

# SabaZia

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## EXECUTIVE PROFILE

Research Professional with experience of R&D and teaching of more than **sixteen years** in the areas of polymers. Currently working as **Assistant Professor** at the Institute of Polymer and Textile Engineering.

The key strength and research areas comprises of:

- Teaching, R&D, publications, Instrument installation and handling.
- Trainings / workshops.
- Polymers, composites, biomaterials, paints, coatings.
- Rheology and thermal analysis.

## SCHOLASTIC RECORD

<b>PhD</b> Polymer Technology (Course work CGPA 3.91, Comprehensive CGPA 3.7) Institute of Polymer and Textile engineering, PU	<b>2015-2023</b>
<b>MPhil</b> (CGPA=3.92) Department of Polymer Engg. & Tech. University of the Punjab, Pakistan	<b>2013-15</b>
<b>M.Sc.</b> (CGPA=3.3) Center of High Energy Physics, University of the Punjab, Pakistan	<b>2011-13</b>
<b>B.Sc. (Math, Stat, physics)</b> Government Kinnaird College Lahore Pakistan	<b>1998-00</b>
<b>F.Sc. (Pre-Engineering)</b> Lahore University for Women Lahore Pakistan	<b>1993-95</b>
<b>Matriculation (Science subjects)</b> The New School Model Town Lahore Pakistan	<b>1991-93</b>

## **WORKING & TEACHING EXPERIENCE AT UNIVERSITY OF THE PUNJAB, LAHORE, PAKISTAN**

### **M.Phil Polymer Technology Program IPTE, PU, Lahore**

- Polymer Rheology and Viscoelasticity
- Polymer Process Technologies
- Rheology and Processing (Lab)
- Polymer Synthesis and Characterization (Lab)
- Research Project Study

### **M.Sc. (Engg.) Polymer Engineering Program IPTE, PU, Lahore**

- Polymer Rheology and Processing
- Industrial Polymer Technologies
- Advance Coating , Adhesive and Sealant Technology
- Rheology and Processing (Lab)
- Polymer Synthesis and Characterization (Lab)

### **M.Sc. (Engg.) Textile Engineering Program IPTE, PU, Lahore**

- Introduction to Textile and Apparel Industry
- Advanced Characterization Techniques
- Advanced Characterization Techniques Lab

### **B.Sc. (Engg.) Chemical Engineering Institute of Chemical Engineering and Technology, PU Lahore**

- Applied Physics (Theory)
- Applied Physics (Lab)

### **B.Sc Metallurgy & Material Engineering in Institute of Metallurgy & Materials Engineering, PU Lahore**

- Applied Physics (Theory)
- Applied Physics (Lab)

## **RESEARCH GRANT UNIVERSITY OF THE PUNJAB**

- Principal investigator (PI) for research project "preparation of hydrogels using modified polymers", 2015-2016. 0.125 mill Rs, Punjab university research grant (completed)
- Principal investigator (PI) for research project "development of polysaccharide based films with nano fillers for medical and industrial applications" 2017-2018 0.125 mill Rs, Punjab university research grant (completed)
- Principal investigator (PI) for research project "An Alternative Approach Based On Artificial Neural Networks to Study In Vitro Antibacterial Activity against Staphylococcus Aureus Clinical Isolates Of CMC-PVA Nano Hybrid Hydrogels for Controlled Drug Release" (Approved)

## **THESES & PROFESSIONAL REPORTS**

- Natural and Synthetic Polymeric Hydrogels for Biomedical and Industrial Application(Ph.D Research Thesis)

- Synthesis and characterization of hydrogel for biomedical and industrial applications (MPhil Thesis)
- Synthesis and characterization of AGNP-PMMA composite (MSc research project)

