CURRICULUM VITAE

PERSONAL PROFILE:

- Name — Dr. Muhammad Rizwan (HEC approved PhD supervisor)
- Father's Name — Mukhtar Ahmed
- Address — L-737 Sector 5-A/3 North Karachi, Karachi.
- Researcher ID — https://orcid.org/0000-0003-1127-8801 ,(h-index =4)
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Education	Year	Board	Status /CGPA/Percentage
PhD Biomaterials (Hydroxyapatite based bioceramic composites)	**2019**	**University of Malaya, Kuala lumpur, Malaysia.**	**Completed**
M.E (MATERIALS ENGINEERING)	**2013**	**N.E.D University of Engineering & Technology**	**3.07**
B.E (MATERIALS ENGINEERING)	**2010**	**N.E.D University of Engineering & Technology**	**79%**
INTERMEDIATE (Pre-Engg)	**2006**	**Board of Intermediate Education Karachi**	**74%**
MATRIC (Science)	**2004**	**Board of Intermediate Education Karachi**	**78%**

EXPERIENCE:

- **Assistant Professor at Department of Metallurgical Engineering, NED University of Engineering and Technology, Karachi Pakistan.** [June 2019 – Present]
  - PhD Co-supervision
  - Delivering Postgraduate (PhD and M. E.) and undergraduate lectures
  - OBE (Outcome based education, as per Washington accord) implementation team member
  - Supervisory of M. E. Independent Study Projects
  - Supervisory of final year student Projects
- **Lecturer at Department of Metallurgical Engineering, NED University of Engineering and Technology, Karachi Pakistan.** [April 2011-May 2019]
- **Job Description**
  - Delivering Class lectures
  - Demonstration of Practicals
  - Supervisory of final year student Projects
  - Faculty advisor of Students' society MES
  - Chief coordinator of Departmental Annual Magazine
  - Member of University's Admission Committee
  - Lab in charge of Powder Metallurgy and Materials Deterioration Labs

RESEARCH AREA

- Hydroxyapatite based composite
- Sintering and crystallization behavior of Bioglass®
- Advanced materials processing technique
- Plasma electrolytic oxidation coatings for biomedical applications
- Antibacterial coatings
- Physical vapor deposition magnetron sputtering
- Coatings for biomedical applications

JCR Publications

1. Memoona Akhtar, S. Ahmed Uzair, **Rizwan. M.** and Muhammad Atiq Ur Rehman, The improvement in surface properties of the metallic implant via magnetron sputtering: recent progress and remaining challenges. *Frontiers in Materials.* **(accepted article I. F=3.5).**

2. **Rizwan. M.**, Wan Jefrey Basirun, Bushroa Abd Razak and Rodianah Alias, Bioinspired ceramics for bone tissue applications. *Ceramic Science and Engineering: Basics to Recent Advancements*. by **Elsevier (accepted chapter, expected publication May 2022).**

3. Sumra Yousuf, Payam Shafigh, **Muhammad Rizwan**, Herda Yati Binti Katman, The pH of cement mortars containing high volume supplementary cementitious materials under accelerated curing. *Science Progres.* **(accepted article I. F=2.77)**
4. **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**)

5. Zac CH, Bushroa AR, Sarraf M, **Rizwan M** and Jamaludin MF. Electrophoretic deposition of bioglass reinforced zirconia for biomedical application. *Materialwissenschaft und Werkstofftechnik*. 2021; 52: 952-64. (**I.F=0.85**)

6. 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**)

7. 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**)

8. 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**)

9. 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**)

10. **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**)

11. **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)**

12. **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**)

13. **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**)

14. **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**)

15. 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**)

TECHNICAL SKILLS

- Mesenchymal stromal cells culture
- Hardness Testing
- XRD Testing and analysis
- Mesenchymal stromal cell culture and analysis
- XRF analysis (X-ray fluorescence)
- FESEM
- Potentiostat Operation and interpretation
- Hymidity Chamber
- Spark Plasma sintering
- Powder Metallurgy and Sintering
- Plasma electrolytic oxidation

TEACHING EXPERIENCE at NEDUET

- Biomaterials
- Modern composite materials
- Refractories in Metallurgical industry
- Foundry Principles and Methods
- Metal Forming and Shaping
- Corrosion Protection and Prevention
- Powder Metallurgy
- Vacuum Metallurgy

ACHIEVEMENTS/ CERTIFICATIONS

- Secured **HEC NRPU 2021 grant as Principal investigator (Grant related to the development of biomedical implants)**
- Journal reviewer for **Processing and applications of ceramics**
- Secured **FRGS research grant Malaysia (Grant related to the development of antibacterial surgical tools) as member**
- Secured **NED seed fund related to the development of bone implant**
- **Contact person for ICAMSEE (International conference)**
- Member **organizing committee of AMPE 3 and presenter**
- Life time Member **Pakistan Engineering Council (PEC)**
- Attended an **International Workshop on Nanoindentation**
- **SPPRA CCERTIFIED PROCUREMENT OFFICER**
- **TRAINED HIGHER EDUCATION TEACHER**

REFERENCES

- Prof. Dr. Mohd Hamdi Bin Abd Shukor

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