

Dr. M SAJID ALI ASGHAR

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Academic Qualifications

- **PhD (2018):** **Nano Materials and Nano Technology (Energy and Medical Sciences)** The University of Sheffield, Sheffield, UK
- **M-E (2011):** **Materials Engineering**
NED University Of Engg. & Tech. Karachi Pakistan
- **B-E (2007):** **Metallurgy & Materials Engineering**
Dawood University of Engineering & Technology Karachi
Pakistan

Working Experience

NED UNIVERSITY OF ENGINEERING & TECHNOLOGY

- **Assistant Professor** in Materials Engineering Department from **10th April 2012 to date**
- Joined as **Lecturer** in Materials Engineering Department from **30th April 2008 to 9th April 2012**

Teaching Experience:

Postgraduate: Teaching of Management courses in Chemical Engineering Department

1. Total Quality Management
2. Financial and Accounting Management
3. Production and Planning

Teaching of Courses (Materials Science and other Subjects) in Materials Engineering Department

1. Research Methodology and Ethics
2. Production Management and Quality Control
3. Production of Ferrous and Non ferrous
4. Electron Microscopy
5. Nano Technology
6. Surface Engineering

7. Advanced Materials Characterization

Other Responsibilities:

1. Materials Sophisticated Labs Establishment (Installation & Commissioning)
2. As a Lab Incharge (Operation and Routine Maintenance)
 - Scanning Electron Microscopy Lab
 - Non Destructive Testing Lab
 - Laser Work Station Lab
 - Rapid Chemical Analysis Lab
3. Installation Experience of Sophisticated Lab Equipments
 - Scanning Electron Microscope (FEI, Quanta 200)
 - Optical Microscopes (Olympus & Leica Microscopes)
 - Laser Work Station For cutting and welding etc. (MICOS Germany)
 - Non Destructive Testing Labs Equipments (Phased Array Ultra sonic Tester, Ultrasonic Tester, Eddy Current Tester, Portable Magnetic Particle Analyser and Dye Penetrant)
 - Portable XRF Alloy Analyser (InnovXsystem)
 - Carbon Sulphur Analyser (CS-230)
 - Differential Scanning calorimetry
4. Teaching (Theory & Practical) of Materials Engineering Related Subjects
5. Final Year Class and Project Advisor

ATLAS ENGINEERING FORMERLY ALLWIN ENGINEERING INDUSTRIES

Production and Quality Control Engineer

May, 2007 to April, 2008

Responsibilities:

- To manage and control the Production of the shift.
- To control the quality of casted parts like, Honda cylinder (CD-70, Honda 100), Suzuki brake drum, Suzuki exhaust manifold car and van ,Toyota fly wheel Coure manifold, Honda vti disc brake
- Melting of cast iron in Induction (High, Low and Medium Frequency) Furnace and Rotary Furnace.
- Control and manage the overtime of the workers.
- The development of Honda cylinder by new single cavity process (4 to 7 percent rejection is reduced.)
- Control melting of Aluminum in Resistance Furnace for Piston and other components

Other Experiences	
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2012 to July 2014 M. Engg Coordinator, Department of Materials Engineering, NED University of Engineering & Technology

2011 to July 2014 PEC Coordinator, Department of Materials Engineering, NED University of Engineering Technology

2010 to Date Member/Secretary Board of Studies, NED University of Engineering & Technology

2010 to 2012 Area Coordinator, Department of Materials Engineering, NED
University of Engineering & Technology

2009 to Date Class Advisor (BE,SE) Department of Materials Engineering, NED
University of Engineering & Technology