### **PUBLICATIONS (BOOKS, PAPERS, ARTICLES, POSTERS AND CONFERENCE PROCEEDINGS)**

- PAPERS = 17
- BOOK CHAPTERS = 8
- IMPACT FACTOR = 73
- NUMBER OF CITATIONS = 612
- h-INDEX = 10
- i10-INDEX = 10

### **Book Chapters**

1. Synthetic Components and Synthetic Processes for Bionanohybrids (Chapter 03, pp ). Shahzad Maqsood Khan, Muhammad Saad Fasih, Nafisa Gull, Saba Zia, Ayesha Sharif, Sana Kainat. Bio Nanohybrids for Removal of Heavy Metals. [Doi](#) , ISBN: , Elsevier, **2024**. (Submitted)
2. Characterization and Functionalization of Bionanohybrids (Chapter 04, pp ). Sana Kainat, Saba Zia, Asma Saeed, Sanam Shafique, Nafisa Gull, Shahzad Maqsood Khan. Bio Nanohybrids for Removal of Heavy Metals. [Doi](#) , ISBN: , Elsevier, **2024**. (Submitted)
3. Physicochemical Attributes, Structural Characterization, and Catalytic Properties of Nanomaterials (Chapter 6). Sana Kainat, Nafisa Gull, Shahzad Maqsood Khan, Saba Zia. Shahid Munir. Nanomaterials In Biomass Conversion, Advances and Applications for Bioenergy, Biofuels, and Bio-based Products. <https://doi.org/10.1016/B978-0-443-13500-2.00012-2>, ISBN: 978-0-443-13500-2, Woodhead Series in Bioenergy, **Elsevier, 2024**.
4. Functionalized Mxene Conjugates in Removal of Pharmaceuticals and Other Pollutants (Chapter 16, pp 267-282). Muhammad Saad Fasih, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, Tanveer A. Tabish. Handbook of Functionalized Nanostructured Mxenes; Synthetic Strategies and Applications from Energy to Environment Sustainability. <https://doi.org/10.1007/978-981-99-2038-9>, ISBN: 9789819920372, **Springer Nature, 2023**.
5. Biosensing Applications of MXene-Based Composites (Chapter 19, pp 325-343). Ayesha Sharif, Shahzad Maqsood Khan, Tanveer A. Tabish, Nafisa Gull, Saba Zia. Handbook of Functionalized Nanostructured Mxenes; Synthetic Strategies and Applications from Energy to Environment Sustainability. <https://doi.org/10.1007/978-981-99-2038-9>, ISBN: 9789819920372, **Springer Nature, 2023**.
6. Toxicology, Stability, and Environmental Impacts of MXenes and Its Composites (Chapter 21, pp 357-375). Shumaila Fayyaz, Asma Khalid, Saba Urooge Khan, Atif Islam, Abdul

Mannan, Saba Zia, Shahzad Maqsood Khan, Rafi Ullah Khan. Handbook of Functionalized Nanostructured Mxenes; Synthetic Strategies and Applications from Energy to Environment Sustainability. <https://doi.org/10.1007/978-981-99-2038-9>, ISBN: 9789819920372, **Springer Nature, 2023.**

7. Organic-Inorganic NanoHybrids in Tissue Engineering and Drug Delivery Applications (Chapter 7, pp 133-150). Shahzad Maqsood Khan, Saba Zia, and Nafisa Gull. Hybrid Nanomaterials Biomedical, Environmental and Energy Applications. <https://doi.org/10.1007/978-981-19-4538-0>, ISBN: 978-981-19-4537-3, **Springer Nature, 2022.**
8. Electron kinetics and interface engineering of dye-sensitized solar cell sandwich structure (Chapter 04, pp 75-89). Shahzad Maqsood Khan, Osama Majeed Butt, Saba Ayub, Nafisa Gull, Saba Zia. Dye-Sensitized Solar Cells Emerging Trends and Advanced Application. DOI: <https://doi.org/10.1016/B978-0-12-818206-2.00007-4>, ISBN: 978-0-12-818206-2. **Springer Nature, 2022.**

## RESEARCH PAPERS

1. Insight into CMC-PVA-fHNTs Nanocomposite Hydrogel as an Advance Carrier for Cefadroxil Monohydrate: Fabrication and Characterization/Angiogenic Potential Analysis S Zia, SM Khan, MTZ Butt, N Gull Gels 10 (4), 235 **(2024) I.F 4.7**
2.  $\gamma$ -irradiated chitosan based electrospun nanofibrous scaffolds for biomedical applications N Gull, S Zia, MA Munawar, A Islam, SM Khan, T Yasin JOURNAL OF FACULTY OF ENGINEERING & TECHNOLOGY 26 (1), 01-07 **(2022)**
3. Polymer-based biomaterials for chronic wound management: Promises and challenges MM Arif, SM Khan, N Gull, TA Tabish, S Zia, RU Khan, SM Awais, MA Butt International Journal of Pharmaceutics 598, 120270, 118 **(2021) I.F 5.30**
4. Designing of biocompatible and biodegradable chitosan based crosslinked hydrogel for in vitro release of encapsulated povidone-iodine: A clinical translation N Gull, SM Khan, S Khalid, S Zia, A Islam, A Sabir, M Sultan, F Hussain, International Journal of Biological Macromolecules 164, 4370-4380 116 **(2020) I.F 7.7**
5. Hybrid cross-linked hydrogels as a technology platform for in vitro release of cephradine N Gull, SM Khan, MTZ Butt, S Zia, S Khalid, A Islam, I Sajid, RU Khan, Polymers for Advanced Technologies 30 (9), 2414-2424 82 **(2019) I.F 3.4**
6.  $\gamma$ -Irradiated chitosan based injectable hydrogels for controlled release of drug (Montelukast sodium) S Hafeez, A Islam, N Gull, A Ali, SM Khan, S Zia, K Anwar, SU Khan, International journal of biological macromolecules 114, 890-897 **(2018) I.F 7.7**

