Curriculum Vitae

Dr. Muhammad Ehsan Mazhar
Associate Professor (Tenured)
Institute of Physics
Bahauddin Zakariya University, 60800 Multan, Pakistan.
WeChat: ehsankhan130
Email: dr.ehsan@bzu.edu.pk
Date of Birth: 15th March 1984
Address: Institute of Physics, Bahauddin Zakariya University, Multan, 60800, Pakistan
Contact: +92-3110610049, +92-3007370964.

EDUCATION

- **PhD in "Materials for Engineering":** Università degli Studi di Brescia (University of Brescia), Italy. (January 2012 to February 2015)
  Thesis Title: P-type Metal Oxide Nanomaterials for Workfunction Chemical Sensing.
- **M. Phil Physics:** Bahauddin Zakariya University Multan, Pakistan. Session 2007-09

  Thesis Title: Synthesis and Characterization of Nanoscale $MgAl_2O_4$, doped with K^{1+} ions.
- **Bachelor of Science in Physics:** Bahauddin Zakariya University Multan. Session 2003- 07.

RESEARCH INTERESTS

Synthesis of Nanomaterials, Structural, Electrical and Morphological Characterizations for Sensing and other electronic Applications.

EXPERIENCE

- **Associate Professor (Tenured) at Institute of Physics Bahauddin Zakariya University Multan, Pakistan** (March 19th 2022 to date)
- **Visiting Fellow at Queen Marry University of London, UK (Feb-Jun 2025)**
- **Assistant Professor at Department of Physics, Bahauddin Zakariya University Multan, Pakistan** (Since 6th May 2015- March 18th 2022).
- **PhD/M. Phil Theses Supervised:** 1 PhD thesis completed, 3 PhD students continued. 52 M. Phil Theses completed. Research was mainly related to Hydrothermal Synthesis and Characterization of Semiconducting Nanomaterial's and Electronic Applications.
- **Doctor of Philosophy (PhD)**. SENSOR Laboratory, University of Brescia, Italy. January 2012-March 2015. Synthesis and Characterization of metal oxide nanomaterials for detecting various hazardous gases by Conductometric gas sensing and Kelvin-probe gas sensing techniques.
- **M. Phil (Physics).** Synthesis and characterization of nanoscale magnesium aluminates by co-precipitation methods and their structural and optical characterizations. (2007-10)

SCIENTIFIC EXPERTIES

Synthesis of Nanomaterials by various methods
Electrochemical Sensing, Charge Storage
Electrochemistry and Applications

Languages

English (Fluent)
Urdu (Native)

ACADEMIC EXPERIENCE

I Have taught several 4-5 courses (every Semester) to students at university level since 2015. Currently Teaching courses related to Solid State Physics, Electronics and Experimental Techniques to BS, MSc & M.Phil classes.

Other Academic Responsibilities

- President, Zakariyan Alumni Association of Physicists (ZAAP) BZU Multan (2018-Feb. 2024)
- Coordinator M.Phil Program 2018 to date.
- Member Board of Studies (BOS) Institute of Physics, BZU Multan
- Member/ Secretary: Committee for re-structuring/ up-gradation of the Department of Physics
- Departmental Focal Person to DQE (Director Quality Enhancement)
- Member: Departmental Welfare Committee
- Member; Departmental Library Committee
- Member; Departmental Horticulture Committee
- Member; Teaching Laboratory-III
- Member; Board of Studies in Aviation Sciences
- Deputy Director Student Affairs

RESEARCH GRANTS

- Start-up Research Grant (SRGP) September 2015 (HEC)
- Synthesis and Characterization of Semiconducting Metal Oxides for Electronic Applications. (Bahauddin Zakariya University)
- Hydrothermal Synthesis and Characterization of pure and doped metal oxide nanomaterials for potentially high-performance electronics.

PUBLICATIONS

2026

1. Interfacial ion diffusion and rapid charge transfer kinetics of the hydrothermally synthesized heterostructured Bi_2WO_6/Bi_2O_3/MXene composite for next-generation pseudocapacitors, Komal Ali Rao, Muhammad Ehsan Mazhar*, Javed Ahmad, Muhammad Imran Khan, Muhammad Bilal, Adel A. El-Zahhar, Majed M. Alghamdi, Waseem Abbas, Iqra Nawaz and Haleema Riaz. RSC Advances, 2026,16,11779.

