

# MUHAMMAD YAMEEN

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**Date of Birth:** 3<sup>rd</sup> March 1997  
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## AREA OF INTERSET

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- Energy conversion and storage devices
- Water Splitting
- Electrochemistry
- Nanomaterials
- Corrosion & Protection.

## ACADEMIC PROFILE

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### **M.E., Metallurgy & Materials Engineering (Advanced Materials) (2020-2022)**

- Mehran University of Engineering & Technology, Jamshoro, Sindh
- **1<sup>st</sup> Position**, 3.93 CGPA
- **Research/Project:** Synthesis of Palladium oxide doped Cobalt oxide nano-electrocatalyst for Oxygen Evolution Reaction
- **Published Research Article:** An efficient palladium oxide nanoparticles @Co<sub>3</sub>O<sub>4</sub> nanocomposite with low chemisorbed species for enhanced oxygen evolution reaction. *International Journal of Hydrogen Energy (IF-5.8)*

### **B.E., Metallurgy & Materials Engineering (2016-2019)**

- Mehran University of Engineering & Technology, Jamshoro, Sindh.
- **1<sup>st</sup> Position**, 3.90 CGPA **(Silver Medalist)**
- **Research/Project:** Fabrication and Characterization of Polyvinyl Alcohol Based Solid Polymer Electrolyte
- **Published Research Article:** Polyvinyl fibers as outperform candidature in the solid polymer electrolytes. *Journal of Industrial Textiles (IF-3.0)*

### **Intermediate., Pre-Engineering (2013-2015)**

- Govt: Higher Secondary School, Dadu.
- B.I.S.E Hyderabad
- **“A” Grade**, 74.09 %

### **Matriculation., Science (2011-2013)**

- Govt: Higher Secondary School, Dadu.
- B.I.S.E Hyderabad
- **“A-1” Grade**, 83.29 %

## **PROFESSIONAL EXPERIENCE**

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- ❖ **Lecturer (On Contract)** (23 August,2022 – till date)  
Department of Metallurgy & Materials Engineering  
Mehran University of Engineering & technology, Jamshoro.
  
- ❖ **Internee** (17 Jun,2019 – 02 July,2019)  
Karachi Shipyard and Engineering Works. Ltd.  
Visited and experienced different departments such as
  - Fabrication department
  - Quality Control department
  - Non-Destructive Testing department (MPI, EC, DPT, UT, RT)
  
- ❖ **Internee** (9 Jun,2018 - 20 July,2018)  
People Steel Mills. Ltd, Karachi  
Visited and experienced different departments such as
  - Steel Making department
  - Casting department
  - Rolling department
  - Forging department
  
- ❖ **Internee** (25 Dec,2017 - 10 Jan,2018)  
Hi-Tech Pipes and Engineering Industry (Pvt) Ltd, Kotri  
Visited and experienced different departments such as
  - Spiral Pipe Manufacturing
  - PE pipe Manufacturing
  - GFRP pipe Manufacturing
  - X-rays testing department

## **AWARDS AND ACHIEVEMENTS**

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- Received the **Silver Medal** for 1st Position in B.E in “23rd Annual Convocation 2019” organized by Mehran University of Engineering & Technology, Jamshoro on 18th Dec, 2019.
- Received the **Best project award** in “Project Exhibition” organized by Department of Metallurgy & Materials Engineering, MUET, Jamshoro on 17th Oct, 2019.
- Received the **Award of 1st Position** in “Annual Research Expo and Poster Competition 2018” organized by Department of Metallurgy & Materials Engineering, MUET, Jamshoro on 1<sup>st</sup> Nov, 2017.

- Received the **Award of 3<sup>rd</sup> Position** in “Annual Research Expo and Poster Competition 2017” organized by Department of Metallurgy & Materials Engineering, MUET, Jamshoro on 29th Nov, 2016.
- Received the **Award of 2<sup>nd</sup> Position** in “Microstructure Evolution Competition 2017” organized by Department of Metallurgy & Materials Engineering, MUET, Jamshoro.
- Awarded **HEC Need Based Scholarship (2016-2019)** for Bachelor of Engineering.

