

# CURRICULUM VITAE

## **Engr. Barkatullah Kandhro**

Institute of Environmental Engineering & Management,

Mehran UET, Jamshoro, Sindh, Pakistan

Mob#: +92-305-3193202, (Ext. 7315)

barkatullah.kandhro@faculty.muett.edu.pk



## **EDUCATION**

DEGREE	INSTITUTE / UNIVERSITY	GRADE / DIVISION	C.G.P (OUT OF 4)	YEARS
<i>PhD, in progress</i>	MUET, Jamshoro	-	-	-
<i>M.E, Energy &amp; Environmental Engineering</i>	MUET, Jamshoro	"1 <sup>st</sup> " Division	3.63	2018
<i>B.E, Environmental Engineering</i>	MUET, Jamshoro	"1 <sup>st</sup> " Division	3.76	2015
Intermediate "Engineering"	B.I.S.E Larkana	"A Grade"	69.7%	2009
Matriculation "Science"	B.I.S.E Larkana	"A1 Grade"	82%	2007

## **WORK EXPERIENCE**

**Total Work Experience: 6+ Years**

### **1. INSTITUTE OF ENVIRONMENTAL ENGINEERING & MANAGEMENT, MEHRAN UET, JAMSHORO**

#### **LECTURER**

*March 9<sup>th</sup>, 2020- Up-to-date*

- ☞ Deliver lectures at Undergraduate level of Water Supply Engineering, Wastewater Engineering & Treatment, Environmental Physics, Hazardous Waste Risk Assessment, and Natural Resources Management.
- ☞ Assist undergraduate and postgraduate students in laboratory/research work, laboratories SOPs, and Calibration of Laboratory Equipment's.
- ☞ Having Research interest in anaerobic digestion, wastewater treatment, and waste to energy conversion technologies
- ☞ Supervision of final year student projects: 6 Groups
- ☞ Supervision of Master Student thesis: 02 Students

#### **Other Key responsibilities:**

- **Secretary/Member**, Industry Advisory Board, IEEM, Mehran UET, Jamshoro.
- **Member**, Departmental Management Review Committee, IEEM, Mehran UET, Jamshoro
- **Member**, Planning & Development, HEC, IEEM, Mehran UET, Jamshoro.
- **Member**, Self-Assessment Report, HEC for ME/MS/M.Phil programs, IEEM, Mehran UET, Jamshoro
- **Focal Person**, Prime Minister Youth Laptop Scheme 2023, IEEM, Mehran UET, Jamshoro.

**2. INSTITUTE OF ENVIRONMENTAL ENGINEERING & MANAGEMENT, MEHRAN UET, JAMSHORO**

**RESEARCH ASSISTANT**

November 2019– February 2020

**Key responsibilities**

- Conducted undergraduate practical's of various subjects
- Prepared the reagents/solutions of various concentrations
- Maintenance and Calibration of Laboratory Equipment's
- Laboratory Health & Safety, and SOPS of physicochemical water and wastewater characteristics.

**3. US-PAKISTAN CENTER FOR ADVANCED STUDIES IN WATER, MEHRAN UET, JAMSHORO**

**RESEARCH ASSISTANT**

January 2018 – October 2019

**Key responsibilities:** *Involved in various projects regarding to wastewater treatment and analysis.*

- **PROJECT TITLE:** "Treatment and Reuse of Wastewater of Fish Processing Industry" Muhammadi and Co. Pvt. Ltd Fisheries Karachi, Funded by USAID.  
**Advisor:** *Prof. Dr. Zubair Ahmed Memon*
- **PROJECT TITLE:** "Rehabilitation of Sewage Treatment Plant Using Moving Bed Bioreactor System" at United Energy Pakistan Limited (UEPL) Naimat Camp TandoAdam.  
**Advisor:** *Prof. Dr. Rasool Bux Mahar, Prof. Dr. Zubair Ahmed*
- **MDC UNICEF PROJECT:** Analysis of Physicochemical water quality parameters and report writing.  
**Advisor:** *Prof. Dr. Rasool Bux Mahar, Prof. Dr. Zubair Ahmed*

**Other Key responsibilities:**

- ☞ Treated fish processing industrial wastewater in membrane bioreactor and electrocoagulation at pilot scale in Industry.
- ☞ Operated Moving Bed Bioreactor System" at United Energy Pakistan Limited (UEPL) Naimat Camp TandoAdam
- ☞ Monitor the performance of treatment systems by measuring TSS, COD, BOD, nitrogen, color, and turbidity.
- ☞ Report writing

