hybrid modelling of abrasive waterjet machining of super-alloys and ceramics under EU Marie Curie funded STEEP project ([http://www.steep-itn.eu](http://www.steep-itn.eu/steep/index.aspx)). Second student working on finite element modelling of orthogonal machining of super-alloys, funded by Rolls Royce Plc. **(Aug, 2013 – Oct, 2013)**

**Reviewed research papers** for International Journal of Machine Tools and Manufacture, Wear, Rapid Prototyping and CIRP 2nd Conference on Surface Integrity (CSI) 28th-30th May 2014. **(2010 – 2015)**

**Research project management and reporting:** Worked part time with Prof. Dragos Axinte for the management (events, meetings and link calls organization, project website development and maintanance) and technical reports preparation for an European FP7 funded ConformJet (<https://www.nottingham.ac.uk/mcm/research/conform-jet.aspx>) project at Department of Mechanical, Materials and Manufacturing Engineering, University of Nottingham, UK. **(2011 – 2013)**

**Doctoral Researcher,**Department of Mechanical, Materials and Manufacturing Engineering, University of Nottingham, UK. Developed accurate and reliable models for the prediction of abrasive waterjet milled footprints**.**  **(2009 – 2013)**

**Trainings**

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| **Introductory Event to Teaching for PG Research Students and Researchers** organized by the University of Nottingham, UK. |  | **Apr-2011** |
| **Demonstrating in Laboratory Practicals** organized by the University of Nottingham for training the PhD students who are working as Lab instructors. |  | **Oct-2010** |
| **Marking and Assessment** organized by the University of Nottingham, UK for training the PhD students who are involved in marking of Lab reports and exam scripts. |  | **Oct-2010** |
| Attended a two days course on **Advance** **Non-Linear Finite Element Analysis** organized by NAFEMS, UK in The University of Nottingham. |  | **Apr-2010** |
| Attended a five days course on **ANSYS** at National Institute of Design and Analysis (NIDA) Lahore, Pakistan, for the finite element analysis of static systems. |  | **Jul-2008** |
| Attended the training course in **Printed Circuited Board** (PCB) **production** held at Manufacturing Technologies Development Center UET, Lahore, Pakistan. |  | **Nov-2007** |
| Attended the training course for the callibaration of CNC machining center and CNC turning center by using **Renishaw ML-10** **Laser interferometer** and **QC-10 Ballbar**, held at Manufacturing Technologies Development Center UET, Lahore, Pakistan. |  | **Sep-2007** |

**References**

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| **Prof. Dragos Axinte**  School of Mechanical, Materials and Manufacturing Engineering  The University of Nottingham, Nottingham, UK.  Tel: 0044115 9514117  Email: [dragos.axinte@nottingham.ac.uk](mailto:dragos.axinte@nottingham.ac.uk) | **Dr. Shahid Imran**  Mechanical, Mechatronics and Manufacturing Engineering Department,  University of Engineering and Technology, Lahore, Pakistan.  Tel: 00924239029467  Email: s.imran@uet.edu.pk | **Dr. Mohammad Chowdhury**  Industrial Engineering Department, College of Engineering,  King Saud University, Riyadh,  Saudi Arabia.  Tel: 00966546159161  Email: mchowdhury@ksu.edu.sa |