

ENGR. MUHAMMAD SAMIUDDIN

ASSISTANT PROFESSOR

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ACADEMIC QUALIFICATIONS

- 2018-2023** Doctor of Philosophy (**Ph.D.**) in Materials Processing Engineering from Northwestern Polytechnical University, China
Thesis Title: “Study on the weldability of CoCrNi based Medium Entropy Alloy (MEA) system joined through Vacuum diffusion bonding process”
- 2011 to 2013** Master of Engineering (**M.Engg.**) in **Materials** from NED University of Engineering & Technology, Pakistan
Thesis Title: “ Synthesis & Characterisation of Super Absorbent Polymer (SAP) ”
- 2007 to 2010** Bachelors of Engineering (**B.E**) in **Materials** from NED University of Engineering & Technology, Pakistan
Thesis Title: “Phase analysis of Tool Steels through Quantitative Metallography”

PROFESSIONAL EXPERIENCE & INDUSTRIAL TRAININGS

- 2018 to date** **Assistant Professor**, (Metallurgical Engineering Department), NED University of Engineering & Technology, Karachi.
- 2011 to 2017** **Lecturer**, (Metallurgical Engineering Department), NED University of Engineering & Technology, Karachi.
- Career summary:**
- Engage in teaching different engineering courses (i.e. Mineral processing, welding metallurgy, mechanical behavior of materials, Design and Characterisation of materials etc.)
 - Actively involved in commercial testings and industrial projects (consultancy).
 - Also served as Class Advisor, Faculty Advisor, Internship coordinator, and Project Coordinator.
 - In-charge of Microscopy, Metallography and Mineral Processing Laboratory.
 - Actively involved in undergraduate curriculum revision for materials and metallurgical engineering departments.
- 2010** Working experience with **Pak Suzuki Company Ltd.** as Management Trainee under the following departments:
- Quality control Department
 - Welding section
 - Vehicle Assembly unit
- 2009** Intern at **Pakistan Cables Ltd.** and served the following departments:
- Cathode Plant for copper melting
 - PVC compounding for cable insulation
 - Aluminum Extrusion and anodizing department

Intern at **Pakistan International Airline** (PIA, Engineering division). and served following departments:

- Engine Overhaul Shop
- Ultrasonic Inspection Lab
- Composite Testing Lab

TECHNICAL SKILLS & COMPETENCIES

- Expertise on **MODSIM (Mineral Processing Software)** and **Solid-Cast** simulation Software.
- Destructive testing (tensile, impact, hardness).
- Skilled in Metallography, Optical and Stereo Microscopy.
- Hands on experience with spectrophotometer and wet chemical analysis.
- Proficiency in Scanning Electron Microscopy, XRD and DSC-TGA.

RESEARCH PUBLICATIONS & CONFERENCES

1. **Samiuddin, Muhammad; Jinglong Li; Mudassir Farooq; Jiangtao Xiong; Abdul Wahaj;** “*Nano-indentation and corrosion behavior of diffusion welded CoCrNi Medium-entropy alloy (MEA) and SUS 304 stainless steel joints*”, *Metallurgical and Materials Transactions B*, Under Review.
2. **Samiuddin Muhammad; Jinglong Li; Muhammad Muzamil; Sumair Uddin; Jiangtao Xiong;** “*Mechanical and Microstructural Characterization of the Bond Interface Formed in Diffusion Welding of CoCrNi Medium Entropy Alloy (MEA) and AISI 304 Stainless Steel Under Various Processing Parameters*”, *Metals and Materials International* (2022). <https://doi.org/10.1007/s12540-022-01309-2> Springer Nature.
3. **Samiuddin, Muhammad; Jinglong Li; Muhammad Muzamil; Saqib Khan; Jiangtao Xiong;** “*Parametric Optimization of Diffusion Welding Process in Joining of CoCrNi Medium-Entropy Alloys (MEA) and SUS 304 Stainless Steel Using Full Factorial Design*” *Journal of The Minerals, Metals & Materials Society (JOM)* 74, 4280–4293 (2022). <https://doi.org/10.1007/s11837-022-05500-z> Springer Nature.
4. **Samiuddin, Muhammad; Li, Jinglong; Xianjun, Sun; Xiong, Jiangtao;** “*Diffusion welding of CoCrNi Medium-entropy alloy (MEA) and SUS 304 stainless steel using different interlayers*”, *Metallurgical Research and Technology*, 119, 312, 2022, <https://doi.org/10.1051/metal/2022019> EDP Sciences.
5. **Samiuddin, Muhammad; Li, Jinglong; Chandio, Ali Dad; Muzamil, Muhammad; Siddiqui, Sumair Uddin; Xiong, Jiangtao;** “*Diffusion welding of CoCrNi medium entropy alloy (MEA) and SUS 304 stainless steel at different bonding temperatures*”, *Welding in the World*, 65, 11, 2193-2206, 2021, <https://doi.org/10.1007/s40194-021-01165-5> Springer Berlin Heidelberg.
6. **Samiuddin, Muhammad; Li, Jinglong, Muhammad Ali, Siddiqui; Xiong, Jiangtao; Ren, Ling;** “*Electrochemical Corrosion Behavior of CoCrNi Medium Entropy Alloy and SUS-304 Stainless Steel Diffusion Welded Joints at Various Bonding Temperatures*”, *Physics of Metals and Metallography*, 122, 14, 1561–1571, 2021, <https://doi.org/10.1134/S0031918X21140234> Springer Nature.
7. **Samiuddin, Muhammad; Li, Jinglong; Muzamil, Muhammad; Muhammad Ali, Siddiqui; Sufyan, Naseem; Xiong, Jiangtao;** “*A Study of Induction Hardening Parameters for the DIN 42CrMo4 Alloy through Its Microhardness, Corrosion Resistance, and Microstructure Examination*”, *Physics of Metals and Metallography*, 122, 11, 1121-1131, 2021, <https://doi.org/10.1134/S0031918X21110132> Springer Nature.

