

CURRICULUM VITAE

PERSONAL PROFILE:

Name	Dr. Muhammad Rizwan (HEC approved PhD supervisor)
Father's Name	Mukhtar Ahmed
Address	Department of Metallurgical Engineering NEDUET
Researcher ID	https://orcid.org/0000-0003-1127-8801 ,(h-index =10)
Cumulative impact factor	>60
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ACADEMIC QUALIFICATION

Education	Year	Board
PhD Biomaterials (Hydroxyapatite based Bioceramic composites)	2019	University of Malaya, Kuala Lumpur, Malaysia.
M.E (MATERIALS ENGINEERING)	2013	N.E.D University of Engineering & Technology
B.E (MATERIALS ENGINEERING)	2010	N.E.D University of Engineering & Technology

JOB EXPERIENCE

Experience	Duration
Assistant Professor Department of Metallurgical Engineering	June 2019 – Present
Lecturer Department of Metallurgical Engineering	April 2011 – June 2019

RESEARCH FUNDINGS SECURED

Funding Body	Capacity	Funding amount	Status
Higher Education Commission Pakistan National Research Program of Universities (NRPU) 2021	<u>Principle Investigator</u>	PKR 6.7 Million	Ongoing
Sindh Higher Education Commission Research Support Program (SRSP)2022	<u>Principle Investigator</u>	PKR 4.3 Million	Completed
Fundamental Research Grant Scheme (FRGS) Malaysia 2020	<u>Member</u>	MYR 141200	Completed
Sultan Zain Ul Abideen University Research Fund 2024	<u>Member</u>	MYR 20000	Ongoing
NED University of Engineering and Technology 2019	<u>Principle Investigator</u>	PKR 0.85 Million	Completed
NED University of Engineering and Technology 2023	<u>PhD Co-supervisor</u>	PKR 1 Million	Ongoing
NED University of Engineering and Technology 2023	<u>PhD Co-supervisor</u>	PKR 1 Million	Ongoing
Sindh Higher Education Commission Research Support Program (SRSP)2024	<u>Consultant</u>	PKR 3.4 Million	Ongoing

PUBLICATION STATS

Publication	Numbers	Cumulative Impact factor
Technical Papers in Impact factor JCR journals	18	>45
Review articles in Impact factor JCR journals	4	>18
International Book Chapters	3	N.A (2 Book chapters published by Elsevier & 1 by Bentham science Publisher)
Papers in scopus journals	2	N.A
Conference Papers	3	N.A

POSTGRADUATE LEVEL SUPERVISION

Postgraduate Supervision/ Co-supervision	Numbers of Students
PhD Materials Engineering	02 Ongoing (1 has completed the graduation requirement)
PhD Biomedical Engineering	4 Ongoing
ME Materials Engineering	04 Completed
ME Biomedical Engineering	04 Completed

JOB DESCRIPTION

Assistant Professor at Department of Metallurgical Engineering, NED University of Engineering and Technology, Karachi Pakistan.

[June 2019 – Present]

- Member Board of studies
- FYDP Coordinator
- Member FYDP Steering Committee
- Member Industrial Advisory Board
- Indigenous research
- ME supervision
- PhD supervision
- Delivering Postgraduate (PhD & M. E.) and undergraduate lectures
- Departmental OBE coordinator
- Supervision of FYDPs

RESEARCH DOMAIN

- Bioactive Materials
- Traditional and advance processing of Ceramics
- Welding and Joining of Materials
- Surgical Tools
- Tissue Augmentation
- Bioglass[®] and its composites
- Bioceramic Coatings
- Antibacterial coatings
- Magnetron sputtering
- Targeted drug delivery

ACHIEVEMENTS/ CERTIFICATION

- Appointed as a **Member of scientific committee** for International Conference on Smart and Advanced Manufacturing 2024 (Kuala Lumpur, Malaysia) (ICSAM'24)
- **Member of Organizing committee for 4th International Conference on Advanced Materials and Process Engineering**
- Secured **Sindh HEC research support (SRSP) grant worth 4.3 Million PKR for 2022 (Grant related to the development of biomedical implants) as Principal investigator**
- Secured **HEC NRPU 2021 grant as Principal investigator (Grant related to the development of biomedical implants) worth 6.7 Million PKR**
- Secured **Best Published Research Award (BPRA) from NED Alumni Association of Southern California (NEDAASC) for the year 2021**
- **Best Researcher Award for 2021 and 2022 by NEDUET**

- Journal reviewer for **Colloids and Surfaces A: Physicochemical and Engineering Aspects**
- Journal reviewer for **Processing and applications of ceramics**
- Secured **FRGS research grant Malaysia (Grant related to the development of antibacterial surgical tools) as member in 2020.**
- Secured **NED seed fund related to the development of bioactive coating for 2020**
- **Trained faculty member for the use of Generative Artificial Intelligence in Higher Education**