## **PUBLICATIONS**

### **Published Research Articles in Peer Reviewed Journals**

- P-1** **Muhammad Yameen Solangi**, Umair Aftab, Aneela Tahira, Abdul Hanan, Monica Montecchi, Luca Pasquali, Matteo Tonezzer, Raffaello Mazzaro, Vittorio Morandi, Abdul Jaleel Laghari, Ayman Nafady, Muhammad Ishaq Abro, Melanie Emo, Brigitte Vigolo, Elmuez Dawi, Elfatih Mustafa, Zafar Hussain Ibupoto, “**In-situ growth of nonstoichiometric CrO<sub>0.87</sub> and Co<sub>3</sub>O<sub>4</sub> hybrid system for the enhanced electrocatalytic water splitting in alkaline media**”, *International Journal of Hydrogen Energy*, (2023), <https://doi.org/10.1016/j.ijhydene.2023.06.059> (IF-7.2)
- P-2** Abdul Hanan, **Muhammad Yameen Solangi**, Aqeel Ahmed Shah, Umair Aftab, Zahoor Ahmed Ibupoto, Muhammad Ishaque Abro, Muhammad Nazim Lakhan, Irfan Ali Soomro, Elmuez A Dawi, Elfatih Mustafa, Brigitte Vigolo, Aneela Tahira, Zafar Hussain Ibupoto, “**PdO@ CoSe 2 composites: efficient electrocatalysts for water oxidation in alkaline media**”, *RSC advances*, (2023), 13(1), 743-755. <https://doi.org/10.1039/D2RA07340D> (IF-3.9)
- P-3** Rehan Ali Qureshi, Abdul Hanan, Muhammad Ishaque Abro, Mohamad S AlSalhi, Mehran Ali Qureshi, **Muhammad Yameen Solangi**, Sandhanasamy Devanesan, Muhammad Ali Shar, Umair Aftab, “**Facile Eggplant Assisted Mixed Metal Oxide Nanostructures: A Promising Electrocatalyst for Water Oxidation in Alkaline Media**”, *Materials Today Sustainability*, (2023), 100446. <https://doi.org/10.1016/j.mtsust.2023.100446> (IF-7.8)
- P-4** Abdul Jaleel Laghari, Umair Aftab, Aqeel Ahmed Shah, **Muhammad Yameen Solangi**, Muhammad Ishaque Abro, Sameerah I Al-Saeedi, Noha Naeim, Ayman Nafady, Brigitte Vigolo, Melanie Emo, Antonia Infantes Molina, Aneela Tahira, Zafar Hussain Ibupoto, “**Surface modification of Co<sub>3</sub>O<sub>4</sub> nanostructures using wide range of natural compounds from rotten apple juice for the efficient oxygen evolution reaction**”, *International Journal of Hydrogen Energy*, (2023), 48(41), 15447-15459, <https://doi.org/10.1016/j.ijhydene.2023.01.072> (IF-7.2)
- P-5** Shusheel Kumar, Aneela Tahira, Adeel Liaquat Bhatti, Muhammad Ali Bhatti, Riaz Hussain Mari, Nek Muhammad Shaikh, **Muhammad Yameen Solangi**, Ayman Nafady, Mélanie Emo, Brigitte Vigolo, Antonia Infantes-Molina, Alberto Vomiero, Zafar Hussain Ibupoto, “**Transforming NiCo 2 O 4 nanorods into nanoparticles using citrus lemon juice enhancing electrochemical properties for asymmetric supercapacitor and water**