8. **Samiuddin, Muhammad**; Li, Jinglong; Taimoor, Muhammad; Siddiqui, Mohammad Nouman; Siddiqui, Sumair Uddin; Xiong, Jiang-tao; “**Investigation on the process parameters of TIG-welded aluminum alloy through mechanical and microstructural characterization**”, *Defence Technology*, 17, 4, 1234-1248, 2021, <https://doi.org/10.1016/j.dt.2020.06.012> Elsevier.
9. **Samiuddin, Muhammad**; Younus, Hira; Anwer, Zubia; Li, Jinglong; Siddiqui, Sumair Uddin; Siddiqui, Mohammad Nouman; “**Mechanical & microstructural evaluation of reversible and irreversible embrittlement in ultra-high strength steel**”, *International Journal of Lightweight Materials and Manufacture*, 3, 3, 250-257, 2020, <https://doi.org/10.1016/j.ijlmm.2020.02.003> Elsevier.
10. Xiong, Jiangtao; Peng, Yu; **Samiuddin, Muhammad**; Yuan, Lin; Li, Jinglong; “**Common mechanical properties of diffusion bonded joints and their corresponding microstructure features**”, *Journal of Materials Engineering and Performance*, 29, 5, 3277-3286, 2021, <https://doi.org/10.1007/s11665-020-04819-5> Springer.
11. Riaz, Fahad; **Samiuddin, Muhammad**; Farooq, M; “**Analysis of Tafel polarization scans of Magnesium-Steel galvanic couple under different corrosive environments at various temperatures**”, *Revista de Metalurgia*, 58, 2, e220, 2022, <https://doi.org/10.3989/revmetalm.220>
12. Muzamil, Muhammad; Wu, J; **Samiuddin, Muhammad**; Majeed, A; Uddin Siddiqui, S; Mudassir, M; “**Macro-Mechanical behavior of unique surface welded joints (AA5083) utilizing tungsten inert gas welding against single-stage homogenization annealing**”, *Revista de Metalurgia*, 56, 3, e173, 2021, <https://doi.org/10.3989/revmetalm.173>
13. Muzamil, Muhammad; Wu, Jianjun; **Samiuddin, Muhammad**; Majeed, Arfan; Waqas, Ali; “**Effect of age hardening to reclaim mechanical properties at different levels of temperature with prolong holding time on GTAW weldments**”, *16th International Bhurban Conference on Applied Sciences and Technology (IBCAST)*, 20-25, 2019, IEEE.
14. Muzamil, Muhammad; Wu, Jianjun; **Samiuddin, Muhammad**; Majeed, Arfan; Zhang, Zengkun; “**The response of heat-treatable filler on non-heat-treatable aluminum alloy substrate against age hardening cycle for intelligent development of surface welded joints using TIG welding process**”, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 41, 5, 01-Dec 2020, <https://doi.org/10.1007/s40430-019-1731-x> Springer.
15. Muzamil, Muhammad; Wu, Jianjun; **Samiuddin, Muhammad**; “**Modified utilization of semi-sectioned tubes as filler coated with MWCNTs–TiO₂ in TIG arc welding to recover fusion lost mechanical properties of the weldment**”, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 41, 1, Jan-13, 2019, <https://doi.org/10.1007/s40430-018-1504-y> Springer Berlin Heidelberg.
16. M Taimoor; L Aijun; **Muhammad Samiuddin**; “**Sliding mode learning algorithm based adaptive neural observer strategy for fault estimation, detection and neural controller of an aircraft**”, *Journal of Ambient Intelligence and Humanized*, 12, 2, 2021, <https://doi.org/10.1007/s12652-020-02390-4> Springer Berlin Heidelberg.
17. M Taimoor; X Lu; W Shabbir; C Sheng; **Muhammad Samiuddin**; “**Novel Neural Observer Based Fault Estimation, Reconstruction and Fault-tolerant Control Scheme for Nonlinear Systems**”. *Journal of Intelligent & Fuzzy Systems* 41 (1), 355-386, 1 Jan. 2021, <https://doi.org/10.3233/jifs-201830>
18. Maaz Akhtar; Muhammad Imran Lashari; Muhammad Muzamil; Mohsin Sattar; Muhammad Imran Shabir; Sumiya Mohsin; **Muhammad Samiuddin**; “**Comparative investigation of corrosion rate on A-36 steel with different coatings include ZnO and TiO**”, *Revista de Metalurgia*, 57, 2, e193, 2021, <https://doi.org/10.3989/revmetalm.193>