International Research Publication and Conference / Symposium	
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1. Asghar, M.S.A.; Inkson, B.; Möbus, G., In situ formation of 1D nanostructures from ceria nanoparticle dispersions by liquid cell TEM irradiation, *Journal of Materials Science*, 2019. (<https://doi.org/10.1007/s10853-019-04140-0>)
2. Asghar, Muhammad Sajid Ali¹, Inkson, Beverley¹, Seal, Sudipta², Molinari, Marco³, Sayle, Dean⁴, Möbus, Günter¹, In-situ observation of radiation chemistry of nanostructured cerium oxide in water. *Mater. Res. Express* Vol. 6, Issue No. 1 (2018) 015032 (<https://doi.org/10.1088/2053-1591/aae634>).
3. Asghar, M.S.A.; Inkson, B.; Möbus, G. Giant radiolytic dissolution rates of aqueous ceria observed insitu by liquid-cell TEM. *ChemPhysChem* **2017**, 18, 1-6.
4. Asghar, M.S.A.; Sabri, M. Mohammad; Tian, Z. ; and Möbus, G, “In-situ irradiation of cerium precursors in TEM to study nanocrystal formation” *Journal of Physics: Conference Series*, Volume 902, conference 1. (<http://iopscience.iop.org/article/10.1088/1742-6596/902/1/012003>)
5. Asghar, M.S.A.; Inkson, B.; Möbus, G. “Cerium-Water-Reactions Studied by Liquid Cell TEM” *Journal of Physics: Conference Series*, Volume 902, conference 1. (<http://iopscience.iop.org/article/10.1088/1742-6596/902/1/012004>)
6. Asghar, Muhammad Sajid Ali, Ashraf Ali and Tariq Fawad, Failure Analysis of AISI-304 Stainless Steel Styrene Storage Tank., *Journal of Failure Analysis* (Springer) Published online: 30 April 2010, ASM International 2010
7. Asghar, M.S.A., Inkson, B., Möbus, G. “In-situ generation of nanoparticles by electron irradiation” *University of Sheffield Engineering Symposium*, Sheffield, UK, 24 June 2015.
8. Asghar, M.S.A., Möbus, G. “In-situ Liquid cell TEM Examination of Ceria Nanoparticles” *Engineering Researcher Symposium 2017*, University of Sheffield, Sheffield, UK, 30 June 2017.
9. Asghar, M.S.A.; Inkson, B.; Möbus, G. “In-situ dissolution of ceria nanoparticles in liquid-cell TEM”. MMC2017- EMAG, Manchester, UK, 3-6 July, 2017.
10. Asghar, M.S.A.; Sabri, M. Mohammad; Tian, Z. ; and Möbus, G, “In-situ irradiation of cerium precursors in TEM to study nanocrystal formation” MMC2017- EMAG, Manchester, UK, 3-6 July, 2017
11. Asghar, M.S.A.; Inkson, B.; Möbus, G. “In-situ dissolution study of cerium oxide nanoparticles in liquid-cell TEM”. The 11th International Nanoscience Student conference (INASCON), Wills Hall, The University of Bristol, Bristol, UK, 21-24 August 2017.

International Trainings

- **Laser Work Station MICOS GMBH Germany** May, 2010.
Operational and Routine Maintenance Training
Laser Work Station for Laser Cutting, laser Engraving and Laser welding etc
- **X-Ray Fluorescence Spectroscopy (XRF) InovXsystem Netherlands**
December, 2011.
Operational and Routine Maintenance Training of Portable XRF
- **Scanning Electron Microscopy Training, UK 2014**
- **Transmission Electron Microscopy Training, UK 2015**
- **Electron Energy Loss Spectroscopy (EELS) Training, UK 2015**
- **Training of TEM Liquid Cell Holder, Sheffield, UK, 2015**
- **XRD Training for Nano Materials, Sheffield University, 2015**
- **High Resolution Electron Microscopy Training, UK 2016**
- **Image-J software Training, UK MMC-2017, 1-4 July 2017**
- **Advanced Training of TEM Liquid Cell Holder, The University of York, UK, August, 2017**
- **Phased Array Ultrasonic Tester, Sona Test UK, August 2019**
Operational and Routine Maintenance Training

Local Trainings

- Installation and Operational Training of **Scanning Electron Microscope, FEI Quanta 200**
- Installation and Operational Training of **Energy Dispersive Spectroscopy EDS System (OXFORD)**
- Operational Training of Portable **Phenom** for Optio-Electron Imaging
- Operational Training of **Olympus & Leica** Optical Microscope
- Installation and Operational Training of **Carbon Sulpher(CS 230)** Rapid Analyser
- Operational Training of **Ultrasonic, Eddy Current and Magnetic Particle** Analyser
- Operational Training of **TEM and STEM** in NIBJE, Faislabad, Pakistan

Certification & Memberships

- **Level 1 Eddy Current Testing From NCNDT Islamabad**
- **Member of Pakistan Engineering Council**
- **Member of University of Sheffield Nano Research Group**
- **Nano Materials Research Group NMR, Materials Department NEDUET**
- **Member of Board of Studies (BOS) Materials Science and Engineering**