7. Integrally skinned nano-cellular crosslinked asymmetric thin films infused with PEO-PPO-PEO block copolymer/ZnO-NPs for desalination using sea salt. Aneela Sabir, Wail Falath, Karl I Jacob, Muhammad Shafiq, Nafisa Gull, Atif Islam, Muhammad Azeem Munawar, **Saba Zia**, Shahzad Maqsood Khan, Amir Shafeeq, Muhammad Taqi Zahid Butt, Tahir Jamil. "Materials Chemistry and Physics, 183: 595-605 **(2016) I.F. 4.6.**
8. Mechanical, Thermal, and Microscopic Profile of Novel Glass Fiber-Reinforced Polyester Composites as a Function of Barium Sulfate Loading. Farheen Anjum, Nafisa Gull, Shahzad Maqsood Khan, Muhammad A. Munawar, Atif Islam, Sajid I. Niazi, **Saba Zia**, Muhammad Shafiq, Muhammad Taqi Zahid Butt and Tahir Jamil. Advances in Polymer Technology DOI: <http://dx.doi.org/10.1590/1516-1439.043715> **(2018) I.F 3.4.**
9. Synthetic and Natural Polymer Blends. Tehreem Anwar, Dr. Shahzad Maqsood Khan, Prof. Dr. Muhammad Taqi Zahid Butt<sup>2</sup>, Dr. Atif Islam Nafisa Gull, Muhammad Shafiq, Saba Zia, Dr. Sadia Sagar Iqbal, Adnan Ahmed, Fahd Jamshed. Pakistan Plastic Manufacturing Association (PAK PLAS), **2018.**
10. Novel Green Nano Composites films fabricated by Indigenously Synthesized Graphene Oxide and Chitosan. Younas H Khan, Atif Islam, Afsheen Sarwar, Nafisa Gull, Shahzad Maqsood Khan, Muhammad A Munawar, **Saba Zia**, Aneela Sabir, Muhammad Shafiq and Tahir Jamil. Carbohydrate Polymers 146: 131-138 **(2016) I.F 11.2.**
11. Fabrication and characterization of novel zirconia filled glass fiber reinforced polyester (GFRP) hybrid composites. Muhammad Azeem Munawar, Shahzad Maqsood Khan, Nafisa Gull, Muhammad Shafiq, Atif Islam, **Saba Zia**, Aneela Sabir, Awaish Ghouri, Muhammad Taqi Zahid Butt, Tahir Jamil. Journal of Applied Polymer Science 43615: 1-9 **(2016) I.F 3.0.**
12. Polyphenylene sulphide/carbon fiber composites: study on their thermal, mechanical and microscopic properties. Shahzad Maqsood Khan, Nafisa Gull, Muhammad Azeem Munawar, **Saba Zia**, Farheen Anjum, Muhammad Sajid Iqbal, Muhammad Shafiq, Atif Islam, Muhammad Arif Butt, Muhammad Taqi Zahid Butt and Tahir Jamil. Iranian Polymer Journal 25: 475-485 **(2016) I.F 1.80.**
13. 2D Carbon Fiber Reinforced High Density Polyethylene Multi-layered Laminated Composite Panels: Structural, Mechanical, Thermal and Morphological Profile Shahzad Maqsood Khan, Nafisa Gull, Muhammad Azeem Munawar, Atif Islam, **Saba Zia**, Muhammad Shafiq, Aneela Sabir, Syed Muhammad Awais, Muhammad Arif Butt, Muhammad Taqi Zahid Butt and Tahir Jamil. Journal of Material Science & Technology 32: 1077-1082 **(2016) I.F 11.2.**
14. Effect of different oxidants on polyaniline/single walled carbon nanotubes composites synthesized via ultrasonically initiated in-situ chemical polymerization. Nafisa Gull, Shahzad Maqsood Khan, Atif Islam, **Saba Zia**, Muhammad Shafiq, Aneela Sabir, Muhammad Azeem

Munawar, Muhammad Taqi Zahid Butt, Tahir Jamil; Materials Chemistry and Physics 172, 39-46, **(2016) I.F 4.6.**

15. Influence of Polyethylene Glycol 600 on Cellulose Acetate Membranes for Reverse Osmosis Desalination. Aneela Sabir, M. Shafiq, Atif Islam, Shahzad Maqsood Khan, Tahir Jamil<sup>1</sup>, M. Taqi Zahid, Amir Shafeeq, Arslan Shehzad, Arshad S. Bhatti, Younas Habib, **Saba Behzad**, and Sarwat Jabeen. Polymer Research Journal. 9 (2) 291-302 **(2015) I.F 3.061.**
16. Polymers: A prodigious Revolution in Medical Arena, Shahzad Maqsood Khan, **Saba Zia**, Prof. Dr. Muhammad Taqi Zahid Butt, Prof. Dr. Tahir Jamil, Pakistan Plastic Manufacturers Association (PAK PLAS) 91-93 **(2014).**
17. Polymers: Polymer fiber composites; a prodigious breakthrough in medical arena, Shahzad Maqsood Khan, **Saba Zia**, Prof. Dr. Muhammad Taqi Zahid Butt, Prof. Dr. Tahir Jamil, Pakistan Plastic Manufacturers Association (PAK PLAS) 91-93 **(2015).**

