Dr. Aneela Sabir

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Address, 242-A, GOR 5, Faisal Town Lahore

Chemical Engineer with an experience of more than twelve **(12)** years in teaching, R&D, pressure vessel and heat exchanger designing & fabrication. Currently, I am a part of University of the Punjab as **Associate Professor (BPS-20)**, teaching courses to MPhil./Ph.D students of Polymer Engineering & Technology and also managing departmental administrative activities covering all matters. Total impact factor of my **ISI indexed International research publications is 142.86**

SCHOLASTIC RECORD

- **Ph. D Chemical Engineering** **2010-2011**
  Institute of Chemical Engineering and Technology, University of the Punjab, Lahore, Pakistan, Course Work CGPA 3.92.
- **Diploma in Intellectual Property Law (1st Position)** **2017-2018**
  Punjab University Law College, University of the Punjab, Lahore, Pakistan. 68.5%; 274/400
- **Diploma in Environmental Law** **2013-2014**
  Punjab University Law College, University of the Punjab, Lahore, Pakistan, 71.5%; 282/400.
- **M.Sc. Chemical Engineering** **2006-2008**
  Institute of Chemical Engineering and Technology, University of the Punjab, Lahore, Pakistan, 884/1200; 73.7%
- **B.Sc. Chemical Engineering** **2002-2006**
  Institute of Chemical Engineering and Technology, University of the Punjab, Lahore, Pakistan, 3463/4800; 72.14%
- **Intermediate (Pre-Engineering)** **1999-2001**
  Board of Intermediate & Secondary Education, Lahore. 1st div; 801/1100; 71.36%
- **Matriculation** **1997-1999**
  Board of Intermediate & Secondary Education, Lahore 1st div; 635/850; 74.70%

PROFESSIONAL EXPERIENCE

- **Associate Professor**
  Department of Polymer Engineering and Technology, University of the Punjab
- **Assistant Professor**
  Department of Polymer Engineering and Technology, University of the Punjab
- **Lecturer**
  Department of Polymer Engineering and Technology, University of the Punjab
- **Research Scholar** (under HEC-IRSIP Program)
  Georgia Institute of Technology, Atlanta, Georgia (USA)
- **Research Scientist**
  Establishment of Industrial Research Labs Project Higher Education Commission (HEC)-Institute of Chemical Engineering & Technology University of the Punjab Lahore Pakistan
- **Research Scientist/Chemical Engineer**
  Ministry of Science and Technology, Pakistan.
- **Design & Development Engineer**
  DDFC (Pvt. Ltd.) Design Development and Fabrication Company, Mechanical design of Distillation Column, Heat Exchangers, and Storage Tanks.
- **Internship Program**
  Packages Limited. Main Department of Work was R&D, "Flexible Packaging"

EDUCATIONAL THESIS

1. **Composite Membranes for Engineered Osmosis Desalination Process** (Ph.D Research Topic)
2. **"COD Removal by Advance Oxidation Processes (AOPs) from Textile Wastewater"** This study is mainly focused on the removal of COD from textile industry effluent by using advanced oxidation processes (AOP s), which include Ozonation, Hydrogen peroxide (H_2O_2), Fenton's process. All experiments were performed in a laboratory scale setup. (Research Project; M.Sc Chemical Engineering Thesis)
3. Plant Design Report on **"Production of 100MTon/Day of Styrene from Methylbenzene by SMART (Styrene Monomer Advance Reactor Technology) Process.".**The project consisted of the thorough understanding of SMART process, unit process and unit operations involved in its flow sheet. Based on the assumption that we have to design a plant having final capacity of 100 MTPD of styrene following steps were done:

- Heat balance around the whole flow sheet of SMART process
- Mass balance around the whole flow sheet of SMART process

Based on the values obtained from heat and mass balance, process design and sizing of the reactors. Distillation columns, separator, kettle reboiler and pump rating along with instrumentation and control of main equipment was done. (B.Sc Chemical Engineering Final Project Report)

4. **Synthesis of Ferric Ammonium Citrate**. (Process Project; B.Sc Chemical Engineering)

INTERNATIONAL PUBLICATIONS (ISI Indexed)

Total Impact Factor (142.86)

h-index (11)

1) **Aneela Sabir**, Shafiq M, Islam A, Sarwar A, Dilshad MR, Shafeeq A, Butt MTZ, Jamil T Fabrication of tethered carbon nanotubes in cellulose acetate/polyethylene glycol-400 composite membranes for reverse osmosis **Carbohydrate Polymers** 132 **(2015)** 589–597.