19. **Samiuddin, Muhammad; Mazahir, Muhammad Asjad; Mahfooz, Talha; “Modeling of Bainitic Phase Transformation in Fe-Mn-Si-C Alloy”, Professor Dr. Muhammad Tufail Convener, 253, 253, 2016** .
20. **Rizwan, M; Ali, M; Samiuddin, Muhammad; “Effect Of Heat Treatment on The Corrosion Rate Of Aisi 1045 Steel, When Subjected To Various Environments”, (Proceedings of 5th International Mechanical engineering congress).**
21. **Samiuddin, Muhammad; “Design and Fabrication of Laboratory Scale Cupola Furnace” (accepted for Proceedings of Advanced Materials and Process Engineering, AMPE).**
22. **Samiuddin, Muhammad; “To Develop a Laboratory Scale Vacuum Furnace for the Production of Magnesium Particles” (Proceedings of Advanced Materials and Process Engineering, AMPE).**

SCHOLARSHIPS, AWARDS & HONORS

2021	Received “ Best Researcher Award in three consecutive years 2020, 2021, and 2022 ” by the Alumni Association of Southern California, USA.
2015	Received “ Excellency in Teaching Award in 2015 & 2016 ” by the Alumni Association of Southern California, USA.
2014	Secured 9th position worldwide in 7th Virtual Steel Making Challenge by producing Steel grade for yellow goods Application in EAF, at a total cost of \$295.58.
2009	NED University Assistance Scholarship.

RESEARCH INTEREST

- Modeling and Simulation of Materials
- Mineral Processing and Extractive metallurgy
- Welding and joining of Materials
- Materials development and Characterisation.

TRAINING & CERTIFICATIONS

- Certified Training on **Mechanical Testing Machines** by Wance Technology, China
- Attended a session on Adoption of **Outcome Based Education System** in an engineering institute by Malaysian professor.
- Certificate on **Technical Computation with MATLAB**
- Certificate on **Technical writing with LATEX**
- Certificate on **Technology for Teaching and Learning**
- Certificate on **Stress and Time Management**
- **HEC indigenous Workshop on “ Project Management”** , 2015

OTHER OFFICIAL ASSIGNMENTS/PROJECTS

- Involved in Research activity of the Beneficiation of Taconite based iron ore in collaboration of **Pakistan Petroleum Ltd** and **Bolan Mining Enterprises**.
- Developed a laboratory setup for **Mineral Processing** in the Department of Metallurgical Engineering.
- Established **Wet Chemistry Lab** in the Department of Metallurgical Engineering.
- Conducted a workshop seminar for the industries (**International Industries Ltd.** and **International Steels Ltd.**) to provide technical assistance in Metallography and Microscopic Techniques.
- Conducted a workshop on “Design, Selection & Corrosion of Engg. Materials” for Extended Internship Programme (EIP) jointly organized by **Pakistan Petroleum Limited (PPL)** and **NED University of Engineering & Technology**, June 2015 to August 2015(Audience 30+ including Mechanical, Chemical and Petroleum Graduates).
- Actively involved during PEC accreditation process from 2013 to date.

PROFESSIONAL MEMBERSHIPS:

- Life time member of Pakistan Engineering Council (METAL/2631)
- Member of American Society of Mechanical Engineers (ASME)
- Member of Ana mileage club, Japan