

Dr. Shazia Perveen

HEC Approved Supervisor

Assistant Professor

Department of Chemistry, NED University of Engineering and Technology

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RESEARCH EXPERTISE

Electrochemistry, Electrochemical Biosensor, Ion Exchange Membrane synthesis and applications, Analysis of chemical fractals, Analytical applications of Cyclic Voltammetry, Commands on voltammetric method development to study different chemical systems, Research experience to study electron transfer reaction mechanisms associated to different chemical systems and evaluation of their thermodynamic and kinetic parameters, Research experience in computer aided simulation of coupled chemical reactions using Digi-Sim software.

ACADEMIC CAREER			
Year	Degree	Field of Study	Institution/University/Board
2014	Ph.D.	Electrochemistry	University of Karachi
2005	M.Sc.	Chemistry, Analytical Chemistry	University of Karachi
2004	B.Sc. (Hons.)	Chemistry	University of Karachi
2000	H.S.C.	Science	Karachi Board
1998	S.S.C.	Science	Karachi Board

Professional Experience: (Research and Teaching Experience: 16 Years)			
Institution	Position / Job Title	Period	
Dept. of Chemistry, NED University of Engineering and Technology	Assistant Professor	25 Mar 2019	Continue
Dept. of Chemistry, NED University of Engineering and Technology	Assistant Professor (IPFP)	08 Jan 2018	07 Jan 2019
Dept. of Chemistry, University of Karachi	Teaching Associate	Jan 2015	30 Jun 2017
Dept. of Chemistry, University of Karachi	Cooperative Teacher	Feb 2006	Jun 2007

RESEARCH PUBLICATIONS

PUBLISHED BOOK

1. **Shazia Akbar**. "Fractal Analysis in Chemistry and Biology" *LAP LAMBERT Academic Publishing AG & Co. KG, Germany*. Dec. 2010.

PUBLISHED JOURNAL ARTICLES

2. **Shazia Akbar***, Iftikhar Imam Naqvi, Mahboob Muhammad and Erum Zahir, "Fractal Growth of Zinc Dendrites", *Asian Journal of Chemistry*, 21, 2009, 4190-4198.
3. **Shazia Akbar***, Iftikhar Imam Naqvi and Mahboob Muhammad, "Electron transfer reactions associated with ethyl viologen- β -cyclodextrin complexation: equilibrium and kinetic aspects", *Journal of the Iranian Chemical Society, Springer*, 11, 2014, 615-621.
4. **Shazia Perveen***, Iftikhar Imam Naqvi, "Inclusion complexation of Benzyl viologen by β -cyclodextrin in DMF-H₂O mixed solution, *Pakistan Journal of Analytical and Environmental Chemistry (PJAEC)*, Vol. 17, Issue 1, 2016.
5. **Shazia Perveen***, Sheikh Mohiuddin, "Multiproticity of weak acids: Inflection point vs. Equivalence point", *World Journal of Chemical Education*, 4, 2016, 21-24.

6. **Shazia Perveen***, Sheikh Mohiuddin, "Practical pH measurements Vs Theoretical approach: Acid-Base System", World Journal of Chemical Education, Vol.6, No.5, 2018, 218-222.
7. Summyia Masood*, Rehana Saeed, Maria Ashfaque and **Shazia Perveen**, "Interionic interactions of Nickle Sulphate in Aqueous and Aqueous Methanol Mixtures", Pak. J. Chem. 8(1-2), 2018, 01-07.
8. Tehmina Fiaz, **Shazia Perveen***, Nasreen Fatima, "Study of Complexation of Dopamine Analogues with bioactive metals by Cyclic Voltammetry." Journal of Iranian Chemical Society, Springer, Published online, 17 May 2019, <https://doi.org/10.1007/s13738-019-01688-1>
9. Kanwal Zahid*, Shazia Nisar, Saima Imad, **Shazia Perveen***, Shazia Ghaffar, Nasreen Fatima, "Synthesis and characterization of homo and mixed ligand complexes of Fe(III) with hydroxypyridinone and hydroxypyranone type ligands", Pakistan J of Scientific and Industrial Research, Sec A; Pak. j. sci. ind. res. Ser. A: phys. sci. 2020 63A (1) 12-17.
10. Saba Iqbal, **Shazia Perveen***, Sheikh Mohiuddin, "Study of antioxidant activity of citric acid towards Paraquat by Cyclic voltammetry", Pakistan J of Pharmaceutical Sciences, 33, 2020, pp.263-267.
11. **Shazia Perveen***, Iftikhar Imam Naqvi and Summyia Masood, "Study of electron transfer reactions associated with benzyl viologen- β -cyclodextrin complexation in buffer solution of pH 7: equilibrium and kinetic aspects" Asian Journal of Chemistry, 32 (8):1981-1985 (2020).