2) **Aneela Sabir**, Shafiq M, Islam A, Jabeen F, Shafeeq A, A Ahmad, Butt MTZ, Jacob KI, Jamil T Conjugation of silica nanoparticles with cellulose acetate/polyethylene glycol 300 membrane for reverse osmosis using MgSO4 solution. **Carbohydrate Polymers 136 (2016) 551–559.**

3) **Aneela Sabir**, Islam A, Shafiq M, Shafeeq A, Butt M. T. Z, Ahmad N. M, Sanaullah K, Jamil T Novel polymer matrix composite membrane doped with fumed silica particles for reverse osmosis desalination **Desalination** 368 **(2015)** 159–170**.**

4) **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. Integrally skinned nano-cellular crosslinked asymmetric thin films infused with PEO-PPO-PEO block copolymer/ZnO-NPs for desalination using sea salt. **Materials Chemistry and Physics, Volume 183, 1 November 2016, Pages 595-605.** Wail Falath, **Aneela Sabir**, Karl I. Jacob. Novel reverse osmosis membranes composed of modified PVA/Gum Arabic conjugates: Biofouling mitigation and chlorine resistance enhancement**.Carbohydrate Polymers, Volume 155, 2 January 2017, Pages 28-39.**

5) Wail Falath, **Aneela Sabir**, Karl I. Jacob. Highly improved reverse osmosis

performance of novel PVA/DGEBA cross-linked membranes by incorporation of Pluronic F-127 and MWCNTs for water desalination. **Desalination, Desalination, Volume 397, 1 November 2016, Pages 53-66.**

6) Decoration of open pore network in Polyvinylidene fluoride/MWCNTs with chitosan for the removal of Reactive Orange 16 dye. Maria Wasim, Sadia Sagar, Aneela Sabir, Muhammad Shafiq, Tahir Jamil. **Carbohydrate Polymers .**

7) Muhammad Shafiq, **Aneela Sabir**, Atif Islam, Shahzad Maqsood Khan , Nafisa Gull ,Syed Nadir Hussain , Muhammad Taqi Zahid Butt, Cellulose acetate based thin film nanocomposite reverse osmosis membrane incorporated with TiO2 nanoparticles for improved performance. **Carbohydrate Polymers, Volume186, 2018, Pages 367–376.**

8) M.Azeem Munawar, Atif Islam, Muhammad Atiq Ur Rehman, Nafisa Gull, **Aneela Sabir,** Tahir Jamil, dirk schubert, Bilal Haider, Monika M Voigt, Muhammad Shafiq, Shahzad Khan Investigation of functional, physical, mechanical and thermal properties of TiO2 embedded polyester hybrid composites: A design of experiment (DoE) study, **Journal: Progress in Natural Science: Materials International.**

9) The effect of Nanocrystalline cellulose/Gum Arabic conjugates in crosslinked membrane for antibacterial, chlorine resistance and boron removal performance. Saba Asim; Maria Wasim; Aneela Sabir; Muhammad Shafiq; Huma Andlib; Sania Khurram; Adnan Ahmad; Tahir Jamil. **Journal of Hazardous Materials.**

10) Fabrication and performance characterization of novel zinc oxide filled cross-linked PVA/PEG 600 blended membranes for CO2/N2 separation. Muhammad Rizwan Dilshad, Atif Islam , Aneela Sabir , Muhammad Shafiq , Muhammad Taqi Zahid Butt , Aamir Ijaz , Tahir Jamil. **Journal of Industrial and Engineering Chemistry.**

11) Maria Wasim, **Aneela Sabir**, Muhammad Shafiq, Atif Islam, Tahir Jamil. Preparation and characterization of composite membrane via layer by layer assembly for desalination. **Applied Surface Science** 19 October 2016.

