
PERSONAL INFORMATION

Name : Maryam Hina
Date of Birth : April 3, 1984
Position : Assistant Professor (BPS)
Official Address : Institute of Physics, Bahauddin Zakariya University,
Multan
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ACADEMIC INFORMATION

2018 – 2022 PhD in Physics, Universiti Malaya (UM), Malaysia
2005 – 2007 MPhil in Physics, University of the Punjab (PU) Lahore, Pakistan
2002 – 2004 MSc in Physics, University of the Punjab (PU) Lahore, Pakistan
2000 – 2002 BSc, Government Degree College for Women, Burewala, Pakistan

PERSONAL EXPERIENCE

Oct. 2021 – to date Assistant Professor (BPS) in the Department of Physics, Bahauddin Zakariya University, Multan

Oct. 2018 – Sep. 2021 PhD at Department of Physics, Centre for Ionics Universiti Malaya

Project: SELF-HEALABLE FUNCTIONAL POLYMER HYDROGEL ELECTROLYTES BASED ENERGY STORAGE DEVICES FOR ELECTRONIC APPLICATIONS
Tasks: To improve the energy density of electric double-layer supercapacitors

Aug. 2007 – Sep. 2021 Lecturer (BPS) in the Department of Physics, Bahauddin Zakariya University, Multan

Aug. 2005 – Sep. 2007 M. Phil at Centre of Excellence (COE) in Solid State Physics (SSP), University of the Punjab (PU) Lahore, Pakistan
Project :
Tasks: STUDY OF THERMAL PARAMETERS OF $\text{Ag}_{0.5}\text{Au}_{0.5}$ AND $\text{Pt}_{0.5}\text{Cr}_{0.5}$ ALLOYS BY X-RAY DIFFRACTION

AREAS OF EXPERTISE

1. ENERGY STORAGE DEVICES
2. SUPERCAPACITORS

3. ELECTROCHEMICAL TRANSPORT PROCESSES
4. POLYMER ELECTROLYTES

SUPERVISION OF RESEARCH STUDENTS		
	Completed	Currently enrolled
MPhil students		
Supervisor	12	12
PhD students		
Supervisor	-	01

JOURNAL PUBLICATIONS (with impact factor)		
1. Hina, M., Bashir, S., Kamran, K., Almomani, F., Ahmad, J., Kamarulazam, F., ... & Mujtaba, M. A. (2024). Energy storage devices based on flexible and self-healable hydrogel electrolytes: Recent advances and future prospects. <i>Journal of Energy Storage</i>, 85, 110961. 2. Hussain, A. A., Kamran, K., Waseem, M., Umar, S., Hina, M., Altaf, M., ... & Rafique, A. (2024). Effect of voltage gradient on energy consumption and chromium ions removal from salt-affected clayey soils. <i>Journal of Applied Electrochemistry</i>, 54(3), 635-646. 3. Bibi, A., Shakoor, A., Raffi, M., Hina, M., Niaz, N. A., Fatima, S. A., & Qureshi, M. N. (2024). Exploring the potential of polyaniline-calcium titanate (PANI-CaTiO₃) nanocomposites in supercapacitors: Synthesis and electrochemical investigation. <i>Journal of Energy Storage</i>, 78, 110321. 4. Hussain, A. A., Kamran, K., Imran, M., Akram, A., Li, L., Hina, M., ... & Mohammed, A. A. (2024). Effect of experimental boundary conditions and treatment-time on the electro-desalination of soils. <i>Environmental Geochemistry and Health</i>, 46(2), 63. 5. Keita, H., Bashir, S., Hasan, K., Goh, Z. L., Hina, M., Subramaniam, R., & Kasi, R. (2024). Multifunctional Hydrogel Systems for High-Performance Lithium-Ion Batteries. <i>Nanostructured Materials for Energy Storage</i>, 2, 601-640. 6. Iqbal, T., Fatima, L., Sattar, J., Fatima, B., Ahmad, J., Hina, M., ... & Majeed, S. (2024). Molecularly imprinted polymer Zeolitic Imidazolate Framework-8 based electrochemical sensor for BSA detection and its practical applicability. <i>Journal of Electroanalytical Chemistry</i>, 965, 118364. 7. Ishaq, M., Kamran, K., Hussain, A. A., & Hina, M. (2023). Sorption of modified clay minerals in pore solution of fired clay brick under pulsed current. <i>Construction and Building Materials</i>, 407, 133503. 8. Naqvi, S. T. R., Ahmad, J., ul Haq, M. N., Hina, M., Fatima, B., Majeed, S., & Naqvi, S. M. A. (2023). Quantitative evaluation of oxidative stress in terms of H₂O₂ in smokers and nonsmokers serum samples. <i>Microchemical Journal</i>, 190, 108699. 9. Hussain, A. A., Kamran, K., Ishaq, M., Akram, A., & Hina, M. (2023). Optimization of electroosmotic flow to enhance the removal of contaminants from low-permeable soils. <i>Journal of Applied Electrochemistry</i>, 53(6), 1245-1258. 10. Hussain, A. A., Kamran, K., Hina, M., Ishaq, M., Naz, M. Y., Bashir, S., ... & Quazi, M. M. (2023). Effect of electrokinetic treatment time on energy consumption and salt ions removal from clayey soils. <i>Materials Research Express</i>, 10(5), 055505.		