ARTICLES UNDER REVIEW PROCESS

12. Kanwal Zahid, **Shazia Perveen***, Shazia Nisar and Nasreen Fatima, "Cyclic voltammetric studies of Kojic acid: A pharmaceutical chelating drug and bioactive iron", Canadian J of Chemistry, 28th Oct, 2021, Manuscript ID: cjc-2021-0300.
13. **Shazia Perveen***, "importance of a robust framework for drinking water quality monitoring and management", Reviews on Environmental Health, 14th Nov, 2021, In review process.
14. Taha Siraj, **Shazia Perveen***, Ruba Khawar, Ghazanfar Hussain, "Environmentally friendly synthesis of poly epichlorohydrin based anion exchange membranes: Characterization and performance study for specific application of waste water treatment." J of Membrane and water treatment, 13th Oct, 2021. In review process.
15. Arsalan Ahmed Khan, **Shazia Perveen***, Muzamil Jalil Ahmed, Syed Muhammad Wahaj Ejaz and Syed Muhammad Ali Rizvi, "Synthesis, Characterization and electrochemical performance evaluation of oxygenate graphenic nanomaterials based biosensor", J of drug testing and analysis, 16th Nov, 2021. In review process.
16. Sarah Shohneem John, **Shazia Perveen*** and Kashif Ahmed, "Designing of an efficient and environment friendly electrochemical bio sensor for analysis of anticancer drug", J of Biomedical Science, 5th Oct, 2021. In review process.

PATENTS UNDER REVIEW PROCESS

1. Patent Application Filed on title, "An Inventive Scalable Method for the Production of High Quality Graphene Oxide Nano-sheets" in the Patent Registration office (IPO), Karachi, Pakistan 15th Nov 2021.
2. Patent Application Filed on title, "A Novel Scalable Electrochemical Method for Obtaining High Quality Reduced Graphene Oxide Nano-Sheets & A Novel Characterization Method Thereof" in the Patent Registration office (IPO), Karachi, Pakistan 15th Nov 2021.

RESEARCH ACTIVITIES

MS-ISP SUPERVISOR

Year	Student Name	Title	Status
2018	Syed Junaid Ali	Extraction of Salinity Gradient Power on Mass Scale.	Completed

2020	Sara Shohneem John	Designing of a highly sensitive, fast and selective electrochemical biosensor for Analysis of Anticancer drugs	Completed
2020	Rabia Tahir	Designing of a highly sensitive, fast and selective electrochemical biosensor for ANALYSIS OF ANTIPARKINSON drugs	Ongoing
2021	Muzammil Ahmed	Electrochemical biosensor based on graphene oxide for detection of antimigraine drug	Ongoing

FYPs SUPERVISOR

Year	Batch	Title	Status
2018	2015-16	Designing and characterization of ion exchange membrane for electrochemical devices	Completed
2018	2015-16	Study of chemical and physical properties of ion exchange membrane	Completed
2019	2016-17	Study of electrochemical properties and performance of Anion exchange membrane by Potentiostat	Completed
2020	2017-18	Caustic recovery from industrial waste by Ion Exchange Membranes (IEMs)	Completed
2020	2017-18	Designing of a highly sensitive, fast and selective Electrochemical Biosensors	Completed
2020	2017	Prototype modification for caustic recovery from waste water	Completed
2021	2018	Designing of ion exchange membrane module for caustic recovery	Ongoing