PUBLICATIONS

1. **Rizwan, M.**, Hamdi, M., Basirun, W. J., Kondoh, K., & Umeda, J. (2018). Low pressure spark plasma sintered hydroxyapatite and Bioglass® composite scaffolds for bone tissue repair. *Ceramics International*. (I.F=4.52)
2. **Rizwan, M.**, Hamdi, M., & Basirun, W. J. (2017). Bioglass® 45S5-based composites for bone tissue engineering and functional applications. *Journal of Biomedical Materials Research Part A*, 105(11), 3197-3223. (I.F=4.39)
3. **Rizwan, M.**, Genasan, K., Murali, M. R., Raghavendran, H. R. B., Alias, R., Cheok, Y. Y., ... & Kamarul, T. (2020). In vitro evaluation of novel low-pressure spark plasma sintered HA–BG composite scaffolds for bone tissue engineering. *RSC Advances*, 10(40), 23813-23828. (I.F=3.36)
4. **Rizwan, M.**, Yousuf, S., Sohail, M., Bashir, M. N., Alias, R., Hamdi, M., & Basirun, W. J. (2020). Synthesis, Characterization, and In Vitro Biochemical Analysis of Hydroxyapatite–Bioglass® Composite Scaffolds for Bone Tissue Repair. *JOM*, 72(10), 3683-3692. (I.F=2.47)
5. **Rizwan, M.**, Alias, R., Zaidi, U. Z., Mahmoodian, R., & Hamdi, M. (2018). Surface modification of valve metals using plasma electrolytic oxidation for antibacterial applications: A review. *Journal of Biomedical Materials Research Part A*, 106(2), 590-605. (I.F=4.39)
6. **Rizwan, M.**, Chandio, A. D., Sohail, M., Bashir, N. M., Yousuf, S., Alias, R. & Basirun, J. W. (2021). Bioglass-fibre reinforced hydroxyapatite composites synthesized using spark plasma sintering for bone tissue engineering. *Processing and Application of Ceramics*, 15(3), 270-278. (I.F=1.80)
7. **Rizwan, M.**, Basirun, W. J., Abd Razak, B., & Alias, R. (2022). Bioinspired ceramics for bone tissue applications. In *Ceramic Science and Engineering* (pp. 111-143). Elsevier.
8. Alias, R., **Rizwan, M.**, Mahmoodian, R., Vellasamy, K. M., & Hamdi, M. (2021). Physico-chemical and antimicrobial properties of Ag/Ta2O5 nanocomposite coatings. *Ceramics International*. (I.F=4.52)
9. S. Yousuf, **M. Rizwan**, B. Alsubari, M. Gul, M.M. Ali, M.N. Bashir, A. Latif, The compressive strength development and pH of cement mortars incorporating high volume supplementary cementitious materials under accelerated curing, *HELIYON*, <https://doi.org/10.1016/j.heliyon.2025.e42240>. (I.F=3.4)
10. Sukrey NA, **Rizwan M**, Bushroa AR, Salleh SZ and Basirun WJ. Development and characterization of bioglass incorporated plasma electrolytic oxidation layer on titanium substrate for biomedical application. *REVIEWS ON ADVANCED MATERIALS SCIENCE*. 2021; 60: 678-90. (I.F=3.36)
11. Uzair, S.A.; Hussain, F.; **Rizwan, M.** Bioactive-Glass- Incorporated Plasma Electrolytic Oxidation Coating on AZ31 Mg Alloy: Preparation and Characterization. *Ceramics* 2024, 7, 1459–1476. <https://doi.org/10.3390/ceramics7040094> (I.F=2.7)
12. Bashir, M. N., Saad, H. M., **Rizwan, M.**, Quazi, M. M., Ali, M. M., Ahmed, A., & Naher, S. (2022). Effects of tin particles addition on structural and mechanical properties of eutectic Sn–58Bi solder joint. *Journal of Materials Science: Materials in Electronics*, 33(28), 22499-22507. (I.F=2.80)
13. Channa, I. A., Shah, A. A., **Rizwan, M.**, Makhdoom, M. A., Chandio, A. D., Shar, M. A., & Mahmood, A. (2021). Process Parameter Optimization of a Polymer Derived Ceramic Coatings for Producing Ultra-High Gas Barrier. *Materials*, 14(22), 7000. (I.F=3.62)