11. Rafidi, N., Bashir, S., Hina, M., Gunalan, S., Ramesh, S., & Ramesh, K. (2023). Renewable and soft dynamic supercapacitors based on poly (acrylamide) hydrogel electrolytes and porous carbon electrodes. *Polymer Bulletin*, 80(2), 1285-1302.
12. Ahmad, J., Awais, M., Nissar, U., Khan, J. A., Abbas, H., Hina, M., & Bukhari, S. H. (2023). A Study on Structural and Transport Properties of Neodymium Doped La₂CoMnO₆. *Editorial and Advisory Board*, 95.
13. Ahmad, J., Afzal, V., Nissar, U., Bukhari, S. H., Jamil, M. T., Khan, J. A., ... & Hina, M. (2022). Structural and spectroscopic analysis of HoMn₂O₅ multiferroics. *Physica Scripta*, 97(12), 125816.
14. Bashir, S., Hina, M., Iqbal, J., Jafer, R., Ramesh, S., & Ramesh, K. (2022). Self-healable poly (N, N-dimethylacrylamide)/poly (3, 4-ethylenedioxythiophene) polystyrene sulfonate composite hydrogel electrolytes for aqueous supercapacitors. *Journal of Energy Storage*, 45, 103760.
15. Hina, M., Bashir, S., Kamran, K., Iqbal, J., Ramesh, S., & Ramesh, K. (2021). Fabrication of aqueous solid-state symmetric supercapacitors based on self-healable poly (acrylamide)/PEDOT: PSS composite hydrogel electrolytes. *Materials Chemistry and Physics*, 273, 125125.
16. Kamarulazam, F., Bashir, S., Hina, M., Kumar, S. S. A., Gunalan, S., Ramesh, S., & Ramesh, K. (2021). Effect of electrode substrate and poly (acrylamide) hydrogel electrolytes on the electrochemical performance of supercapacitors. *Ionics*, 27(10), 4507-4519.
17. Bashir, S., Hasan, K., Hina, M., Soomro, R. A., Mujtaba, M. A., Ramesh, S., ... & Manikam, R. (2021). Conducting polymer/graphene hydrogel electrodes based aqueous smart Supercapacitors: A review and future prospects. *Journal of Electroanalytical Chemistry*, 898, 115626.
18. Bashir, S., Hina, M., Ramesh, S., & Ramesh, K. (2021). Flexible and self-healable poly (N, N-dimethylacrylamide) hydrogels for supercapacitor prototype. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 617, 126377.
19. Silvaraj, D. S., Bashir, S., Hina, M., Iqbal, J., Gunalan, S., Ramesh, S., & Ramesh, K. (2021). Tailorable solid-state supercapacitors based on poly (N-hydroxymethylacrylamide) hydrogel electrolytes with high ionic conductivity. *Journal of Energy Storage*, 35, 102320.
20. Khan, Y., Bashir, S., Hina, M., Ramesh, S., Ramesh, K., Mujtaba, M. A., & Lahiri, I. (2020). Effect of charge density on the mechanical and electrochemical properties of poly (acrylic acid) hydrogel electrolytes based flexible supercapacitors. *Materials Today Communications*, 25, 101558.
21. Hina, M., Bashir, S., Kamran, K., Ramesh, S., & Ramesh, K. (2020). Synthesis and characterization of self-healable poly (acrylamide) hydrogel electrolytes and their application in fabrication of aqueous supercapacitors. *Polymer*, 210, 123020.
22. Bashir, S., Hina, M., Iqbal, J., Rajpar, A. H., Mujtaba, M. A., Alghamdi, N. A., ... & Ramesh, S. (2020). Fundamental concepts of hydrogels: Synthesis, properties, and their applications. *Polymers*, 12(11), 2702.
23. Khan, Y., Bashir, S., Hina, M., Ramesh, S., Ramesh, K., & Lahiri, I. (2020). Effect of salt concentration on poly (acrylic acid) hydrogel electrolytes and their applications in supercapacitor. *Journal of The Electrochemical Society*, 167(10), 100524.