2. Hierarchical ZnS/MXene Microspheres as Efficient Electrodes for Energy Storage Devices, A Shakoor, W Abbas, M Hashim, M Bilal, ME Mazhar, S Atiq, S Allah, Materials Chemistry and Physics, 132108

2025

3. Ion transport dynamics and cation mobility in hydrothermally synthesized MXene-NiWO4 composite electrodes for advanced energy storage, Sana Ullah Asif, Abdul Shakoor, Majed M. Alghamdi, Shahid Atiq, Aqsa Nadeem, Savera Bibi, Muhammad Ehsan Mazhar, * Asma Rasheed, Adel A. El Zahhar,e Farooq Ahmad, Muhammad Ahmed Khan, Accepted 28th October 2025. DOI: 10.1039/d5ra07538f.
4. Design of Ni-Modified ZnSe Nanostructures Embedded in rGO for Efficient Supercapacitor Electrodes. Sana Ullah Asif, Abdul Shakoor, Bushra Asghar, Abdul Waheed, Abdullah K. Alanazi, Muhammad Ehsan Mazhar, Shahid Atiq, Muhammad Yahya Haroon, Sadia,b Abdul Qayyum, Waseem Abbas, Zainab Bano and Farooq Ahmad RSC Advances 2025,15, 33374.

5. Nb_2CT_x MXene Integrated $DyMn_2O_5$ Composites: Tailored Particle Size and Enhanced Capacitance for High-Performance Pseudocapacitor, Komal Ali Rao*, Muhammad Ehsan Mazhar, Javed Ahmad , Muhammad Bilal , Muhammad Imran Khan, Muhammad Suleman Ahmad, Muhammad Aziz, **Journal of Materials Chemistry C**.
6. Machine Learning-Driven Design of Cr-Doped CeO2 Electrocatalysts for the Efficient Oxygen Evolution Reaction, Abdul Sami, Atiba Wahid, Shaaban M. Shaaban, Wajid Sajjad, Farhan Zafar, Naeem Akhtar*, Muhammad Ali Khan*, Muhammad Ehsan Mazhar. **ACS Applied Energy Materials July 29, 2025**.
7. Development of $NiCo_2O_4$/rGO nanocomposites for high performance supercapacitors, Komal Ali Rao***,** Muhammad Ehsan Mazhar*****, Javed Ahmad, Muhammad Bilal, Saqlain Haider, Muhammad Imran Khan, Waseem Abbas, Naeem Akhtar, Muhammad Suleman Ahmad **Chemistry –An Asian Journal.**
8. Structural characterization of SnO_2-rGO heterogeneous photocatalyst with enhanced antimicrobial properties Maham Shoukat, Komal Ali Rao**,** Muhammad Ehsan Mazhar*****, Muhammad Bilal, Iqra Kanwal, Sadia Ghanazfar, Muhammad Abbas, Muhammad Imran Khan', Shehla Honey, Bushra Asghar, **Chemistry Select (2025).**
9. Synergistic CuCo2O4/MWXNT Nanocomposites: Advanced Electrode Materials for Energy Storage and Catalysis Applications Waseem Abbas*****, Muhammad Irfan***** , Muhammad Babar, Muhammad Ehsan Mazhar, Javed Ahmad, Komal Ali Rao, Saqlain Haider, Hansan Ali, Muhammad Imtiaz, Muhammad Imran, **Journal of Material Sciences**: **Materials in Engineering.**
10. Exploring the Multifaceted Nature of T a C u 3 X 4 X= S, S e, T e Materials: A DFT Study Revealing Promising Structural, Optoelectronic, Thermodynamic and Thermoelectric Properties, Muhammad Tauqeer, Muhammad Mubashir, Dilbar Khan, Ahmad M Saeedi, Raed H Althomali, Gideon FB Solre, Muhammad Ehsan Mazhar, Majed M Alghamdi, Adel A El-Zahhar, Sana Ullah Asif, Muhammad Asif Iqbal, **Journal of Inorganic and Organometallic Polymers and Materials.**

11. Hydrothermal synthesis of bi-metallic spinel MCo_2O_4/MXene (M= Ni, Zn) composites as efficient supercapacitor electrodes (**Accepted in Applied Organometallic Chemistry**)