Ph.D. CO-SUPERVISOR

Year	Student Name	Title	Status
2014-2017	Tehmina Fiaz	Cyclic Voltammetric Study of Chelation of Dopamine Analogs with Metals like Iron, Copper and Aluminum.	Completed
2017	Kanwal Zahid	The Complexation and Redox studies of some metal ions with hydroxypyranone and hydroxypyridinone type ligands.	Completed

RESEARCH PROJECTS

RESEARCH PROJECT SUBMITTED TO HEC

Year	Name of PI	Name of Co PI	Type of Project	Status
June, 2021	Dr. Shazia Perveen Department of Chemistry, NED University of Engineering & Technology	Syed Ghazanfar Hussain	PSF (4 th Call)	Not Accepted
May, 2021	Dr. Shazia Perveen Department of Chemistry, NED University of Engineering & Technology	Syed Ghazanfar Hussain	NRPU	Not Accepted

Oct, 2020	Dr. Shazia Perveen Department of Chemistry, NED University of Engineering & Technology	Syed Ghazanfar Hussain	TTSF	Accepted May, 2021 Total Funding from HEC: 6.341174 Million
Aug, 2020	Dr. Shazia Perveen Department of Chemistry, NED University of Engineering & Technology	Syed Ghazanfar Hussain	SHEC: Sindh Higher Education Commission	Not Accepted
March, 2020	Dr. Shazia Perveen Department of Chemistry, NED University of Engineering & Technology	Syed Ghazanfar Hussain	Pakistan Council for Science and Technology (PCST):	Not Accepted
Jan, 2020	Dr. Shazia Perveen Department of Chemistry, NED University of Engineering & Technology	Syed Ghazanfar Hussain	NRPU	Not Accepted
2018	Dr. Shazia Perveen Department of Chemistry, NED University of Engineering & Technology	Syed Ghazanfar Hussain	TDF	Project has been shortlisted from 3 rd stage. TDF03-121
2018	Dr. Shazia Perveen Department of Chemistry, NED University of Engineering & Technology	Syed Ghazanfar Hussain	TDF	Project has been shortlisted from 3 rd stage. TDF03-122
2015	Dr. Shaikh Mohiuddin, Dept. of Chemistry University of Karachi	Dr. Shazia Perveen	Pak-US Science and Technology Cooperation Program-2014	Not Accepted

RESEARCH PROJECT SUBMITTED TO ISDB ENGAGE (www.isdb-engage.org)

Year	Name of PI	Type of Project	Status
May 2019	Shazia Perveen Department of Chemistry, NED University of Engineering & Technology	Isdb- Engage	Not Accepted

CONFERENCES

- (February 26th -28th, 2021) Paper on “Interaction of bioactive Iron with clinical chelating drug, Kojic acid by cyclic voltammetry”, presented in 1st International Industrial Chemistry Conference-2021 (IICC-2021) arranged by Dept. of chemistry, NED University of Engineering and Technology. Abstract of research work has been published in the “Abstract Book of IICC-2021 International Industrial Chemistry Conference”.
- (February 26th -28th, 2021) Paper on “Designing and Characterization of Ion Exchange Membranes”, presented in 1st International Industrial Chemistry Conference-2021 (IICC-2021) arranged by Dept. of

chemistry, NED University of Engineering and Technology. Abstract of research work has been published in the "Abstract Book of IICC-2021 International Industrial Chemistry Conference".