- oxidation**", *RSC advances*, (2023), 13(27), 18614-18626.  
<https://doi.org/10.1039/D3RA02438E> (IF-3.9)
- P-6** Abdul Jaleel Laghari, Umair Aftab, Aneela Tahira, Aqeel Ahmed Shah, Alessandro Gradone, **Muhammad Yameen Solangi**, Abdul Hanan Samo, Mukesh kumar, Muhammad Ishaque Abro, Muhammad wasim Akhtar, Raffaello Mazzaro, Vittorio Morandi, Abdul Qayoom Mugheri, Amerah Mutlaq Alotaibi, Ayman Nafady, Antonia Infantes-Molina, Zafar Hussain Ibupoto, "**MgO as promoter for electrocatalytic activities of Co<sub>3</sub>O<sub>4</sub>-MgO composite via abundant oxygen vacancies and Co<sup>2+</sup> ions towards oxygen evolution reaction**" *International Journal of Hydrogen energy*, (2023), 48(34), 12672-12682. <https://doi.org/10.1016/j.ijhydene.2022.04.169>. (IF-7.2)
- P-7** **Muhammad Yameen Solangi**, Umair aftab, Aneela Tahira, Muhammad Ishaq Abro, Raffaello Mazarro, Vitorio Morandi, Ayman Nafady, Shymaa S. Medany, Antonia Infantes-Molina, Zafar Hussain Ibupoto, "**An efficient palladium oxide nanoparticles @Co<sub>3</sub>O<sub>4</sub> nanocomposite with low chemisorbed species for enhanced oxygen evolution reaction**", *International Journal of Hydrogen energy*, (2022), 47(6). 3834-3845, <https://doi.org/10.1016/j.ijhydene.2021.11.042>. (IF-5.8)
- P-8** Zafar Hussain Ibupoto, Aneela Tahira, Umair aftab, **Muhammad Yameen Solangi**, Jaleel Ahmed Leghari, Adeel Liaquat Bhatti, Aqeel Ahmed Shah, Muhammad Ali Bhatti, Raffaello Mazzaro, Vittorio Morandi, Muhammad Ishaq Abro, Ayman Nafady, Mélanie Emoi, Brigitte Vigolo, "**NiCo<sub>2</sub>O<sub>4</sub> nanostructures loaded onto pencil graphite rod: An advanced composite material for oxygen evolution reaction**" *International Journal of Hydrogen energy*, (2022), 47 (10), 6650-6665, <https://doi.org/10.1016/j.ijhydene.2021.12.024> (IF-5.8)
- P-9** Aneela Tahira, Umair Aftab, **Muhammad Yameen Solangi**, Raffaello Mazzaro, Alessandro Gradonec, Vittorio Morandi, Amal Kasry, Ayman Nafady, Antonia Infantes-Molina, Zafar Hussain Ibupoto, "**Facile deposition of palladium (Pd) nanoparticles on CoNi<sub>2</sub>S<sub>4</sub> nanostructures towards enhanced oxygen evolution reaction**" *Nanotechnology*, (2022), 33(27), 275402, <https://doi.org/10.1088/1361-6528/ac62b2>. (IF-3.87)
- P-10** Abdul Hanan, Dong Shu, Umair Aftab, Dianxue Cao, Abdul Jaleel Laghari, **Muhammad Yameen Solangi**, Muhammad Ishaque Abro, Ayman Nafady, Brigitte Vigolo, Aneela Tahira, Zafar Hussain Ibupoto, "**Co<sub>2</sub>FeO<sub>4</sub>@rGO composite: Towards trifunctional water splitting in alkaline media**" *International Journal of Hydrogen energy*, (2022), 47(80), 33919-33937. <https://doi.org/10.1016/j.ijhydene.2022.07.269> (IF-7.2)
- P-11** Abdul Ghaffar Solangi, Tajnees Pirzada, Aqeel Ahmed Shah, Abdul Sattar Chang, Zulifqar Ali Solangi, **Muhammad Yameen Solangi**, Umair Aftab, Matteo Tonezzer, Aneela Tahira, Shymaa S. Medany, Ayman Nafady, Zafar Ibupoto, "**Phytochemicals of mustard (Brassica Campestris) leaves tuned the nickel-cobalt bimetallic oxide (NiCo<sub>2</sub>O<sub>4</sub>) properties for enzyme free sensing of glucose**" *Journal of the Chinese Chemical Society*, (2022), 69(9), 1608-1618 <https://doi.org/10.1002/jccs.202200270> (IF-1.8)