2024

12. Facile hydrothermal synthesis of tri-metallic Cu-Mn-Ni oxides based electrochemical pseudocapacitor, Komal Ali Rao, Muhammad Ehsan Mazhar * and Javed Ahmad, **Dalton Transactions**, Issue 31, 2024
13. Machine learning trained poly (3,4-ethylenedioxythiophene) functionalized carbon matrix suspended Cu nanoparticles for precise monitoring of nitrite from pickled vegetables Waseem Abbas, Farhan Zafar, Manal F. Abou Taleb, Mavra Ameen, Abdul Sami, Muhammad Ehsan Mazhar, Naeem Akhtar, Muhammad Waseem Fazal, Mohamed M. Ibrahim, Zeinhom M. El-Bahy, **Food Chemistry**, Volume 460, Part 1, 1 December 2024, 140395
14. Preparation of High Quality Composites of CuO/TiO_2 with Ar^{2+} ions irradiation with enhanced photoelectric properties. **Surface Review and Letters**.
15. Optimizing ZnSe Nanorods with La Doping for Structural, Electrical, and Dielectric Properties in Device Applications, Muhammad Usama, Muhammad Waqas, Farooq Ahmad, Muhammad Ehsan Mazhar, Shahid Atiq , Raishum Qaiser, Muhammad Usman, Muhammad Danish, N. Bano, Rabia Ahmad, **Surfaces and Interfaces**.
16. Exploring the Multifaceted Nature of $TaCu_3X_4$ (X= S, Se, Te) Materials: A DFT Study Revealing Promising Structural, Optoelectronic, Thermodynamic and Thermoelectric Properties, **Journal of Inorganic and Organometallic Polymers and Materials**.
17. Harnessing Desert Flora: Biogenic Silver Nanoparticles from Desert Plants Combat Bacterial Infections and Biofilm Formation, Mamona Nazir, Rabbia Ahmad, Muhammad Ehsan Mazhar, Muhammad Saleem, Afifa Nazish, Shehla Perveen, Muniba Shafique, Asma Yaqoob, Syed Adnan Ali Shah. **Nano Biomedicine & Engineering**.
18. Preparation of high quality nanocomposites of CuO/TiO2 with Ar ions irradiation with enhanced photoelectronic properties, Urfa Muneer, Shehla Honey, Nargis Bano, Muhammad Ehsan Mazhar, Hassan Mehmood, Katlego Makgopa, Javed Ahmad, Jamil Asim, M. Maaza, Sadia Malik and Nadeem Arif, surface review and letters, 2550010

Book Chapter Published

Functionalization of Two-Dimensional Materials and Their Applications**:** Woodhead Publishing Series in Electronic and Optical Materials. 2024, Pages 331-378.

2023

19. Hydrothermally Synthesized Pure and Mn-Doped ZnS/ZnO Nanoparticles as Potential Candidate in Capacitive Devices Muhammad Ehsan Mazhar, Muhammad Usman Tahir, Javed Ahmad, Qura Tul Ain, Gideon F. B. Solre, Kamran Qadir, Waseem Abbas, Bandar Ali Al-Asbahi, Sana Ullah Asif, Sadia Malik, Journal of Electronic Materials

20. Identification of pyrrolizidine alkaloids and flavonoid glycosides through HR-LCMS/MS analysis, biological screening, DFT and molecular docking studies on Heliotropium dasycarpum Ledeb. Arabian Journal of Chemistry, Volume 16, Issue 5, May 2023, 104655.

21. Harnessing Desert Flora: Biogenic Silver Nanoparticles from Desert Plants Combat Bacterial Infections and Biofilm Formation, Mamona Nazir, Rabbia Ahmad, Muhammad Ehsan Mazhar, Muhammad Saleem, Afifa Nazish, Shehla Perveen, Muniba Shafique, Asma Yaqoob, Syed Adnan Ali Shah, Nano Biomed. Eng., 2024, 16(2).

2022

22. Cyclophosphazene intrinsically derived heteroatoms (S, N, P, O) doped carbon nanoplates for ultrasensitive monitoring of dopamine from chicken samples. Biosensors 2022, 12, 1106.

23. Structural, dielectric, and magnetic properties of $CaBaCo_{2-x}Zn_xNdyFe_{12-y}O_{22}$ Y-type hexaferrites, Muhammad Nadeem, Hasan M. Khan, Saeed Ahmad Buzdar, Javed Ahmed, Mohammed A. Assiri, Muhammad Imran, Mohammad Ehsan Mazhar, Mehrun Nisa, Mohammad Ehsan Raza, Benish Raza, and Mohammad Jamshed, Journal of Material Science: Materials in Electronics, (https://doi.org/10.1007/s10854-022-07804-x).