12) **Aneela Sabir**, Shafiq M, Islam A, Khan SM, Jamil T, Zahid MT, Shafeeq A, Shahzad A, Bhatti AS, Habib Y, Behzad S and Jabeen S Influence of polyethylene glycol 600 on cellulose acetate membranes for reverse osmosis desalination **Polymer Research Journal** 9(2) **(2015)** 291-302 **(Nova Publishers).**

13) Adnan Ahmad, Fahad Jamshed, Tabinda Riaz, Sabad-e- Gul, Sidra Waheed, **Aneela Sabir**, Adnan Alhathal AlAnezi, Muhammad Adrees, Tahir Jamil. Self-sterilized composite membranes of cellulose acetate/polyethylene glycol for

water desalination. **Carbohydrate Polymers**, , Available online 28 April 2016.

14) **Aneela Sabir**, Wail Falath, Karl I. Jacob, Muhammad Shafiq, Muhammad Azeem Munawar, Atif Islam, Nafisa Gull, Muhammad Taqi Zahid Butt, Khairuddin Sanaullah, Tahir Jamil. Hyperbranched polyethyleneimine induced polycationic membranes for improved fouling resistance and high RO performance. **European Polymer Journal,** Volume 85, December 2016, Pages 266-278.

15) Muhammad Shafiq, **Aneela Sabir**, Shahzad Maqsood Khan, Atif Islam, Nadir Hussain, M.Taqi Zahid Butt, Tahir Jamil. Development and performance characteristics of silane crosslinked poly(vinyl alcohol)/chitosan membranes for reverse osmosis. **Journal of Industrial and Engineering Chemistry.** Maria Wasim, Aneela Sabir, Muhammad Shafiq, Atif Islam, Mudassar Azam, Tahir Jamil. Mixed matrix membranes: Two-step process modified with electrospun (carboxy methylcellulose sodium salt/sepiolite) fibers for nanofiltration. **Journal of Industrial and Engineering Chemistry. (I.F=4.841).**

16) Adnan Ahmad, Fahd Jamshaid, Muhammad Adrees, Sadia Sagar Iqbal, Aneela Sabir, Tabinda Riaz, Hira Zaheer, Atif Islam, Tahir Jamil. Novel Polyurethane/Polyvinyl chloride-co-vinyl acetate crosslinked membrane for reverse osmosis (RO). **Desalination, 420 (2017) 136–144.**

17) Gull N, Khan SM, Islam A, Zia S, Shafiq M, **Aneela Sabir** , Munawar MA, Butt MTZ, Jamil T Effect of Different Oxidizing Agents on Polyaniline/Single Walled Carbon Nanotube Composites synthesized via Ultrasonically Initiated in-situ Chemical Polymerization **Materials Chemistry and Physics (2016)** 1-8

18) Islam A, Yasin T, Gull S, Khan SM, Munawar MA, Shafiq M, **Aneela Sabir**, Jamil T Evaluation of selected properties of biocompatible chitosan/poly (vinyl alcohol) blends **International Journal of Biological Macromolecules** 82 **(2016)** 551–556.

19) Islam A, Yasin T, Akhtar M. J. Imran Z, **Aneela Sabir**, Sultan M, Khan SM, Jamil T Impedance spectroscopy of chitosan/poly(vinyl alcohol) film **Journal of Solid State Electrochemistry** DOI:10.1007/s10008-**015**-3082-6.

20) Islam A, Imran Z, Yasin T, Gull N, Khan S M, Shafiq M, **Aneela Sabir**, Munawar M A, Raza MH, Jamil T An investigation of AC impedance and dielectric spectroscopic properties of conducting chitosan-silane crosslinked-poly (vinyl alcohol) blended films **Materials Research (2015)** 10.1590/1516-1439.043715; Page 1-8.