- P-12** **Muhammad Yameen Solangi**, Abdul Hanan Samo, Abdul Jaleel Laghari, Umair Aftab, Muhammad Ishaque Abro, Muhammad Imran Irfan, “**MnO<sub>2</sub>@Co<sub>3</sub>O<sub>4</sub> nanocomposite based electrocatalyst for effective oxygen evolution reaction**” *Sukkur IBA Journal of Emerging Technologies*, (2022), 5(1) 32-40.
- P-13** Abdul Hanan, Abdul Jaleel Laghari, **Muhammad Yameen Solangi**, Umair Aftab, Muhammad Ishaque Abro, Dianxue Cao, Mukhtiar Ahmed, Muhammad Nazim Lakhan, Amir Ali, Ali Asif, Altaf Hussain Shar, “**CdO/Co<sub>3</sub>O<sub>4</sub> NANOCOMPOSITE AS AN EFFICIENT ELECTROCATALYST FOR OXYGEN EVOLUTION REACTION IN ALKALINE MEDIA**” *International Journal of Engineering Science and Technologies*, (2022), 6 (1), 1-10, <https://doi.org/10.29121/IJOEST.v6.i1.2022.259>.
- P-14** Abdul Hanan Samo, Umair Aftab, **Muhammad Yameen**, Abdul Jaleel Laghari, Mukhtiar Ahmed, Muhammmad Nazim Lakhan, Altaf Hussain Shar, Ali Asif, Amir Ali, “**MAGNESIUM DOPED COBALT-OXIDE COMPOSITE FOR ACTIVE OXYGEN EVOLUTION REACTION**”, *Journal of Applied and Emerging Sciences*, (2021), 11(2), 210-216, <https://dx.doi.org/10.36785/JAES.112519>.
- P-15** **Muhammad Yameen Solangi**, Umair Aftab, Muhammad Ishaque, Aqeel Bhutto, Ayman Nafady and Zafar Hussain Ibupoto, “**Polyvinyl fibers as outperform candidature in the solid polymer electrolytes**”, *Journal of Industrial Textiles*, (2020), 1-13, <https://doi.org/10.1177/1528083720970620>. **(IF-3.0)**

### International Conference Proceedings

- P-1** **Muhammad Yameen Solangi**, Abdul Hanan Samo, Abdul Jaleel Laghari, Muhammad Ishaque Abro, “**FACILE MnO<sub>2</sub>/Co<sub>3</sub>O<sub>4</sub> NANOCOMPOSITE ELECTROCATALYST FOR WATER OXIDATION REACTION**” 1st International Conference on Advances in Material Sciences and Environmental Engineering – ICAMSEE 2021NED University of Engineering and Technology Karachi, Pakistan (June 25-26, 2021)
- P-2** Abdul Hanan Samo, Umair Aftab, **Muhammad Yameen**, Abdul Jaleel Laghari, Mukhtiar Ahmed, Muhammmad Nazim Lakhan, Ali Asif “**MAGNESIUM DOPED COBALT-OXIDE COMPOSITE FOR ACTIVE OXYGEN EVOLUTION REACION**” 1st International Conference on Advances in Material Sciences and Environmental Engineering – ICAMSEE 2021NED University of Engineering and Technology Karachi, Pakistan (June 25-26, 2021)
- P-3** Abdul Jaleel Laghari, **Muhammad Yameen Solangi**, Abdul Hanan Samo, Umair Aftab, “**HIGHLY EFFICIENT CdO-Co<sub>3</sub>O<sub>4</sub> ELECTROCATALYST FOR OXYGEN EVOLUTION REACTION**” 1st International Conference on Advances in Material Sciences and Environmental Engineering – ICAMSEE 2021NED University of Engineering and Technology Karachi, Pakistan (June 25-26, 2021)

