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ACADEMIC QUALIFICATIONS:

- 2018-2023** Doctor of Philosophy (**Ph.D.**) in Materials Processing Engineering from Northwestern Polytechnical University, China
Thesis Title: “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 worked the following departments:
- Cathode Plant for copper melting
 - PVC compounding for cable insulation
 - Aluminum Extrusion and anodizing department
- 2009** Intern at **Pakistan International Airline** (PIA, Engineering division). and worked following departments:
- Engine Overhaul Shop
 - Ultrasonic Inspection Lab
 - Composite Testing Lab

TECHNICAL SKILLS & COMPETENCIES:

- Expertise on **MODSIM** (Mineral Processing Software)
- **Solid-Cast** simulation Software for metal casting
- **CES grant a design** Software for selection of materials in engineering designs
- Destructive testing (tensile, impact, hardness)
- Skilled in Metallography, Optical and Stereo Microscopy
- Hands on experience with SEM, TEM, EBSD, XPS, DSC-TGA, and XRD analysis

RESEARCH PUBLICATIONS & CONFERENCES:

- [1] *Jin Feng; Muhammad Samiuddin; “Quasi-in-situ observation of fatigue crack growth behavior of friction stir welded 2A12-T4 joint” Materials research express, 2024, IOPscience*
- [2] *Maaz Akhtar; Muhammad Muzamil; Mahad Ali Khan; Naser A. Alsaleh; Rashid Khan; Joy Djuansjah; Ali Khursheed Siddiqui; Muhammad Samiuddin; Arfan Majeed; “Post-wear surface morphology assessment of laser surface melting (SLM) AlSi10Mg specimens after exposure to different gas welding flames”, Coating,14(3), 2024, <https://doi.org/10.3390/coatings14030252>*
- [3] *Maaz Akhtar; Muhammad Samiuddin; Muhammad Muzamil; Mahad Ali Khan; Naser A. Alsaleh; Rashid Khan; Joy Djuansjah; Ali Khursheed Siddiqui; Arfan Majeed; “Mechanical behavior of Selective Laser Melting (SLM) parts with varying thicknesses in a saline environment under different exposure times”, Materials, 17(9), 2024, <https://doi.org/10.3390/ma17091959>*
- [4] *Shakeel Ahmad; Bing Zhu; Muhammad Samiuddin; Muhammad Tariq; Umar Farooq “Magnetic Properties of Different Phases Iron Oxide Nanoparticles Prepared by Micro Emulsion-Hydrothermal Method”, 2024, in process*
- [5] *Mortadha Kareem A. Razzaq; Affaan Uthman Moosa; Mohammed sabeeh Mohamed; Hussein Kareem Abdul Zahra; Muhammad Samiuddin; “Investigation of the Impact of Varying Welding Current on the Microstructure, Texture, and Mechanical Properties of Gas Metal Arc Welded AISI 304 Austenitic Stainless Steel”, Welding International, 2024, Taylor & Francis*
- [6] *Muhammad Muzamil; Syed Amir Iqbal; Muhammad Naveed Anwar; Muhammad Samiuddin; Junzhou Yang; Muhammad Ahmed Raza; “Wear Behavior Assessment of Wire-Arc Additively Prepared New Surfaces on AA6061 And AA5086 Alloys through MWCNTs and Ni Particle Inducements”, Coatings, 14(4), 2024, <https://doi.org/10.3390/coatings14040429>*
- [7] *Samiuddin, Muhammad; Jinglong Li; Mudassir Farooq; Jiangtao Xiong; “Nano-indentation and corrosion behavior of diffusion welded CoCrNi Medium-entropy alloy (MEA) and SUS 304 stainless steel joints”, Revista de Metalurgia, 9(3), e244, 2023 <https://doi.org/10.3989/revmetalm.244>*
- [8] *A. W. Aldeen; Z. W. Chen; I. A. Disher; Muhammad Samiuddin; and K. Yan; “Second Phase Particles in Zr–Sn–Nb–Fe Alloys: A Review” Physics of Metals & Metallography, 124, 362–379 (2023), <https://doi.org/10.1134/S0031918X22601470>*
- [9] *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.*

- [10] **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.
- [11] **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.
- [12] **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.
- [13] **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.
- [14] **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.
- [15] **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.
- [16] **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.
- [17] **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.
- [18] **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>
- [19] **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>
- [20] **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.
- [21] **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.

- [22] 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.
- [23] 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.
- [24] 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>
- [25] 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>
- [26] S. Siyal; Asad A. Zaidi; Muhammad Samiuddin; S. A. Jogi; I. Samo; A. Shah; “**Effect of vacuum heat treatment process on toughness and wear of H13 tool steel material**” *European Journal of Advances in Engineering and Technology*, 2019, 6(5):42-49
- [27] 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 .
- [28] 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*).
- [29] Samiuddin, Muhammad; “**Modeling of bainitic phase transformation in Fe-Mn-Si-C alloy**” (*Proceedings of Advanced Materials and Process Engineering, AMPE*).
- [30] Samiuddin, Muhammad; “**Design and Fabrication of Laboratory Scale Cupola Furnace**” (*accepted for Proceedings of Advanced Materials and Process Engineering, AMPE*).
- [31] 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:

2023	Received “ Outstanding graduate award ” for the year of 2023 by Northwestern Polytechnical university, China
2022	Received “ Best Researcher Award in three consecutive years 2020, 2021, and 2022 ” by the Alumni Association of Southern California, USA.
2016	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.

RESEARCH INTEREST:

- Modeling and Simulation of Materials
- Corrosion engineering
- Welding and joining of Materials
- Alloy designing, High to Medium Entropy Alloys

TRAINING & CERTIFICATIONS:

- Certified Training on **Mechanical Testing Machines** by Wance Technology, China
- Certificate on **Technical Computation with MATLAB**
- Certificate on **Technical writing with LATEX**
- Certificate on **Technology for Teaching and Learning**
- **HEC** indigenous Workshop on “ **Project Management**” , 2015

OTHER OFFICIAL ASSIGNMENTS/PROJECTS:

- Worked as a committee member in a research project based on **Selective Laser Melting of AlSi10Mg alloy** in collaboration with Imam **Mohammad Ibn Saud Islamic University**.
- Involved in Research activity for the Beneficiation of Taconite based iron ore in collaboration with **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).

PROFESSIONAL MEMBERSHIPS:

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