21) Islam A, Yasin T, Rafiq M. A., Tahir H. Shah, **Aneela Sabir**, Khan SM, Jamil T. In-

situ Crosslinked Nanofiber Mats of Chitosan/Poly(vinyl alcohol) Blend: Fabrication, Characterization and MTT Assay with Cancerous Bone Cells **Fibers and Polymers** 16(9) **(2015)** 1853-1860**.**

22) Islam A, Yasin T, **Aneela Sabir**, Khan SM, Sultan M, Shafiq M, Khan AU, Jamil T High-temperature electrical properties of silane cross-linked chitosan/poly(vinyl alcohol) membrane: thermal, mechanical and surface characterization **e-Polymers** 15(4) **(2015)** 255–261.

23) Khan SM, Gull N, Munawar MA, Islam A, Zia S, Shafiq M, **Aneela Sabir**, Awais SM, Butt MA, Butt MTZ, Jamil T. 2D Carbon Fiber Reinforced High Density Polyethylene Multi-layered Laminated Composite Panels: Structural, Mechanical, Thermal and Morphological Profile **Journal of Materials Science & Technology.**

24) Younus H Khana, Atif Islam, Afsheen Sarwar, Nafisa Gull, Shahzad M Khan, Muhammad A Munawar, Saba Zia, **Aneela Sabir**, Muhammad Shafiq, and Tahir Jamil. Novel green nano composites films fabricated by indigenously synthesized graphene oxide and chitosan. **Carbohydrate Polymers (2016).**

25) Muhammad Azeem Munawar, Shahzad Maqsood Khan, Nafisa Gull, Atif Islam, Muhammad Shafiq, Muhammad Taqi Zahid Butt, Tahir Jamil. Fabrication and characterization of novel zirconia filled glass fiber reinforced polyester (GFRP) hybrid composites. **Journal of Applied Polymer Science (2016)**.

26) Atif Islam, Tariq Yasin, Nafisa Gull, Shahzad Maqsood Khan, **Aneela Sabir**, Muhammad Azeem Munawwar, Muhammad Shafiq, Tahir Jamil, Muhammad Hamid Raza. Fabrication and performance characteristics of tough hydrogel scaffolds based on biocompatible polymers. **International Journal of Biological Macromolecules, Volume 92, November 2016, Pages 1-10.**

27) Controlled release of Montelukast Sodium from pH-sensitive injectable hydrogels. Irtaza Javeria, Atif Islam, Nafisa Gull, Abdul Ghaffar, Shahzad Maqsood Khan, **Aneela Sabir**, Shaista Khaliq, Muhammad Taqi Zahid Butt, Sadia Atta. 2018/9/15, **Journal Polymer-Plastics Technology and Engineering** Pages 1-9 Publisher Taylor & Francis.

28) Humaira Idrees, Muhammad Shafiq, Muhammad taqi Zahid Butt, **Aneela Sabir** Cellulose acetate based novel polymer matrix membranes modified with Vinyl triethoxysilane-graphene oxide Gum Arabic for Pb (II) removal from wastewater. **Journal of Cleaner Production**

29) Maria Wasim, **Aneela Sabir**, Muhammad Shafiq, Muhammad Taqi Zahid Butt. Fractionation of direct dyes using Cellulose acetate blend membranes incorporated with modified vapor grown carbon nanofibers and ZrO_2. **Carbohydrate Polymers**

30) Effect of Graphene for Ablation Study of Advanced Composite Materials for Aerospace Applications Authors SADIA Sagar Iqbal, **ANEELA Sabir**, ATIF Islam, Syed Zain Ul Abdene Bukhari, MUHAMMAD Yasir, M Arshad Bashir, Ali Bahadur Publication date 2018 **Key Engineering Materials** Volume 778 Pages 118- 25 Publisher Trans Tech Publications.

31) Muhammad Asim Raza, Atif Islam, **Aneela Sabir**, Nafisa Gull, Israr Ali, Rashid Mehmood, Jinho Bae, Gul Hassan, Muhammad Umair Khan, PVA/TEOS crosslinked membranes incorporating zinc oxide nanoparticles and sodium alginate to improve reverse osmosis performance for desalination, Journal of Applied Polymer Science volume 136 Pages 47559.