14. Channa, I. A., Chandio, A. D., **Rizwan, M.**, Shah, A. A., Bhatti, J., Shah, A. K., & Al Hazaa, A. (2021). Solution Coated PVB/Mica Flake Coatings for the Encapsulation of Organic Solar Cells. *Materials*, 14(10), 2496. (I.F=3.62)
15. Chandio, A. D., Channa, I. A., **Rizwan, M.**, Akram, S., Javed, M. S., Siyal, S. H., & Alotabi, R. G. (2021). Polyvinyl Alcohol and Nano-Clay Based Solution Processed Packaging Coatings. *Coatings*, 11(8), 942. (I.F=2.88)
16. Ali, S.I., Lalji, S.M., **Rizwan, M.** et al. Factorial Analysis of Experimental Parameters Effecting Asphaltene Precipitation in Dead Crude Oils. *Arab J Sci Eng* (2023). (I.F=2.8)
17. Alias, R., Mahmoodian, R., **Rizwan, M.**, & Abd Shukor, M. H. (2019). Study the effect of thermal annealing on adhesion strength of Silver-Tantalum Oxide thin film deposited by reactive magnetron sputtering. *Journal of Adhesion Science and Technology*, 1-18. (I.F=2.07)
18. Nasir Bashir, M., Saad, H. M., **Rizwan, M.**, Bingöl, S., Channa, I. A., Gul, M., & Naher, S. (2022). Effect of cobalt nanoparticles on mechanical properties of Sn–58Bi solder joint. *Journal of Materials Science: Materials in Electronics*, 33(28), 22573-22579. (I.F=2.80)
19. Sukrey, N. A., A. R. Bushroa, and **M. Rizwan**. "Dopant incorporation into TiO₂ semiconductor materials for optical, electronic, and physical property enhancement: doping strategy and trend analysis." *Journal of the Australian Ceramic Society* (2023): 1-27. (I.F=1.9)
20. Akhtar, M., Uzair, S. A., **Rizwan, M.**, & Ur Rehman, M. A. (2022). The Improvement in Surface Properties of Metallic Implant via Magnetron Sputtering: Recent Progress and Remaining Challenges. *Frontiers in Materials*, 8. doi:10.3389/fmats.2021.747169 (I. F=3.5)
21. Syeda Ammara Batool, Memoona Akhtar, **Muhammad Rizwan**, Muhammad Atiq Ur Rehman ;Recent Advances in Bioactive Glasses and Glass Ceramics, *Bioceramics: Status in Tissue Engineering and Regenerative Medicine* (Part 1) (2024) 1: 33. <https://doi.org/10.2174/9789815238396124010005>
22. Asad, R., Uzair, S.A., Mirza, E.H., **Rizwan, M.**, Alias, R., Chandio, A.D. and Hussain, F., 2024. Development of ceramic layer on magnesium and its alloys for bone implant applications using plasma electrolytic oxidation (PEO). *Journal of the Australian Ceramic Society*, pp.1-20. (I.F=1.9)
23. Sumra, Y., Payam, S., Iftikhar, A. C., **Rizwan, M.**, Tanveer, A. K., Belal, A., & Mustabshirha, G. (2023). Chemical and Thermal Characterization of Cement Mortar Containing Ground Palm Oil Fuel Ash as a Partial Cement Replacement. *Journal of Wuhan University of Technology-Mater. Sci. Ed.*, 38(3), 575-581. (I.F=1.6)
24. Alias, R., Ali Akhbar, M. F., Alshammari, Y., Siddiqui, H. A., **Rizwan, M.**, Hamdi, M., & Todoh, M. (2023). 1 - Characterization methods and characterization of the coatings. In R. K. Gupta, A. Motallebzadeh, S. Kakooei, T. A. Nguyen, & A. Behera (Eds.), *Advanced Ceramic Coatings* (pp. 1-25): Elsevier
25. Zulkifl Ahmed, Sumra Yousuf, **Muhammad Rizwan**, Muhammad Yousaf Raza Taseer, Muhammad Qasim Sultan, Mahwish Zahra, & Anum Aleha. (2024). Numerical Study on Failure Mechanism of Rock Slope Formed by Mudstone at Girdu, Pakistan. *Proceedings of the Pakistan Academy of Sciences: A. Physical and Computational Sciences*, 61(3), 293–302. [https://doi.org/10.53560/PPASA\(61-3\)866](https://doi.org/10.53560/PPASA(61-3)866).
26. Ali Akhbar, M. F. ., Mohd Ashri , M. F. ., Yusoff , A. R. ., Jamaludin, S. ., Alias, R., Alias , F. ., Hassan , R. ., & **Rizwan, M.** . (2024). Optimization of Drill Bit Geometries for Minimum Thermal Damage in Bone Drilling. *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences*, 122(2), 22–37. <https://doi.org/10.37934/arfmts.122.2.2237>.

27. Alias, R., Mohamad, W.N.F., **Rizwan, M.**, & Juri, A. (2024) Effect of thermal annealing temperature on tri-layered AgO/AgTaO/TaO nanocomposite coatings grown by PVD magnetron sputtering. *Nanotechnology Perceptions*, 20(S15), pp. 3602-3610.