**4. INSTITUTE OF ENVIRONMENTAL ENGINEERING & MANAGEMENT, MEHRAN UET, Jamshoro**

**TEACHING ASSISTANT**

July 2016 - July 2017

**Key responsibilities:**

- Conducted undergraduate practicals of various subjects and involved in following analysis and work.
- ☞ Physical water quality parameters (Turbidity, solids, Odor, Temperature)
- ☞ Chemical water quality parameters (COD, Alkalinity, Chloride, Hardness, fluoride)
- ☞ Biological water quality parameters (BOD, Total Coliform)

## **PUBLICATIONS**

- ☞ **Kandhro, B.**, Sahito, A. R., Nixon, J., Uqaili, M. A., Mirjat, N. H., Harijan, K., Zaman, R. O., & Kumar, L. (2022) "Seasonal variation in biogas production in reinforced concrete dome biogas plants with buffalo dung in Pakistan". *Biomass Conv. Bioref.* <https://doi.org/10.1007/s13399-022-02654-3> (**Impact Factor 4.1**)
- ☞ Baloch, H., **Kandhro, B.**, Channa, A., Memon, S. A., Jat, M. Y., & Chan A. A. (2022) "Enhancement of Biogas Production from Fixed Dome Biogas Plant through Recycling of Digested Slurry". *Int J Environ Sci Nat Res.*, Volume 29 Issue 5. DOI: 10.19080/IJESNR.2022.29.556274.
- ☞ Memon, S. A., Raja, O. S., **Kandhro, B.**, Salim, I., & Lee, C. H. (2018) "Stormwater Management in Urban Areas of South Korea". In *IOP Conference Series: Earth and Environmental Science* (Vol. 127, No. 1, p. 012014) (**Impact Factor 0.45**).
- ☞ Mahessar, A. A., Qureshi, A. L., Ursani, H., Tunio, I., **Kandhro, B.**, & Memon, S. A. (2017). "Environmental concerns for water consumption from polluted water bodies in watershed area of Sindh Province". *Journal of Pollution Effects & Control*, 5(4), 204 (**Impact Factor 0.48**).

## **CONFERENCES PUBLICATIONS**

- ☞ Hamza Baloch, **Barkatullah Kandhro**, Sheeraz Ahmed Memon, Abdul Aziz Chan, Mahtab Gul. "Enhancement of biogas production from fixed dome biogas plant through recycling of digested slurry", 1st International conference on advanced materials and emerging technologies, MUET, Jamshoro, 28-29<sup>th</sup> July **2021**.
- ☞ Sheeraz Ahmed Memon, **Barkatullah Kandhro**, Abdul Aziz Chan, Hamza Baloch, Mahtab Gul. "Optimization of fixed dome biogas plant for underprivileged communities living at lower Indus region of Pakistan". 1st International Conference on Advances in Material Science and Environmental Engineering, Karachi, Pakistan, 25<sup>th</sup> to 26<sup>th</sup> June **2021**
- ☞ Zubair Ahmed, Volodymyr Ivanov, Viktor Stabnikov, Evgen Shapovalov, Sergei Zhadan, Olena Stabnikova, **Barkatullah Kandhro**, and Anatoliy Salyuk. "Large-scale application of iron-containing mineral resources in environmental engineering", 1<sup>st</sup> International Conference on Sustainable Mineral Resource Development and Utilization (SMRDU'19) KLC-PCSIR Laboratories, KARACHI, 12-13 Feb, **2019**.
- ☞ Kiran Memon; Zubair Ahmed; **Barkatullah Kandhro**. "Optimization of recycling rate in a sequencing anaerobic-aerobic membrane bio reactor treating shrimp processing effluent". 5<sup>th</sup> International Water conference (IWC) on sustainable water resources management, University of Haripur, held from 15-17<sup>th</sup> January, **2019**
- ☞ **Barkatullah Kandhro**, Abdul Razaque Sahito, Khanji Harijan, Jonathan Daniel Nixon. "Performance and Post Digestate Potential of Fixed Dome Biogas Plant". DICE, Energy & Water (DEW-7), Mehran University of Engineering & Technology, Jamshoro, **2017**.
- ☞ **Barkatullah Kandhro**, Abdul Razaque Sahito, Khanji Harijan, Jonathan Daniel Nixon. "Seasonal Effect on the Efficiency of Reinforced Concrete Dome Biogas Plant and Post Digestate Potential". 1<sup>st</sup> International Conference on "Modern Trends in Science, Engineering & Technology" (MTSET-17), Dawood University of Engineering & Technology (DUET), Karachi, 27<sup>th</sup> to 28<sup>th</sup> April **2017**.
- ☞ **Barkatullah Kandhro** and Abdul Razaque Sahito "Bioethanol Production from Maize". 1<sup>st</sup> National Conference on "Environmental Engineering & Management", Organized by Institute of Environmental Engineering and Management, MUET, Jamshoro, 13<sup>th</sup> to 14<sup>th</sup> April **2016**.
- ☞ Sajid H Mangi, **Barkatullah Kandhro**, Tauha Khokhar, Asfand Nizamani, Amin Channar. "Design and Fabricate a Pilot Scale Anaerobic Digester for Biogas Production". 3<sup>rd</sup> International