32) Maria Wasim, Muhammad Shafiq, Rafi Ullah Khan, **Aneela Sabir**, Crosslinked integrally skinned asymmetric composite membranes for dye rejection, Applied Surface Science, volume 478, pages 514-521.

Books/Books Chapter Published Books:

- Maria Wasim, **Aneela Sabir**, Muhammad Shafiq, Atif Islam, Tahir Jamil; **Modification of Polysulphone membrane via Layer by Layer Assembly**; ISBN-13:978-3-330-03025-1, ISBN-10:3330030259, EAN:9783330030251, LAP LAMBERT Academic Publishing, Omni Scriptum Ara Pers GmbH, Germany.

Book Chapter

1. **Aneela Sabir**, Faizah Altaf, Muhammad Shafiq, Chapter Title **Synthesis and Characterization and Application of Chitin and Chitosan-Based Eco-friendly Polymer Composites**, Book Title Sustainable Polymer Composites and Nanocomposites, Publisher Springer.
2. **Aneela Sabir**, Maria Wasim, Muhammad Shafiq, Tahir Jamil **"Carbon nanotubes and graphene oxide membranes for desalination"** published by Elsevier, **BOOK Title "Nanoscale Materials in Water Purification."**
3. Maria Wasim, **Aneela Sabir**, Muhammad Shafiq, Tahir Jamil **" Electrospinning: A fiber fabrication technique for water purification"** published by Elsevier, **BOOK Title "Nanoscale Materials in Water Purification."**
4. **Aneela Sabir**, Humaira Idrees, Muhammad Shafiq, Muhammad Taqi Zahid Butt **"Key facts about impact of CO_2 discharge from distilleries on climate**

changes" Book Title **"SUSTAINABLE ETHANOL AND CLIMATE CHANGE Sustainability Assessment Tool for Ethanol Distilleries",** for the Springer Book.

5. **Aneela Sabir**, Muhammad Shafiq, Rafi Ullah Khan Karl I Jacob Chapter Title **"Composites for the removal of heavy metal"** Book Title **"Remediation of Heavy Metals"** Published by Elsevier.
6. **Aneela Sabir**, Muhammad Shafiq, Rafi Ullah Khan Karl I Jacob Chapter Title **"Polymer absorbents for heavy metal removal"** Book Title **"Remediation of Heavy Metals"** Published by Elsevier.
7. **Aneela Sabir**, Muhammad Shafiq, Rafi Ullah Khan Karl I Jacob, **"Textile Wastewater Treatment by Membrane Technology",** Book Title **"Springer Handbook of Water Pollution and Remediation Technology"** published by Springer.

Reviewer of International Journals

- **Journal of Membrane Science**, (Elsevier) Impact Factor 6.035
- **Scientific Reports,** (Nature)
- **Carbohydrate Polymers,** (Elsevier) Impact Factor 5.130
- **International Journal of Biological Macromolecules** (Elsevier) I.F 3.671
- **Materials Letters,** (Elsevier) Impact Factor 2.572
- **Journal of Water Process Engineering,** (Elsevier)
- **NANO,** (World Scientific) Impact Factor 1.260
- **The Journal of Physical Chemistry A,** (ACS Publications) Impact Factor 2.847
- **Advances in Polymer Technology,** (Wiley) Impact Factor 2.137
- **Journal of Polymer Research,** (Springer) Impact Factor 1.434