## **COURSES, SEMINARS AND CONFERENCES**

- Webinar on “**Quantitative Risk Assessment (QRA): Fundamental & Technical Approach with Project Case Study**” organized by Velosi Asset Integrity, HSE and Engineering Services on 31 Oct 2020.
- Webinar on “**Fundamentals of Pipeline Integrity Management System (PIMS): Case Study**” organized by Velosi Asset Integrity, HSE and Engineering Services on 03 Oct 2020.
- Webinar on “**API 580/581: Fundamentals of Risk based Inspection Program (Case Study)**” organized by Velosi Asset Integrity, HSE and Engineering Services on 12 September 2020.
- Online course on “**Mechanics of Materials I: Fundamentals of Stress & Strain and Axial Loading**” by Georgia Institute of Technology with collaboration of Coursera (Online certification), 7<sup>th</sup> Jun to 12<sup>th</sup> July, 2019.
- One-day course on “**Corrosion Protection and Techniques**” organized by Department of Metallurgy & Materials Engineering, MUET, Jamshoro in collaboration with Pak-Arab Refinery Company Ltd and Sui Southern Gas Company Ltd on 14th Nov, 2018.
- One-day course on “**Framework for Damage Mechanics based Simulation of Material Failure Processes**” organized by Office of Research Innovation and Commercialization, MUET, Jamshoro in collaboration with University Technology Malaysia on 22nd Aug, 2017.
- One-day course on “**Occupational Health and Safety Management System for Industries**” organized by Office of Research Innovation and Commercialization, MUET, Jamshoro on 5th Oct, 2019
- One-day course on “**Application of MTLAB in Materials Design**” organized by Department of Metallurgy & Materials Engineering, MUET, Jamshoro on 30th Oct, 2017
- Participated in **Project exhibition** organized by Mehranian Materials Advantage Chapter (MMAC) at the department of Metallurgy & Materials Engineering, MUET, Jamshoro on 29<sup>th</sup> Oct, 2018.
- Participated in **Project exhibition** organized by Mehranian Materials Advantage Chapter (MMAC) at the department of Metallurgy & Materials Engineering, MUET, Jamshoro on 29<sup>th</sup> Oct, 2018.
- Participated in **Quiz Competition** organized by Mehranian Materials Advantage Chapter at the department of Metallurgy & Materials Engineering, MUET, Jamshoro on 30<sup>th</sup> Aug, 2017.
- Participated in seminar on **Career Counselling** organized by Pakistan institute of youth development, Govt: of Sindh on 28<sup>th</sup> Nov, 2014.

- Participated in 1<sup>st</sup> International Conference on “**Advance Materials and Processing**” organized by Department of Metallurgy & Materials Engineering, MUET, Jamshoro from 28th Feb to 2<sup>nd</sup> March, 2017.
- Participated in 2<sup>nd</sup> National Conference on “**Metallurgy and Materials**” organized by Department of Metallurgy & Materials Engineering, MUET, Jamshoro on 11th August, 2016.

## **MEMBERSHIPS**

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- Pakistan Engineering Council (Registration No. METAL/05669)
- Mehranain Materials Advantage Chapter (MMAC)  
(Former Class Co-Ordinator MMAC).

## **TECHNICAL SKILLS**

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Hands on practice on following equipment

- Analytical Potentiostat (VERSASTAT 4-500)
- Fourier Transformed Infrared Spectroscopy (FTIR-PerkinElmer Spectrum Two)
- UV-Visible Spectroscopy (Lambda 365)
- Zeta Potential (Malvern Zeta Nano-ZS)
- Mechanical Testing Machines, Hardness, Impact, Tensile etc.

## **SOFTWARE SKILLS**

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- High Score Plus
- Image J
- Z view
- EC Lab
- Origin Pro-8
- Crystal Maker
- MATLAB
- Multisim
- Turbo C++
- Dev C++
- Microsoft Office
- Windows

## **REFERENCES**

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Will be furnished on demand