## PROFESSIONAL TRAININGS & SEMINARS

- Sustainable Production of Valuable Products by Polymer and Textile Recycling for Circular Economical Revolution, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, Rakhshanda Ashraf, Hammad Muneer, 3<sup>rd</sup> International Conference (Hybrid), Trends and Research in Chemistry (TRIC-2024), University of Education (UoE), Lahore, Pakistan. **Nov 06-07, 2024**
- "Emerging Trends in Polymer and Textile Engineering for Economical Uplifting, Sustainable Future, and Circular Economy", Ayesha Sharif, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, 1<sup>st</sup> International Conference on Advancement in Engineering Sciences, Institute of Electrical, Electronics and Computer Engineering (IEECE), University of the Punjab, Lahore, Pakistan, University of Malaya Malaysia and University of Management & technology (UMT), Lahore, Pakistan. **Oct 28-29, 2024**
- Polymers; Potential Materials for wound or Skin Treatment & Transdermal Drug Delivery, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, 8<sup>th</sup> International Conference Healthcare and Health Education in AI Era, Shalamar Medical & Dental College Lahore, Pakistan. **April 24-27, 2024**
- Polymer and Textile Recycling; A Sustainable Production Route for Circular Economy, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, International Conference on Material Chemistry & Industrial Technologies (MCIT), Department of Chemistry, University of Lahore (UoL), Lahore, Pakistan. **April 24-25, 2024**
- Recycling of Polymer Based Materials for Sustainable Materials Production, R&D Opportunities and Challenges, S. M. Khan, N. Gull, S. Zia, S. Saleemi, 18<sup>th</sup> International

Symposium on Advanced Materials (ISAM) by Pakistan Advanced Materials Forum, Islamabad, Pakistan. **Oct 02-06, 2023**

- R&D and Industrial Applications of Polymers and Textiles for Economic Revolution, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, Muhammad Shafiq, 2<sup>nd</sup> International Conference, Trends and Research in Chemistry (TRIC), Department of Chemistry, University of Education (UoE), Lahore, Pakistan. **May 16-18, 2023**
- Fabrication of Carbon Fiber-Reinforced Polymer Composite by Chemical Modification to Enhance the Mechanical Properties, Sana Kainat, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, 2<sup>nd</sup> International Conference, Trends and Research in Chemistry (TRIC), Department of Chemistry, University of Education (UoE), Lahore, Pakistan. **May 16-18, 2023**
- Polymer Modified Concrete, Asma Saeed, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, 2<sup>nd</sup> International Conference, Trends and Research in Chemistry (TRIC), Department of Chemistry, University of Education (UoE), Lahore, Pakistan. **May 16-18, 2023**
- **Participated**, Faculty Orientation Program held on 6<sup>th</sup>-10<sup>th</sup> of November 2023, arranged by HRDC
- **“Advanced Teaching Excellence Strategies for Effective Higher Education Instruction and Professional Development”**. Organized by PHEC on November **14-16 2023**
- Polymers and Textiles; A Progressive Pathway for Economic & Technological Growth, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, International Conference on Chemical and Material Sciences, Department of Chemistry, University of Lahore (UoL), Lahore, Pakistan. **May 21, 2022**
- Polymer And Textiles: Emerging Biologization Materials for Medical Technologies, Shazhad Maqsood Khan, Tabinda Riaz, Nafisa Gull, Saba Zia. 32<sup>nd</sup> Edition of The International Congress “Preparing the Future By Promoting Excellence Iasi, Romania. **Feb 28 – Mar 2, 2022**
- **Technology Display**, Polymer Modified Bricks, PI of project, Asma Saeed, Shahzad Maqsood Khan, Dr. Muhammd Abid, Dr. Sab Zia, Dr. Nafisa Gull, Lahore Science Mela by The Khawarzimi Science Society, Crescent Model Higher Secondary School, Shadman, Lahore, Pakistan. **Oct 28-29, 2023**
- **Technology Display**, Cold Gulavanizing Compound (CGC), PI of project, Shahzad Maqsood Khan, Dr. Muhammd Abid, Dr. Sab Zia, Dr. Nafisa Gull, All Punjab Universities Expo 2022, Punjab Higher Education Commission (PHEC), Lahore, Pakistan. **Nov 15, 2022**
- **Technology Display**, Polymeric Leather Tanning Agent, PI of project, Shahzad Maqsood Khan, Dr. Muhammd Naveed Ashraf, Dr. Sab Zia, Dr. Nafisa Gull, All Punjab Universities Expo 2022 (PHEC), Punjab Higher Education Commission, Lahore, Pakistan. **Nov 15, 2022**