UNIVERSITY/HEC PROJECTS: ENGINEERING

1. Principal Investigator (PI) for research project **"Design and fabrication of hollow fiber membrane reactor for industrial wastewater treatment in Pakistan"**. (TWAS-UNESCO, Fiscal Year 2018, 3000 USD).
2. Principal Investigator (PI) for research project "**Fabrication of Adsorptive Membrane System for the Removal of Heavy Metal Ions from Industrial Wastewater"** (HEC Startup Research Grant Program, Fiscal Year 2016-17, **0.5 Million Rs**).
3. Working with the Principal Investigator in the project **(HEC-USAID) of "Development of Innovative Technical and Medical Textile Products"** at the Department of Polymer Engineering and Technology, University of the Punjab, Lahore.
4. Principal Investigator (PI) for research project "**Development of Engineered membranes for removal of hazardous effluents from tanneries".** Submitted to Punjab Higher Education Commission (2017)
5. Principal Investigator (PI) for research project **"Layer-by-layer fabrication of graphene oxide (GO) framework mixed matrix membranes for heavy metal removal from impaired waters in Pakistan »** Submitted to ISESCO Research Grant Programme (2017)
6. Co-Principal Investigator (PI) for research project **Design and Development of High Performance Mixed Matrix Membranes for Dyes and Heavy Metals Removal from Industrial Textile Wastewater,** Submitted to Punjab Higher Education Commission (2017)
7. Principal Investigator (PI) for research project **Fabrication and development of Polymer Matrix Membranes for the Removal of Direct Dyes from Textile Industry Wastewater**(University of the Punjab, Lahore, Research Project Grant for the Fiscal Year 2017-18, **0.15 Mill Rs), Approved**
8. Principal Investigator (PI) for research project "**Nanofiltration membrane as selective layer for desalination".** (University of the Punjab, Lahore, Research Project Grant for the Fiscal Year 2015-16, **0.125 Mill Rs), completed successfully**
9. Principal Investigator (PI) for research project "**Waste water treatment by using polymeric reverse osmosis membrane".** (University of the Punjab, Lahore, Research Project Grant for the Fiscal Year 2013-14, **0.125 Mill Rs),**

completed successfully

10. Principal Investigator (PI) for research project "**Textile Wastewater treatment by using polymeric membrane via nanotechnology"** (University of the Punjab, Lahore, Research Project Grant for the Fiscal Year 2012-13, **0.125 Mill Rs), completed successfully**
11. Worked as researcher on project of HEC **"Establishment of Industrial Research Lab for Material Synthesis and Characterization,** 52.982 Mill Rs., **completed successfully**
12. Worked as researcher on project of HEC **"Establishment of Research Laboratories for Polymer and Material Synthesis, Characterization Rheology and Processing** 38.784 Mill Rs., **completed successfully**
13. **Rheological Behavior and FTIR (Fourier Transform Infrared Spectroscopy) study of Sunflower oil based Biodiesel - Petro diesel blends** (Prof. Dr. Tahir Jamil, Dept. of Polymer Engg & Tech., University of the Punjab). **Completed successfully.**
14. **Synthesis and Characterization of Acrylonitrile-Vinyl Acetate copolymer, Acrylonitrile-Styrene copolymer, Poly Styrene, Poly Methyl Methacrylate, MMA Graphite Nano Platelets conducting composites** (Prof. Dr. Tahir Jamil, Dept. of Polymer Engg & Tech., University of the Punjab) **Completed successfully.**
15. **"COD Removal by Advance Oxidation Processes (AOPs) from Textile Wastewater"** .This study is mainly focused on the removal of COD from textile industry effluent by using advanced oxidation processes (AOP s), which include Ozonation, Hydrogen peroxide (H2O2), Fenton's process. All experiments were performed in a laboratory scale setup. (Prof. Dr. Tahir Jamil, Prof. Dr. Arshad Chughtai, Dept. of Polymer Engg & Tech., University of the Punjab). **Completed successfully.**

Awards and Distinctions:

1. Muhammad Hamad Zeeshan, **Aneela Sabir,** Muhammad Shafiq, **Technology Award for Membrane Science and Technology,** in **8th Invention to Innovation Summit** on 2-3 April, 2019 at University of the Punjab, Lahore.
2. Muhammad Usman Saleemi, **Aneela Sabir,** Muhammad Shafiq, **Technology Award for Membrane Science and Technology,** in **8th Invention to Innovation Summit** on 2-3 April, 2019 at University of the Punjab, Lahore.
3. **Winner "Technology Award 2018" on Membrane Science and**