24. Tuning magnetic properties in the Ce–Al Co-substituted M-type BaSr (6:4) hexaferrites A. R. Makhdoom, Fahim Ahmed, Ubaid-ur-Rehman Ghori, Qasim Ali Ranjha, Komal Ali Rao, Asim Javed, Muhammad Ehsan Mazhar, Mehak Bukhari, Asghari Maqsood, Sana Ullah Asif, and Muhammad Wasim Khan, Journal of Material Science: Materials in Electronics, (https://doi.org/10.1007/s10854-022-07915-5).

25. Enhanced Optical Transmittance of Silver Nanowires via Gamma Rays Irradiation, Shehla Honey, Hasan M. Khan , Muhammad Ehsan Mazhar, Javed Ahmad, Hassan Raza , Ishaq Ahmad, Jamil Asim, Shahzad Naseem, M. Maaza, Journal of King Saud University – Science 34 (2022) 102058.

26. Study of the Electrical Properties and Electrochemical Sensing Efficiency of Hydrothermally Synthesized Sr Doped Nickel Oxide Nanomaterials, Waseem Abbas, Muhammad Ehsan Mazhar, Javed Ahmad, Sohail Ahmad, Hassan M. Khan, Imran Khan, Imran Zada, Shehla Honey, Mehrun Nisa, Komal Ali Rao and Mushtaq Ahmad, Physica Scripta 97 (2022) 075004

27. Chemodiversity, Biological Activities and Molecular Docking Studies of Leptadenia pyrotechnica (Forssk.) Decne: A Comprehensive Approach to Validate Its Medicinal Use, Momina Zubair, Mamona Nazir, Muhammad Saleem, Naheed Raiz, Saba Touseef, Saima Khan, Gokhan Zengin, Muhammad Ehsan Mazhar, and Muhammad Imran Tousif, Chemistry and Biodiversity, 2022, 19, e202100884

Book Chapter Published

Book Title: Nanomaterials for Energy Conversion, Biomedical and Environmental Applications, Chapter, Argon Ions Beam Irradiation of Copper Nanowires for Transparent Electrodes. ISSN 2524-5384. 2022.

2021

28. Enhanced structural and electrical properties of Ca-Ba Rare earth substituted M –type hexaferrites, H. M. Khan, S. Mumtaz, A. Waheed, J. Ahmad, M. E. Mazhar*, W. Abbas, I. Khan, M. N. Usmani, S. Bakhtawar, A. Javed, G. A. Ashraf, S Ahmad, R. Naz, S. Ahmad. Journal of Ovonic Research Vol. 17, No. 2, March - April 2021, p. 165 – 173.

29. Structural, morphological, dielectric and magnetic properties of $Ba_{1-x}Cr_xFe_{12}O_{19}$ M type hexaferrites, Muhammad Zahid, Hasan M. Khan, Aziz Ur Rehman, Abdul Waheed, Imran Sadiq, Ehsan Mazhar, Mohammed A. Assiri, Muhammad Imran, Muhammad Inam Ur Rehman1 and Mujahid Mustaqeem, Physica Scripta 96 (2021) 125405.

30. Strain tuning of the Curie temperature and valley polarization in two dimensional ferromagnetic $WSe_2/CrSnSe_3$ heterostructure, Nanotechnology 32 (2021) 375708 (8pp).

31. Structural and magnetic variations in $Ba_{0.5}Sr_{0.5}Fe_9Ce_1Al_2O_{19}$ hexaferrites at different sintering temperatures, A R Makhdoom,1, Qasim Ali Ranjha, Ubaid-ur-Rehman Ghori, Muhammad Ahsan Raza, Binish Raza, Muhammad Ehsan Mazhar, Komal Ali Rao, Fahim Ahmed, Sana Ullah Asif, Muhammad Wasim Khan and Mehrun Nisa. Physica Scripta, 96 125865.

32. Improved Electrical Properties of Hydrothermally Synthesized Pure and Fe Doped Nanocrystalline $La_2Mo_2O_9$, Muhammad Ehsan Mazhar∗, Muhammad Bilal, Abdul Waheed, Javed Ahmad, Imran Khan ,Waseem Abbas, Naeem Akhtar, Asim Javed, Muhammad Nauman Usmani∗ , Hassan Mahmood, Arfa Riaz and Mehek Bukhari, Physica Scripta, 96 (2021) 125822.