- (February 26th -28th, 2021) Poster on "Mechanistic Modeling of Cyclic Voltammetry and EIS: A Useful Tool for Understanding Biosensor Principles", presented in 1st International Industrial Chemistry Conference-2021 (IICC-2021) arranged by Dept. of chemistry, NED University of Engineering and Technology. Abstract of research work has been published in the "Abstract Book of IICC-2021 International Industrial Chemistry Conference".
- (26-27 Nov. 2019) Attended 4th Karachi International Water Conference: Session 4B organized by Hisaar Foundation, Karachi.
- (20 Dec.2019) Attended NED-Women Conference 2019.Perspectives on Women Development organized by NED University of Engineering and Technology, Karachi.
- (January 8th -10th,2016) Participated as a speaker in 4th International Conference on Environmental Horizon organized by Dept. of Chemistry, University of Karachi. Title: Study of Molecular recognition of viologens with β -Cyclodextrin by Cyclic Voltammetry.
- (December 15th -18th , 2016) Paper on "Electrochemical oxidation of levodopa, with and without iron" has been presented in 14th Eurasia Conference on Chemical Sciences jointly organized by HEJ Research Institute of Chemistry, ICCBS, University of Karachi and Economic Cooperation Organization Science Foundation (ECOSF).
- (January 8th to 10th, 2016) A poster has been presented in 4th International Conference on Environmental Horizon organized by Dept. of Chemistry, University of Karachi. Title: Voltammetric study of methyl viologens interaction with citric acid as an Antioxidant.
- (January 9th-11th , 2015) Participated in 3rd International Conference on Environmental Horizon organized by Dept. of Chemistry, University of Karachi.
- (August 12th- 17th 2006) Paper on "Fractal Growth of Zinc Dendrites and its Simulation" presented in 19th International Conference on Chemical Education in Seoul Korea. Abstract has been published in IUPAC Proceedings of 19th ICCE Seoul, Korea.
- (December 19th-21st 2006) Paper on "Dendrites formation and Simulation" presented in International Conference on Environmental Horizons arranged by Dept. of chemistry & ICCBS, University of Karachi. Abstract of research work has been published in the "Abstract Book of International Conference on Environmental Horizons"

WORKSHOPS & SEMINARS

- Attended Seminar on HEC's Undergraduate Policy 2020-21, organized by NED University of Engineering and Technology. (29th June, 2021)
- Attended Pastic Awareness Seminar on "Introducing Indigenous Research Resources developed by Pastic" jointly organized by Pakistan Scientific & Technological Information Centre (PASTIC), Eng. Abul Kalam Library NED & Pakistan Library Club (PLC). (22nd Mar.2021)
- Attended Seminar on "Familiarity to NRPU Proposal and Associated Funds" organized by NED University of Engineering and Technology. (31st Dec.2019)
- Attended "Road Show on new R & D frame work of HEC" organized by HEC at NED University of Engineering and Technology (15th November,2019)
- Attended Seminar on "Chemical Safety handling" organized by Department of Chemistry at NED University of Engineering and Technology. (9 &12 April 2019)
- Participated as a speaker in "College Teacher's workshop on Chemistry Education and Challenges" under the auspices of National Core Group in Chemistry at Department of Chemistry, University of Karachi. (April 24th -29th 2006)
- Topic: - Lab Safety & Equipment for Measuring Volume and Mass.

TRAININGS

- “Final Year Design Project (FYDP) SOPs”, organized by Quality Enhancement Cell, NED University of Engineering and Technology, Karachi. 26-10-2021
- “Duties and responsibilities of class advisors”, organized by Quality Enhancement Cell, NED University of Engineering and Technology, Karachi. 25-10-2021
- “Online Evaluation & Assessment of Students” organized by Quality Enhancement Cell, NED University of Engineering and Technology, Karachi. 02-12-2020
- “OBE based students evaluation”, organized by Quality Enhancement Cell, NED University of Engineering and Technology, Karachi. 01-01-2020
- “Duties and responsibilities of class advisors”, organized by Quality Enhancement Cell, NED University of Engineering and Technology, Karachi. 23-09-2019
- “Understanding of Harassment rule and Preventions”, organized by Quality Enhancement Cell, NED University of Engineering and Technology, Karachi. 25-11-2019
- “Examination paper setting as per OBE System”, organized by Quality Enhancement Cell, NED University of Engineering and Technology, Karachi. 31-12-2019
- “Faculty Development Programme”, organized by Quality Enhancement Cell, NED University of Engineering and Technology, Karachi. 16th Oct to 6th Nov 2019
- “Responsibilities of invigilators and examiners”, organized by Quality Enhancement Cell, NED University of Engineering and Technology, Karachi. 31-07-2018