- Recent Advancements in Chemical Trends; R&D and Production" Dr. Shahzad Maqsood Khan, Nafisa Gull, Dr. Atif Islam, Muhammad Abid, Prof. Dr. Sayed Muhammad Awais, Saba Zia, Prof. Dr. Muhammad Taqi Zahid Butt and Prof. Dr. Tahir Jamil. in Conference Recent
- Development and in vitro study of polyurethane membrane for dialysis. Saba Urooge Khan, **Shahzad Maqsood Khan**, Khadija Rafiq, Muhammad Shafiq, Saba Zia. 7th International Symposium on Biomedical Materials: Science & Technology Innovation and the Knowledge Economy in Interdisciplinary Research Center of Biomedical (IRCBM) Comsats University, Lahore, Pakistan. **Dec11-12, 2019**
- Polymer Materials; A Progressive Trend for Development of Modern Civilization. International Symposium on Chemical and Mineral Resource Engineering (ISCMRE). Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, Saba Urooge Khan, Prof. Dr. Muhammad Taqi Zahid Butt, Prof. Dr. Rafiullah Khan. Pakistan Institute of Engineering and Applied Sciences (PIEAS), Islamabad, Pakistan. **Sept 24-26, 2019**
- Polymers; A phenomenal Invention to Innovation in Medical Show Ground, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, Atif Islam, Sadia Sagar Iqbal, Saba Urooge Khan, Sehrish Jabeen, Muhammad Taqi Zahid Butt, 6<sup>th</sup> International Symposium Biomedical Materials (ISBM-2017) Synergising Partnerships, Interdisciplinary Research Center of Biomedical (IRCBM) Comsats University Lahore, Pakistan. **Dec 14-16, 2017**
- Polymers; An Exclusive Trademark to Modern Era. Shahzad Khan, Saba Zia, Nafisa Gull, Atif Islam, Sadia Sagar Iqbal, Muhammad Shafiq, Aneela Sabir, Adnan Ahmed, Fahd Jamshed and Muhammad Taqi Butt. International Conference on Solid State Physics (ICSSP-2017), University of the Punjab, Lahore, Pakistan. **Dec 10-14, 2017**
- Fiber Reinforced Polymer Composites for Orthopedic Applications. Khan S, Gul N, Awais S, Zia S, Butt T, Jamil T. Conference of Orthopedic Association of Saarc Countries (OASAC) 2017 in Pearl Continental Hotel, Lahore, Pakistan. **Apr 07-09, 2017**
- **Workshop**, Patent Filing and Introduction to Intellectual Property System of Pakistan, Khorana Hall, Institute of Chemistry, University of the Punjab, Lahore, Pakistan. **May 17-18, 2017**
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- **Participation**, 7<sup>th</sup> Invention to Innovation Summit 2018 University of the Punjab. **Mar 07-08, 2018**
- Advances in Chemistry-2017, in University of Lahore (UoL) Lahore, Pakistan. **May 13-14, 2017**
- Training course, ir-prestiage-21 (ftir)(shimadu),held at department of chemical engineering &technology, university of the punjab,lahore , **oct 25-28 2008**



- Training course, gel permeation chromatography (GPC) series 200, held at icet polymer lab, university of the punjab, lahore, **may 18-28, 2008**
- Symposium on engineering sciences, icet, university of the punjab, **apri-30, 2009**
- Operational instrumental training of q600 sdt, q200 dsc, q400 tma and ar 1500 ex rheometer (rizvi & company) (icet pu lhr) , **april 9-11, 2009**
- 3<sup>rd</sup> symposium on engineering sciences ,icet,university of the punjab lahore, **march-10, 2010**
- Professional development workshop, energy conservation and sustainability (icet pu lhr), **aug-6, 2010**
- Professional development workshop, implementation of iso 17025 for qa in testing and research labs (icet pu lhr) , **aug-7-10, 2010**
- Professional development workshop ,hazop study for process industries (icet pu lhr), **aug-10, 2010**
- Enhancing quality and productivity through testing (tet pu lhr), **march-9-10, 2011**
- Electronics project exhibition held at centre of high energy physics,pu, lahore. **July 12-2012.**
- Operational instrumental training of q800 dma, utm, paint testing equipments, hardness tester, lab attritor, lab extruder (rizvi & company), **feb-8, 2012**
- National seminar on engineering materials & their performance, **april-30, 2013**
- Chromatography techniques & sample preparation seminar, held by agilent technologies. **Jan-23, 2014**
- Awareness seminar on women's health,mnch,misp. **Feb-06,2014**
- 5<sup>th</sup> symposium on engineering sciences, **apri-2,2014**
- 25<sup>th</sup> national and 13<sup>th</sup> international chemistry conference, institute of chemistry pu lhr., **oct-20-22, 2015**
- World quality day. **Feb-08, 2016**
- 4th one week in-service faculty training program, department of microbiology and molecular genetics (mmg), university of the punjab. **Nov-21-25, 2016**
- Office of research innovation & commercialization(oric), workshop on patent filling & introduction to intellectual property system of pakistan. May-17-18, 2017
- Sixth invention to innovation summit 2017. **March-8-9, 2017.**