33. Facile synthesis and characterizations of Co^{2+} doped $Bi_{0.8}Ba_{0.2}FeO_3$ nano-crystalline multiferroic ceramics, Muhammad Qadeer Awan, Javed Ahmad, Abdul Waheed, Syed Ali Raza Gillani, Fahim Ahmed, Sana Ullah Asif, Muhammad Ehsan Mazhar and Shafiq Anwar, Physica Scripta, 96 (2021) 105805.

34. Influence of beam energy of ions on properties of nickel nanowires, Shehla Honey, Jamil Asim, Kaviyarasu Kasinathan, Maaza Malik, Shahzad Naseem, Muhammad Ahsan Mazhar, Hassan Mehmood, Muhammad Arshad Kamran, Ishaq Ahmad and Tingkai Zhao, Surface Review and Letters, Published on 28 December 2021.

35. Structural Elucidation, Morphological Properties, and Dielectric Properties of Nickel-Substituted Cobalt and Lead-Based X-Type Hexagonal Ferrites, Muhammad Wajad, Hasan M. Khan, Abdul Waheed, Muhammad Zahid, Muhammad Misbah Ur Rehman, Mohammad Hussein, Muhammad Ehsan Mazhar, Muhammad Nauman Usmani, and Muhammad Imran Khan, Journal of Materials Engineering and Performance. Accepted: 30 September 2021, https://doi.org/10.1007/s11665-021-06353-4.

36. Structural Elucidation with Improved Dielectric and Magnetic Properties of Sol–Gel Synthesized Cr^{3+} Substituted M-Type Sr^{2+} Hexaferrites, Muhammad Zahid, Hasan M. Khan, Imran Sadiq, Aziz Ur Rehman, Abdul Waheed, Ehsan Mazhar, Mohammed A. Assiri, Muhammad Imran, Nauman Usmani, and Imran Khan, Journal of Materials Engineering and Performance, 29 September 2021. https://doi.org/10.1007/s11665-021-06263-5.

2020

37. Synthesis and Sensing Efficiency of CN Wrapped ZnFe2O4 Microspheres-Ionic Liquid Composite Towards Ultra-High Sensitivity Arsenic (III) Monitoring of Ground Drinking Water, Awais Siddique Saleemi, Muhammad Hafeez, Aqsa Munawar, Naeem Akhtar, Waseem Abbas, Muhammad Ehsan Mazhar, Zahid Shafiq, Anthony P. Davis, Shern-Long Lee, Issue 37, 2020, Journal of Materials Chemistry C.

38. Synthesis and Characterization of Rare Earth Substituted M -Type (Sr-Ba) Hexaferrites, Journal of Ovonic Research Vol. 16, No. 5, September - October 2020, p. 281 – 291. H. M. Khan, Z. Mirrani, A. Waheed, J. Ahmad, M. E. Mazhar*, M. N. Usmani, I. Syed, S. Bakhtawar, I. Ahmad, W. Abbas, R.Naz, S. Ahmad, M. Mahmood

39. Electrochemical Sensing of H_2O_2 by Hydrothermally Synthesized Pure Copper Oxide Materials, M. E. Mazhar, R. Asif, A. Waheed, J. Ahmad, M. N. Usmani*, I. Syed, H. M. Khan, Digest Journal of Nanomaterials and Biostructures, Vol. 15, No. 4, October-December 2020, p.1239-1245.

2019

40. Insight into the structural characterization of Pure and Zr-doped hydrothermally synthesized Cerium Oxide nanoparticles, Mazhar, Muhammad Ehsan**;** Bakhtawar, Samia; Manzoor, Anwar; Usmani, Muhammad; Abbas, Waseem; Ahmad, Javed; Akhtar, Naeem; Khan, Khalil. Accepted Manuscript online 13 March 2019 Materials Research Express.

41. Impact of Silver Dopant on Electrical and Dielectric Properties of ZnO Nanoparticles, Irshad Ahmad, M. Ehsan Mazhar, M. Nauman Usmani, Khalil Khan, Sajjad Ahmad, Javed Ahmad, Journal of Material Research Express 6 (2019) 035014.