Development, University of the Punjab, Pakistan**.**

4. **Winner "Technology Award" 2017,** University of the Punjab, Pakistan**.**
5. **Best Poster Award for Membrane Science and Technology,** in **7th Invention to Innovation Summit** on 7-8 March, 2018 at University of the Punjab, Lahore.
6. **Incentive award winner 2015,** University of the Punjab, Pakistan**.**
7. **Judge for the evaluation of oral and posters presentations at Georgia Institute of technology, USA.**
8. **Judge at 6th Invention to Innovation summit 2017,** University of the Punjab, Pakistan.
9. **"Best Oral presentation Award on polymer membranes" Malaysia (International Symposium on Advanced Polymeric Materials, Kuala Lumpur, Malaysia) May 2014**.
10. **"Focal Person", Chief Minister and Prime Minister Laptop Distribution Scheme,** Department of Polymer Engineering & Technology, University of the Punjab**.**
11. **Ranked 7th number among the more productive young scientists of Pakistan in Engineering Sciences (Under 40),** Pakistan Council for Science and Technology, Islamabad.
12. **"Award of Excellence"** for the poster presentation at International Conference on Medical Textiles and International Forum on Biomedical Textile Materials (MedTex17 and IFBMTM 2017), Donghua University, Shanghai, China, May 17-19, 2017.
13. **Course Coordinator, Ph.D Programme,** Department of Polymer Engineering & Technology, University of the Punjab, Lahore**.**

ENGINEERING DESIGN PROJECTS

1. Involved in Designing of Wastewater treatment Plant (2006-2007)
2. Designing and Fabrication of Distillation columns (2007-2008)
3. Designing and Drafting of saddles and bubble cap trays for distillation columns (Industrial Project) 2007-2008
4. Designing of Heat Exchanger (2008-2009)
5. Designing of plates for heat exchangers (2008-2009)

PROFESSIONAL TRAININGS:

INSTRUMENTS TRAINING FROM USA (Georgia Institute of Technology)

Got expertise and trainings of equipment from USA including

- Fourier Transform Infra-red Spectrophotometer **(FTIR)**
- Differential Scanning Calorimeter **(DSC)**
- Thermo gravimetric analyzer **(TGA)**
- Thermo mechanical Analyzer **(TMA)**
- Dynamic Mechanical Analyzer **(DMA)**
- X-ray Diffraction **(XRD)**
- Rheometer
- Universal Testing Machine **(UTM)**
- Scanning electron microscope **(SEM)**
- Atomic Force Microscope **(AFM)**
- Contact Angle Analysis

SUBJECTS TAUGHT:

Teaching M. Phil Polymer Engineering & Technology Course Work

- Membrane Science and Applications
- Polymer synthesis and characterization
- Nanomaterials and its Applications
- Advance Polymers
- Polymer Process Technologies
- Bio Materials
- Polymer Process Technologies
- Polymer Characterization Instruments
- Polymer Rheology and Processing Fundamental of Polymer Sciences
- Process and Design Rheology and Processing (Lab)
- Polymer Synthesis and Characterization (Lab)

INTERNATIONAL /NATIONAL CONFERENCES

- Participated in the **6th Invention to Innovation Summit** on 8-9 March, 2017 at University of the Punjab, Lahore.
- Participated in **"World Quality Day"** University of the Punjab, Lahore (8th

February 2017)