## POSTER PRESENTATIONS

## INTERNATIONAL CONFERENCES

1. Synthetic Polymers-based Microneedles for Transdermal Drug Delivery as Substitute of Hypodermic Needles, Ayesha Sharif, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, Sana

- Kainat, International Conference of Nanotechnology and Natural Products, Department of Chemistry, University of Engineering & Technology (UET), Lahore, Pakistan. **Nov 18, 2024**
2. Polymers; Potential Materials for Drug Delivery, Ayesha Sharif, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, 8<sup>th</sup> International Conference Healthcare and Health Education in AI Era, Shalamar Medical & Dental College Lahore, Pakistan **April 24-27, 2024**
  3. Polymeric Microneedles for Drug Delivery Applications, Ayesha Sharif, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, International Conference on Material Chemistry & Industrial Technologies (MCIT), Department of Chemistry, University of Lahore (UoL), Lahore, Pakistan. **April 24-25, 2024**
  4. Microneedles, Ayesha Sharif, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull, Sana Kainat, Asma Saeed, 2<sup>nd</sup> International Conference, Trends and Research in Chemistry (TRIC), Department of Chemistry, University of Education (UoE), Lahore, Pakistan. **May 16-18, 2023**
  5. Participated, International conference on Ionic Liquids for Sustainable Future, Center for Research in Ionic Liquids (CRIL), School of Chemistry, University of the Punjab, Lahore, Pakistan. **Mar 10, 2022**
  6. Synthesis and Characterization of Polysaccharide based Hydrogels. Nafisa Gull, Shahzad Maqsood Khan, Muhammad Taqi Zahid Butt, Saba Zia, Saba Urooge Khan, Sadaf Hafeez, Sehrish Jabeen, Adnan Ahmad, Fahd Jamshaid, Muhammad Azeem Munawar, Atif Islam, Aneela Sabir, Sadia Sagar Iqbal, Muhammad Shafiq. 4<sup>th</sup> International Conference on Frontier of Advanced Engineering Materials (FAEM) held in Pakistan Council of Scientific and Industrial Research (PCSIR) Laboratories Complex, Lahore, Pakistan. **Feb 19-20, 2018**
  7. Preparation and Characterization of Polyurethane Grafted Calcium Alginate Membranes. Saba Urooge Khan, Shahzad Maqsood Khan, Atif Islam, Sadaf Hafeez, Misbah Sultan, Muhammad Shafiq, Sadia Sagar Iqbal, Muhammad Azeem Munawar, Aneela Sabir, Nafisa Gull, Saba Zia, Khadija Rafiq, Shumaila Fayyaz, Muhammad Taqi Zahid Butt. 4<sup>th</sup> International Conference on Frontier of Advanced Engineering Materials (FAEM) held in Pakistan Council of Scientific and Industrial Research (PCSIR) Laboratories Complex, Lahore, Pakistan. **Feb 19-20, 2018**
  8. Hydrophilic Gels for Biomedical Applications. Saba Zia, Shahzad Maqsood Khan, Nafisa Gull, Atif Islam, Younas Habeeb Khan, Muhammad Azeem Munawar, Muhammad Shafiq, Aneela Sabir, Saba Urooge Khan, Sadaf Hafeez, Sehrish Jabeen, Muhammad Taqi Zahid Butt. 4<sup>th</sup> International Conference on Frontier of Advanced Engineering Materials (FAEM) held in Pakistan Council of Scientific and Industrial Research (PCSIR) Laboratories Complex, Lahore, Pakistan. **Feb 19-20, 2018**

9. Study of Biopolymer based pH Responsive Hydrogels for Controlled Release of Antibiotic. Sehrish Jabeen, Atif Islam, Aneela Sabir, Nafisa Gull, Saba Zia, Attia Butt, Muhammad Shafiq, Adnan Ahmad, Fahd Jamshaid, Muhammad Azeem Munawar, Saba Urooge Khan, Sadaf Hafeez, Shahzad Maqsood Khan, Muhammad Taqi Zahid Butt. 4th International Conference on Frontier of Advanced Engineering Materials (FAEM) held in Pakistan Council of Scientific and Industrial Research (PCSIr) Laboratories Complex, Lahore, Pakistan.