42. Auto-Combustion Facile Synthesis and Photocatalytic Hydrogen Evolution Activity of Al and Ni Co-Doped ZnO Nanoparticles, I. Ahmad, M. E. Mazhar, M. N. Usmani*, K. Khan, S. Ahmad, J. Ahmad, Journal of Ovonic Research, Volume 15, Number 1, January-February 2019.

43. Auto-combustion synthesis of pure and Er, Dy co-doped ZnO nanomaterials for efficient methyl orange degradation using solar and visible light photocatalysis. Irshad Ahmad, Muhammad Ehsan Mazhar, Muhammad Nauman Usmani, Mohsin Mehmood, Waseem Hashmi, Naeem Akhtar, Ijaz Ahmed. 17 April 2019, Materials Research Express.

44. Growth and Characterization Of 4H-SiC by Thermal Evaporation Method, Muhammad Irfan, Muhammad Ajmal, Muhammad Ehsan Mazhar*, Muhammad Nauman Usmani, Mudassar Hussain, Sajjad Ahmad, Waseem Abbas, Digest Journal of Nanomaterials and Biostructures, Volume 14, No. 1, January - March 2019.

45. Effect of Dy-Co on physical and magnetic properties of X-type hexaferrites ($Ba_{2-x}Dy_xCu_2Fe_{28-y}CoyO_{46}$). Sana Ullah Asif, Shaukat Rizwan, Muhammad Qadeer Awan, Muhammad Wasim

Khan, Imran Sadiq, Muhammad Ehsan Mazhar, Ashfaq Ahmad, S. Sajjad Hussain, Ehsan Ullah Khan, Wanbiao Hua, Muhammad Naeem Ashiq, Chinese Journal of Physics 61 (2019) 47-54.

46. Electrochemical Determination of urinary dopamine from neuroblastoma patients based on Cu nanoplates encapsulated by alginate-derived carbon, Waseem Abbas, Qinglei Liu, Naeem Akhtar, Javed Ahmad, Muhammad Ehsan Mazhar, Tengfei Lia, Imran Zada, LuluYao, Raheela Naz, Muhammad Imtiaz, Wang Zhang, Ali Amjad, Di Zhanga, Jiajun Gu, Journal of Electroanalytical Chemistry Volume 853, 15 November 2019, 113560.

2018

47. Influence of post deposition thermal annealing on the optical characteristics of Hafnia Nanofilms, A. Javed, M. F. Wasiq, M. Rana, M. Y. Nadeem, N. A. Niaz, M. E. Mazhar, M. N. Usmani, R. Ciancio, P. Orgiani, Journal of Ovonic Research vol. 14, no. 2, March - April 2018, p. 101 – 112.

48. Dielectric and impedance spectroscopy of K^{+1} doped $MgAl_2O_4$ nanoparticles, Javed Ahmad, M. Qadeer Awan, Roomana Yasmin, Maria Sabir, Shaq Anwar, M. Ehsan Mazhar and Syed Hamad Bukhari, International Journal of Modern Physics B (2018).

49. Facilely green synthesis of 3D nano-pyramids Cu/Carbon hybrid sensor electrode materials for simultaneous monitoring of phenolic compounds, Waseem Abbas, Naeem Akhtar, Qinglei Liu, Tengfei Lia, Imran Zada, Lulu Yao, Raheela Naz, Wang Zhang, Muhammad Ehsan Mazhar, Di Zhang, Dongling Ma, Jiajun Gu, Sensors and Actuators B: Chemical, Accepted 21 November 2018, Volume 282, 1 March 2019, Pages 617-625.

50. Synthesis, Characterization and Photocatalytic Performance Investigation of Nickel Doped ZnO Nanoparticles, I. Ahmad, M. Ehsan Mazhar, M. Nauman Usmani, K. Khan, S. Ahmad, J. Ahmad, Digest Journal of Nanomaterials and Biostructures Vol. 13, No. 4, October-December 2018, 1149-1157.

2017

51. Atmospheric Pressure Glow Discharge (APGD) Plasma Generation and Surface Modification of Aluminum and Silicon Si (100), Muhammad Tufiq Jamil, Javed Ahmad, Syed Hamad Bukhari, Muhammad Ehsan Mazhar, Umair Nissar, Ateeq Jamil Rao, Hammad Ahmad, Ghulam Murtaza, Digest Journal of Nanomaterials and Biostructures Vol. 12, No. 2, April - June 2017, p. 595 – 604.