Conference on “Energy, Environmental & Sustainable Development”, MUET, Jamshoro, 22<sup>nd</sup> to 24<sup>th</sup> October, **2014**.

---

### **PROFESSIONAL TRAINING/AWARDS/CERTIFICATE**

---

- ❖ **Trainer** in “Water Quality Testing & Treatment Technician” 2<sup>nd</sup> Batch 2022-2023 under Benazir Bhutto Shaheed Human Resources Research and Development Board (BBHRRDB), Mehran UET, Jamshoro, Duration 6 Months (21<sup>st</sup> October, 2022 to 24<sup>th</sup> April, 2023).
- ❖ **International Training Workshop** on “Waste to Energy & MSW Incineration Power Generation” Organized by Zhejiang University and Ministry of Science & Technology, China, held online from October 12<sup>th</sup> to 26<sup>th</sup>, 2021 with Certificate No. 203924.
- ❖ **Online Session** on “Green Productivity & Integrated Management System”, Organized by National Productivity Organization Liaison Office of Asian productivity Organization, Tokyo under Ministry of Industries and Production, held on September 10, 2021.
- ❖ **Online Training of SAARC Professionals** on “Commercial Scale Biogas Plants”, Organized by SAARC Energy Center, Islamabad, held on 23<sup>rd</sup> to 27<sup>th</sup> August, 2021.
- ❖ **Two Day Workshop** on “*Partial Least Square Equation Modelling: A Hands on Approach on Smart PLS*”, Organized by MUISTD, Mehran UET, Jamshoro, April 25-26<sup>th</sup> 2019.
- ❖ **Managing Safely**, a course approve and validated by the Institution of Occupational Safety & Health in association with Safecon Training and Consultant, 16<sup>th</sup> March 208 with Certificate No. 570777.
- ❖ **Health, safety and environment**, Organized by Institute of Environmental Engineering and Management, Mehran UET, Jamshoro, held from 10-11<sup>th</sup> Feb 2018 with Reg. No. 17021863.
- ❖ **Internee** at North Sindh Urban Services Corporation (NSUSC). The NSUSC has been established under the Companies Ordinance 1984 for the secondary cities of Northern cluster of Sindh Province. This Urban Services Corporations will aggregate participating TMA's Water supply, Waste Water and Solid Waste Management operation, Since June 2013 to July 2013.
- ❖ Registered in Pakistan Engineering Council (Registration No. Enviro/462) (**life Member**)

---

### **SEMINARS/ CONFERENCES/WORKSHOPS ATTENDED**

---

- ☞ 1<sup>st</sup> International Seminar on “Eco-Innovation and Circular Economy for Sustainable Industrial growth in Pakistan: Situation Analysis”, Organized by USPCASW, Mehran UET, Jamshoro, July, 10<sup>th</sup> 2023.
- ☞ One Day Seminar on “Pakistan SDG Summit-22”, Organized by Institute of Environmental Engineering and Management, Mehran UET, Jamshoro, March, 15<sup>th</sup> 2022.
- ☞ Twenty Fourth Sustainable Development Conference (SDC), organized by Sustainable Development Policy Institute (SDPI), Islamabad, Pakistan, December 6-9<sup>th</sup> 2021.
- ☞ One Day Seminar on “Awareness Seminar on Artificial Intelligence on sustainable Engineering”, Organized by Institute of Environmental Engineering and Management, Mehran UET, Jamshoro, 2021.
- ☞ 6<sup>th</sup> International Conference on Energy, Environment and Sustainable Development 2022 (EESD 2022), organized by Department of Civil Engineering, Mehran University of Engineering & Technology Pakistan, held on January 17- 19<sup>th</sup>, 2022.
- ☞ One Day Seminar on “Eco-Innovation in Textile Processing Industry of KITE for Sustainable Product Processing”, Organized by USPCASW, Mehran UET, Jamshoro, September, 27<sup>th</sup> 2019.