ACHIEVEMENTS, DISTINCTIONS & PROFESSIONAL RECOGNITIONS

- Life Time Member of Journal of Chemical Society of Pakistan.
- Successfully completed OSHA Academy Occupational Safety & Health Certificate Course “Laboratory Safety” with 97 score from *OSHA Academy of Occupational Safety & Health* on 30-9-2021.
- HEC Approved Supervisor
- NEDASSC USA FYP Funding Award: (July, 2021) Funding Award: PKR 30,600
- PHWI (Panjwani -Hisar Water Institute): Successfully conducted a literature survey on the topic “Chemical and biological issues in drinking water in Pakistan” and prepared a research report. (Submitted to Dean ISH, NED University, May 2019)
- Member of Organizing Committee: IICC-2021, 1st International Industrial Chemistry Conference-2021 (IICC-2021), 26th -28th Feb, 2021.
- Certificate of Appreciation for contributing enthusiastically in IICC-2021, 1st International Industrial Chemistry Conference-2021 (IICC-2021), 26th -28th Feb, 2021.
- BSIC Class Advisor: BSIC Final year, Department of Chemistry, NED University of Engineering and Technology.
- FYDP Coordinator
- Consignee: UDWP Fund from Chemistry Department of NED University of Engineering and Technology.
- Focal Person (Book bank): From Dept. of Chemistry for procurement of required books for book bank.
- Student Counsellor: BSIC Final year, Department of Chemistry, NED University of Engineering and Technology.
- Course Coordinator: Applied Chemistry Course CY-109 Mechanical Engineering Dept. NED University of Engineering and Technology.
- MS Admission Committee Member: Department of Chemistry, NEDUET
- M.Sc. research work was picked and published by a German publisher as a Book.
- “1st Prize” in Poster presentation on “Fractal Growth of Zinc Dendrites” in Annual Poster Competition of the year 2005 at Department of Chemistry, University of Karachi.

CO-CURRICULAR ACTIVITIES

- Organized Industrial visit of BSIC final year students of NED University at Soorty Denim, Karachi (19th Dec. 2019)
- Arranged 15 days Internship program (15 Feb-29 Feb, 2020) at Soorty Denim Mills for BSIC final year students of NED University. A certificate based internship program with stipend of 3500 PKR for each student.

INDUSTRY-ACADEMIA LINKAGES

- Two Final year projects completed which have been targeted at caustic recovery by IEMS in collaboration with Indigo Textile Pvt. Ltd.
Ref.No.DIL/(66)/4067 “Prototype designing for testing of Ion Exchange Membrane”
Ref.No.DIL/(66)/4068 “ Synthesis of Ion Exchange Membranes for caustic recovery”
- A Final year project is in process targeted at Designing of ion exchange membrane module for caustic recovery in collaboration with Indigo Textile Pvt. Ltd.
- Awarded Research project grant under TTSF program of HEC; Total Funding from HEC: 6.341174 Million. Project was submitted in collaboration with Fast Technology Pvt. Ltd.
- TDF submitted to HEC in collaboration with Soorty Enterprises Pvt. Ltd.
- TDF submitted to HEC in collaboration with Fast Technology Pvt. Ltd.
- PSF submitted against 4th call. Total Budget Requested: 12.75 Million in collaboration of Indigo Textile Pvt. Ltd.

ADDITIONAL COURSES

- Laboratory Safety Course (September 30, 2021)
OSHA Academy Occupational Safety & Health Certificate Course with 97 score from *OSHA Academy of Occupational Safety & Health*
- X-Ray Crystallography Course (July 08 to August 11, 2006)
HEJ Research Institute of Chemistry, ICCBS, University of Karachi.
- Staff Development Course (May 07 to May 30,2007)
National Academy of Higher Education (NAHE), held at University of Karachi.
- English Language Proficiency Course (February 02, 2007)
From University of Karachi.

Personal profile

Father name: Aman Ullah Khan
Spouse name: Muhammad Akbar Khan
Marital status: Married