52. Effect of Co^{2+} substitution on $MgAl_2O_4$ studied by infrared reflectance spectroscopy, Javed Ahmad, Maria Sabir, M. Qadeer Awan, Shafiq Anwar, M. Ehsan Mazhar, R. Arif Khalil, Syed Hamad Bukhari, Optik 147 (2017) 180–186.

53. Infrared reflectance spectroscopy of $MgAl_2O_4$, nanoparticles substituted by K^+ ions, Javed Ahmad, M. Qadeer Awan, Roomana Yasmin, Maria Sabir, Shafiq Anwar, M. Ehsan Mazhar and Syed Hamad Bukhari, International Journal of Modern Physics B, Vol. 32 (2017) 1850067.

2016 and earlier (during MS and PhD)

54. Kelvin probe as an effective tool to develop sensitive p-type CuO gas sensors, M. E. Mazhar, G. Faglia, E. Comini, D. Zappa, C. Baratto, G. Sberveglieri, Sensors and Actuators B 222 (2016) 1257–1263.

55. Conductance and work function of TiO_2 nanotubes-based gas sensors, Galstyan, Vardan, Comini, Elisabetta, Baratto, Camilla, Mazhar, Muhammad Ehsan, Ponzoni, Andrea, Sberveglieri, Veronica, Poli, Nicola, Faglia, Guido, Sberveglieri Giorgio, Oral Presentation in EUROSENSORS 2015 Conference. Procedia Engineering 120 (2015) 769 – 772.

56. P-type CuO nanowires and thin film for highly sensitive kelvin probe gas sensing applications, M. E. Mazhar, G. Faglia, C. Baratto, E. Comini, D. Zappa, R. Kumar, G. Sberveglieri, Procedia Engineering, Volume 87, 2014, Pages 16–19.

57. Effect of substitution of K^+ ions on the structural and electrical properties of nanocrystalline $MgAl_2O_4$ spinel oxide, J. Ahmad, M. E. Mazhar, M. Q. Awan, M. N. Aashiq, Physica B: Physics of Condensed Matter 406 (2011), pp. 3484-3488.

58. Effect of substitution of Co^{2+} ions on the structural and electrical properties of nanosized magnesium aluminate. J. Ahmad, M. Q. Awan, M. E. Mazhar, M. N. Aashiq, Physica B; Condensed Matter, vol. 406, page 254- 258.

CONFERENCE PRESENTATIONS/ PARTICIPATION

- Organized and delivered Lecture at 1st Internal Conference on Advanced Nanomaterials University of Okara, Pakistan, October 2nd to 4th, 2023.
- IRCBMs (Interdisciplinary Research Centre in Biomedical Materials) 5th Dental and Biomaterials Summer Camp 29 July to 02 August 2019, Lahore, Pakistan.
- 1st International Conference on Strongly Corelated Electron Systems and Nanotechnology, Poster Presentation, 15-17 January 2019. The Women University Multan, Pakistan. (Poster Presentation)
- Two Days Training Workshop: Understanding Endnote and Nvivo, Research Made Easy. Department of Physics, Bahauddin Zakariya University 10-11 May 2017.
- Training Workshop on XRD, FT-IR & LUMO FT-IR Microscope, AIOU Islamabad, 7-9 Dec. 2017.
- EUROSENSORS, September 7-10 (2014), Brescia, Italy (Delivered a Lecture Presentation)
- INO Annual Symposium, 1-3 October 2014, Sezione INO Sensor Lab, Brescia.Via Branze 38 Brescia, Italy.
- AISEM 2013 Brescia, Italy University and CNR Campus, (on February 5-7, 2013)
- International School of Physics and Technology of Matter (Otranto, Italy, September 2013)

Awards

- Charles Wallace Visiting Fellowship at Queen Marry University of London (2024-25)
- PhD Fully Funded Scholarship of Università degli Studi di Brescia 2012-2015.
- HEC Indigenous Scholar scholarship for M. Phil leading to PhD.
- Awarded with Annual as well as Performance Based Increments.
- I am awarded with early promotion to the cadre of Associate Professor of Physics.

References

Dr. Zhe Li
Reader of Materials Science
zhe.li@qmul.ac.uk
School of Engineering and Materials Science
Queen Marry University of London

Prof. Elisabetta Comini
Email: elisabetta.comini@unibs.it
VIA Valotti 9, 25133,
Sensor Laboratory
University of Brescia, Italy.