24. Bashir, S., Omar, F. S., Hina, M., Numan, A., Iqbal, J., Ramesh, S., & Ramesh, K. (2020). Synthesis and characterization of hybrid poly (N, N-dimethylacrylamide) composite hydrogel electrolytes and their performance in supercapacitor. *Electrochimica Acta*, 332, 135438.
25. Shakoar, A., Rizvi, T. Z., & Hina, M. (2012). Charge transport mechanism in intercalated polypyrrole aluminum-pillared montmorillonite clay nanocomposites. *Journal of applied polymer science*, 124(4), 3434-3439.

JOURNAL PUBLICATIONS (without impact factor)

26. Ahmad, J., Awais, M., Nissar, U., Khan, J. A., Abbas, H., Hina, M., & Bukhari, S. H. (2023). A Study on Structural and Transport Properties of Neodymium Doped La₂CoMnO₆. *Editorial and Advisory Board*, 95.

BOOK CHAPTERS

1. Hina, M., Kamran, K., Bashir, S., Ahmed, J., Ameer, D., Jahanzaib, M., & Mubarik, S. (2023). Extra Ordinary Properties of Graphene. In *Graphene: Fabrication, Properties and Applications* (pp. 21-52). Singapore: Springer Nature Singapore.
2. Shahid Bashir, Mee Yoke Chong, Maryam Hina, Kashif Kamran, S. Ramesh, K. Ramesh. (2020). Aqueous Solid and Gel Electrolytes for Supercapattery. In *Advances in Supercapacitor and Supercapattery* (271-310). Elsevier. <https://doi.org/10.1016/B978-0-12-819897-1.00004-5>
3. Shahid Bashir, Javed Iqbal, N.K. Farhana, Rashida Jafer, Maryam Hina, K. Ramesh, S. Ramesh. Hybrid Organic Polymer Electrolytes for Dye-Sensitized Solar Cells in *Dye-Sensitized Solar Cells, Dye-Sensitized Solar Cells: Emerging Trends and Advanced Applications*, Elsevier.
4. Keita, H., Bashir, S., Hasan, K., Goh, Z. L., Hina, M., Subramaniam, R., & Kasi, R. (2024). Multifunctional Hydrogel Systems for High-Performance Lithium-Ion Batteries. *Nanostructured Materials for Energy Storage*, 2, 601-640.

PARTICIPATION IN INTERNATIONAL CONFERENCES

1. Maryam Hina, Shahid Bashir, S Ramesh, K Ramesh. Flexible poly (acrylamide) hydrogels for Electric double-layer supercapacitors (EDLC) presented at the 15th International Conference on Frontiers of Polymers and Advanced Materials-2019 (ICFPAM2019), Penang, Malaysia.

INTERNATIONAL EXHIBITIONS

1. The 19th International Expo on Inventions & Innovations Malaysian Technology Exposition (MTE) 2020", (20-22 February) Kuala Lumpur, Malaysia.
2. Selangor R&D and Innovation Expo 2019 (10-13 October) held in Malaysia International Trade & Exhibition Centre (MITECT), Selangor, Malaysia.