**Feb 19-20, 2018**

10. Study of Release Profile of Montelukast Sodium by Cross linked Injectable Hydrogels. Sadaf Hafeez, Atif Islam, Kalsoom Anwar, Muhammad Shafiq, Shahzad Maqsood Khan, Abbas Ali, Aneela Sabir, Nafisa Gull, Saba Zia, Saba Urooge Khan, Sehrish Jabeen, Muhammad Taqi Zahid Butt. 4th International Conference on Frontier of Advanced Engineering Materials (FAEM) held in Pakistan Council of Scientific and Industrial Research Laboratories Complex, Lahore.

**Feb 19-20, 2018**

11. A Study of Rheological Behaviour of Lubricating Oils Used for Motor Bike. S. M. Khan, S. Zia, S. Bano, N. Gull, A. Islam, Sadia, M. Abid, S. Jabeen, M. T. Z. Butt International Symposium on Advanced Materials (ISAM) National University of Science and Technology (NUST) Pakistan.

**2017**

## **NATIONAL CONFERENCES**

1. Polymeric Microneedles for Transdermal Drug Delivery, Ayesha Sharif, Shahzad Maqsood Khan (PI), Sana Kainat, Nafisa Gull, Saba Zia, Second Prize for Poster, Cash Prize 15,000.00 Rs, 1<sup>st</sup> Pak Polymer Symposium, Department of Polymer and Processing Engineering, University of Engineering & Technology (UET), Lahore, Pakistan. **April 30, 2024**
2. Polymeric Microneedles for Transdermal Drug Delivery, Ayesha Sharif, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, Sana Kainat, Exhibition ChemSmart, Conference & Trade Show) of Pakistan Chemical Forum, Expo Center, Lahore, Pakistan. **Mar 04-06, 2024**
3. Development and Characterization of Modified Fiber Reinforced Polymer Composites, Sana Kainat, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, Ayesha Sharif, Exhibition ChemSmart, Conference & Trade Show) of Pakistan Chemical Forum, Expo Center, Lahore, Pakistan. **Mar 04-06, 2024**
4. Recycled Polymer Based Light Weight Concrete, Asma Saeed, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, Exhibition ChemSmart, Conference & Trade Show) of Pakistan Chemical Forum, Expo Center, Lahore, Pakistan. **Mar 04-06, 2024**
5. Development and Characterization of Modified Fiber-Reinforced Polymer Composites, Sana Kainat, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, Ayesha Sharif, 9<sup>th</sup> Invention to innovation Summit, University of the Punjab, Lahore, Pakistan. **Feb 27-28, 2024**

6. Development of Microneedles for Transdermal Drug Delivery, Ayesha Sharif, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, Ayesha Sharif, 9<sup>th</sup> Invention to innovation Summit, University of the Punjab, Lahore, Pakistan. **Feb 27-28, 2024**
7. Development and Characterization of Modified Fiber-Reinforced Polymer Composites, Sana Kainat, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, 1st National Universities Joint Conference: Sustainable Indigenous Production and Upcycling (SIP-UP) of Polymers/Allied Materials: Future Challenges, National Academy of Sciences (NAS), Institute of Polymer and Textile Engineering, University of the Punjab, Lahore, Pakistan. **Jun 15, 2023**
8. Polymeric Microneedels for Transdermal Drug Delivery, Ayesha Sharif, Shahzad Maqsood Khan, Saba Zia, Nafisa Gull et al., 1st National Universities Joint Conference: Sustainable Indigenous Production and Upcycling (SIP-UP) of Polymers/Allied Materials: Future Challenges, National Academy of Sciences (NAS), Institute of Polymer and Textile Engineering, University of the Punjab, Lahore, Pakistan. **Jun 15, 2023**
9. Investigation and Development and Physico-Mechanical Properties of Polymer Modified Concrete Using Waste Expanded Polystyrene, Asma Saeed, Shahzad Maqsood Khan, Nafisa Gull, Saba Zia, 1st National Universities Joint Conference: Sustainable Indigenous Production and Upcycling (SIP-UP) of Polymers/Allied Materials: Future Challenges, National Academy of Sciences (NAS), Institute of Polymer and Textile Engineering, University of the Punjab, Lahore, Pakistan. **Jun 15, 2023**
10. In Vitro Study of Multi-Responsive Hydrogels as Drug Release Carrier. Nafisa Gull, Shahzad Maqsood Khan, Saba Zia, Rafi Ullah Khan, Muhammad Taqi Zahid Butt. 8th Invention to Innovation Summit 2019 University of the Punjab, Lahore, Pakistan. **Apr 02-03, 2019**
11. Polymer Modified Concrete Based on Recycled Polymers. Muhammad Mohsin, Shahzad Maqsood Khan, Saba Zia, Saba Urooge Khan, Nafisa Gull, Rafi Ullah Khan, 8th Invention to Innovation Summit 2019 University of the Punjab, Lahore, Pakistan. **Apr 02-03, 2019**
12. Development of Durable and Efficient Photo Cleaning Smart Coatings. Muhammad Azam, Muhammad Awais, Dr. Shahzad Maqsood Khan, Saba Zia, Muhammad Shafiq, Prof. Dr. Rafi Ullah Khan 8th Invention to Innovation Summit 2019 University of the Punjab, Lahore, Pakistan. **Apr 02-03, 2019**
13. Supper Absorbing Hydrogels. Saba Zia, Shahzad Maqsood Khan, Atif Islam, Aneela Sabir, Radhika Vaid, Tushar Bambharoliya, Martin W. King, Muhammad Taqi Zahid Butt. 7<sup>th</sup> Invention to Innovation Summit 2018 University of the Punjab, Lahore, Pakistan. **Mar 07-08, 2018**
14. Characterization of Polyvinyl Alcohol (PVA) and Cellulose Acetate based Films and Their Evaluation for Wound Dressing Applications. Radhika Vaid, Tushar Bambharoliya, Saba Zia,