- ☞ One Day Seminar on “Wastewater Treatment and Reuse to Approach Zero Water Discharge in Al-Rahim Textile Industries: Substantial Increase in Water-Use Efficiency in Textile Processing”, Organized by USPCASW, Mehran UET, Jamshoro, September, 18<sup>th</sup> 2019.
- ☞ 2<sup>nd</sup> International Conference on Sustainable Development in Civil Engineering, organized by Department of Civil Engineering and Institute of Environmental Engineering and Management, Mehran University of Engineering & Technology Pakistan, held on 5-7<sup>th</sup>, December, 2019.

---

## PROJECTS

---

- ❖ **TITLE:** “Treatment of Textile Dye using Electrocoagulation Oxidation Unit” Funded by National Cleaner Production center (NCPC), Rawalpindi  
**Duration: 2022-2023**
- ❖ **TITLE:** “Design and Fabrication of Ozone Generator for Water Purification” Funded by National Cleaner Production center (NCPC), Rawalpindi  
**Duration: 2021-2022**
- ❖ **TITLE:** "Design, Fabrication and Optimization of Fixed Dome Biogas Plant and Digest Separator for Underprivileged Communities Living at lower Indus Region of Pakistan" Funded by Higher Education Commission (HEC), Islamabad, Pakistan  
**Advisor: Prof. Dr. Sheeraz Ahmed Memon**

---

## EVENTS ORGANIZED

---

- **Teacher Coordinator** in MUET MUN-23, Organized by Mehran UET, Jamshoro. 2023.
- **One Day Seminar** on “World Wetlands Day-22”, Organized by Institute of Environmental Engineering and Management, Mehran UET, Jamshoro, February 09, 2022
- **One Day Seminar** on “A-Virtual Talk on Applications of GIS in Ecology” Organized by Institute of Environmental Engineering and Management, Mehran UET, Jamshoro, February 02, 2022.
- **Teacher Coordinator** in MUET MUN-22 and MUET GALA 2022, Organized by Mehran UET, Jamshoro, 2022.
- **Teacher Coordinator** in Big Event-22, Organized by Mehran UET, Jamshoro, 2022.
- **One Day Seminar** on “Treatment of Industrial Wastewater Using Innovative Membrane Bioreactor”, at Federation of Pakistan Chambers of Commerce and Industry (FPCCI), Karachi, Organized by USPCASW, Mehran UET, Jamshoro, September 24<sup>th</sup>, 2019.
- **One Day Seminar** on “Treatment and Reuse of Wastewater of Fish Processing Industry”, Organized by USPCASW, Mehran UET, Jamshoro, September, 27<sup>th</sup> 2019.

---

## THESIS SUPERVISED UNDERGRADUATES

---

1. **TITLE:** “Optimization of Electrocoagulation Oxidation Unit treating Synthetic indigo dye”  
**Degree:** B.E (Environmental Engineering), **19 Batch**, MUET Jamshoro
2. **TITLE:** “Enhancement of Methane Production by Co-Digestion of Fruit Vegetable Waste and Buffalo Dung”  
**Degree:** B.E (Environmental Engineering), **19 Batch**, MUET Jamshoro
3. **TITLE:** “Removal of Heavy Metals through Magnetic Fish Scale Bioadsorbent from Aqueous Media”  
**Degree:** B.E (Environmental Engineering), **18 Batch**, MUET Jamshoro

4. **TITLE:** "Performance Evaluation of Biogas Purification Unit"  
**Degree:** B.E (Environmental Engineering), **18 Batch**, MUET Jamshoro
  
5. **TITLE:** "Design and Fabrication of Ozone Generator for Household Water Disinfection"  
**Degree:** B.E (Environmental Engineering), **17 Batch**, MUET Jamshoro
  
6. **TITLE:** "Removal of Arsenic from Ground Water by Iron Oxide Adsorbent"  
**Degree:** B.E (Environmental Engineering), **17 Batch**, MUET Jamshoro

---

**COMPUTER SKILLS**

---

MS Office (Word, Excel, PowerPoint, Publisher)

---

**PERSONAL INFORMATION**

---

**Date of Birth:**

18-02-1992

**Nationality:**

Pakistani

**C.N.I.C No.**

43201-4602463-1

**Passport No.**

AG4774631

**PEC Registration No.**

Enviro/462

**Marital Status:**

Married