3. The 18th International Expo on Inventions & Innovations Malaysian Technology Exposition (MTE) 2019, (22-23 February) Kuala Lumpur, Malaysia.
4. INVENTION, INNOVATION & DESIGN EXPOSITION (IIDEX) 2019 (10-15 September), Universiti Technology Mara (UiTM), Shah Alam, Selangor, Malaysia.
5. International Conference and Exposition on Inventions by Institutions of Higher Learning (PECIPTA) 2019 (22-23 September), Universiti Tun Hussein Onn Malaysia, Parit Raja, Malaysia.
6. The 9th Apprentice Innovation Research Exhibition 2022 (September 29 2022), Malaysian Institute of Marine Engineering Technology (UniKL MIMET), Universiti Kuala Lumpur.
7. The 34th International Invention, Innovation & Technology Exhibition (ITEX) 2023, (11-12 May) Kuala Lumpur, Malaysia
8. The 9th Apprentice Innovation Research Exhibition 2022 (AIREX 9th 2022) Universiti Kuala Lumpur, Malaysian Institute of Marine Engineering Technology (UniKL MIMET) (29 September 2022).
9. Gold medal and BEST of the BEST award in “32nd International Invention, Innovation & Technology Exhibition (ITEX) 2021, (13-14 December) Kuala Lumpur, Malaysia.

AWARDS IN INTERNATIONAL EXHIBITIONS

1. Gold award in “34th International Invention, Innovation & Technology Exhibition (ITEX) 2023, (11-12 May) Kuala Lumpur, Malaysia
2. Gold Award in 9th Apprentice Innovation Research Exhibition 2022 (AIREX 9th 2022) Universiti Kuala Lumpur, Malaysian Institute of Marine Engineering Technology (UniKL MIMET) (29 September 2022).
3. Gold medal and BEST of the BEST award in “32nd International Invention, Innovation & Technology Exhibition (ITEX) 2021, (13-14 December) Kuala Lumpur, Malaysia.
4. Gold and Grand awards in Asia International Innovation Exhibition (AIINEX) 2021 (15-17 October), ASIA Connecting UTM Technovation Park, Johor Bahru, Malaysia.
5. Gold Award and Special Award in “The 19th International Expo on Inventions & Innovations Malaysian Technology Exposition (MTE) 2020”, (20-22 February) Kuala Lumpur, Malaysia.
6. 6th position in Selangor R&D and Innovation Expo 2019 (10-13 October) held in Malaysia International Trade & Exhibition Centre (MITECT), Selangor, Malaysia.
7. Silver Medal Award in International Conference and Exposition on Inventions by Institutions of Higher Learning (PECIPTA) 2019 (22-23 September), Universiti Tun Hussein Onn Malaysia, Parit Raja, Malaysia.
8. Gold medal Award in INVENTION, INNOVATION & DESIGN EXPOSITION (IIDEX) 2019 (10-15 September), Universiti Technology Mara (UiTM), Shah Alam, Selangor, Malaysia.

9. Gold medal Award in “The 18th International Expo on Inventions & Innovations Malaysian Technology Exposition (MTE) 2019”, (22-23 February) Kuala Lumpur, Malaysia.

RESEARCH PROJECT

1. ORIC project entitled, “FLEXIBLE POLYVINYL ALCOHOL/SODIUM ALGINATE HYDROGEL ELECTROLYTE BASED ZN ION HYBRID SUPERCAPACITORS FOR WEARABLE ELECTRONICS” D-No.ORIC/2023/145 (in progress)

RESEARCH COLLABORATIONS

1. Materials for Energy Applications Laboratory (MEAL), Department of Physics, Faculty of Science, Universiti Malaya, Malaysia
2. Advance Materials Lab, Universiti Malaya Power Energy Dedicated Advanced Centre (UMPEDAC), Universiti Malaya, Malaysia
3. Transport in Permeable Media (TPM) group, Eindhoven University of Technology, The Netherlands

REFERENCES

1. Prof. Dr. Ramesh T Subramaniam,
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3. Associate Prof. Dr. ir. Leo Pel,
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