Aneela Sabir, Atif Islam, Tahir Jamil, Shahzad Maqsood Khan, Martin W. King. 7 Invention to Innovation Summit 2018 University of the Punjab, Lahore, Pakistan. **Mar 07-08, 2018**

15. **Workshop** on Entrepreneurship, Use of Business Intelligence for Development. Office of Research Innovation and Commercialization (ORIC), Institute of Chemical Engineering & Technology (ICET) University of the Punjab, Lahore, Pakistan. **Nov 08, 2016**

## PROFESSIONAL TOOLS AND SOFTWARES

- Microsoft Office (Word, Excel, Power Point)
- Front Page
- Macromedia Flash
- Adobe Photoshop
- Web Designing

## THESIS AND RESEARCH PROJECTS SUPERVISED

1. Biochar Reinforced Polysaccharides Composites Films for Fire Retardant Applications
2. Jute fiber reinforced polymer composites a green alternative for construction materials
3. Tensile properties enhancement in PC/ABS blends
4. Preparation and characterization of low density polyethylene (LDPE)/recycled polyethylene terephthalate (rPET) blend
5. Synthesis of Pervaporation membrane for the removal of 2-EHA from water steam during the production of metal octoate
6. Preparation and Characterization of Thermoplastic Elastomer based on Polystyrene and Natural Rubber Blend (PS/NR)
7. To study the Blend of Low Density Polyethylene (LDPE) and Ethylene Propylene Diene Monomer (EPDM) Rubber
8. To study the effect of compatibilizer on blending of polystyrene (PS) and ethylene propylene diene monomer (EPDM) rubber
9. Effect of natural and Synthetic fiber on impact strength of polyester and epoxy fiber reinforced polymer composites
10. Development and characterization of low density polyethylene (LDPE)/recycled polyethylene terephthalate (rPET) blend
11. To Study the Blend of Low Density Poly Ethylene (LDPE) And Ethylene Propylene Diene Monomer (EPDM) Rubber

## INSTRUMENTS

Got expertise and trainings in installations and operating of number of equipments including

- Differential Scanning Calorimeter (DSC)

- Thermo mechanical Analyzer (TMA)
- Dynamic Mechanical Analyzer (DMA)
- Simultaneous Differential Scanning Calorimeter Thermo Gravimetric Analyzer (SDT)
- Rheometer
- Fourier Transform Infra-Red Spectrophotometer (FTIR)
- Gel Permeation Chromatograph (GPC)
- Universal Testing Machine (UTM)
- Rock Well Hardness Tester
- Barcol Hardness Tester
- Tubular Impact Tester
- Pendulum Impact Tester
- Wet Abrasion Scrub Tester
- High Temperature Press
- Lab Attritor
- Lab Scale High Pressure Reactor
- Gas Permeability Tester
- Lab Scale Extruder
- Paint Testing Equipments

## PAST SELECTIONS

### **Assistant Professor (BPS-19)**

**2024**

Institute of Polymer and Textile Engineering University of the Punjab, Lahore

### **Lecturer (BPS-18)**

**2023-24**

Institute of Polymer and Textile Engineering University of the Punjab, Lahore

### **Lecturer (Contract)**

**2015-17**

Department of Polymer Engineering & Technology University of the Punjab, Lahore

### **Lab Supervisor (BPS-13)**

**2011-15**

Department of Polymer Engineering & Technology University of the Punjab, Lahore

### **Research Technician**

**2008 –11**

Department of Polymer Engineering & Technology University of the Punjab, Lahore

## PERSONAL DETAILS:

Father's Name	Zia Ahmed Khan
Permanent Address	106 J Model Town, Lahore, Pakistan
Telephone No's	0092-333-423-6577
Date of Birth	16 <sup>th</sup> July 1976
Nationality	Pakistani
I.D Card Number	35202-2803193-0
Religion	Islam

## REFERENCES

**Can be furnished on demand.**