- 4th In-Service Faculty Training program (21-25 November, 2016) on the Modules of **Patent System of Pakistan and Patent Filing and Communication Skills,** University of the Punjab, Lahore.
- Participated in **25th National and 13th International Chemistry Conference** 2014 held at Institute of Chemistry, University of the Punjab, Lahore.
- Participated in **5th Symposium on Engineering Science**, 2nd April 2014, ICET, University of the Punjab, Lahore.
- Participated in International **Workshop on sustainable Energy and Membrane System for Desalination and water reuse,** 10-11 December 2013, NUST, Islamabad.
- Oral presentation Influence of polyethylene glycol 600 on cellulose acetate membranes for reverse osmosis desalination process." **Malaysia (International Symposium on Advanced Polymeric Materials, Kuala Lumpur, Malaysia) May 2014**.
- Participation in a 3rd **International Symposium on Biomedical Materials: Recent Advances and Challenges. Interdisciplinary Research Center In Biomedical Materials**, CIIT Lahore King Edward Medical University & De'montmorency College Of Dentistry
- Participation in a **National Seminar on Engineering Materials & their performance**, University of the Punjab, Lahore
- Participation in a workshop of **Cleaner Production in Textile (CPI & PERT)**.
- Participation in Seminar of **Modern Skills in Management**.
- Participation in PIChE-IEP **1st International Chemical Engineering Congress**.
- Participated in Chromatography Techniques & Sample Preparation Seminar by Agilent Technologies.

SYMPOSIUMS/CONFERENCES/SEMINARS/WORKSHOPS

1. Poster Presentation in **7th Invention to Innovation Summit** on 7-8 March, 2018 at University of the Punjab, Lahore **and awarded Best Poster Award for Membrane Science and Technology.**
2. **Poster presentation** in **7th Invention to Innovation Summit** on 7-8 March, 2018 at University of the Punjab, Lahore and won **Award of Technology (Poster)**.
3. Poster Presentation **(06 Presentations)** in 4th International Conference on **Frontiers of Advanced Engineering Materials (FAEM-18), 19-20 Feb 2018 at PCSIR, Lahore.**

4. Participated in the **2 Days Workshop on training of "Patent Filing & Introduction to Intellectual Property System of Pakistan"** on 17-18 May, 2017 at Khorana Hall, Institute of Chemistry, University of the Punjab, Lahore
5. Humaira Idrees, Aneela Sabir, Muhammad Shafiq, Nafisa Gull, Shahzad Maqsood Khan, Sehrish Jabeen. Pb (II) Removal from Waste Water using Cellulose Acetate Membrane Modified by Vinyl-triethoxysilane-graphene oxide/Gum Arabic. **7th Invention to Innovation Summit 2018"** held in University of the Punjab, Lahore, Pakistan **Mar. 7-8th, 2018**
6. 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. Synthesis and Characterization of Polysaccharide based Hydrogels. "**4th International Conference on Frontier of Advanced Engineering Materials (FAEM)"** held in Pakistan Council of Scientific and Industrial Research Laboratories Complex, Lahore. **Feb. 19-20th, 2018**
7. 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. Preparation and Characterization of Polyurethane Grafted Calcium Alginate Membranes. "**4th International Conference on Frontier of Advanced Engineering Materials (FAEM)"** held in Pakistan Council of Scientific and Industrial Research Laboratories Complex, Lahore. **Feb. 19-20th, 2018**
8. 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. Hydrophilic Gels for Biomedical Applications. "**4th International Conference on Frontier of Advanced Engineering Materials (FAEM)"** held in Pakistan Council of Scientific and Industrial Research Laboratories Complex, Lahore. **Feb. 19-20th, 2018**
9. 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. Study of Biopolymer based pH Responsive Hydrogels for Controlled Release of Antibiotics. "**4th International Conference on Frontier of Advanced Engineering Materials (FAEM)"** held in Pakistan Council of Scientific and Industrial Research Laboratories Complex, Lahore. **Feb. 19-20th**

2018

10. 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. Study of Release Profile of Montelukast Sodium by Crosslinked Injectable Hydrogels. "**4th International Conference on Frontier of Advanced Engineering Materials (FAEM)"** held in Pakistan Council of Scientific and Industrial Research Laboratories Complex, Lahore, **Feb. 19-20th, 2018**
11. Saba Urooge Khan, Hina Saleem, Shahzad Maqsood Khan, Qamar Bashir, Khadija Rafiq, Sadia Sagar Iqbal, Aneela Sabir, Sehrish Jabeen, Nafisa Gull, Muhammad Taqi Zahid Butt. Development of cellulose acetate/polyethylene glycol membrane for Dialysis. **"International Conference on Solid State physics (ICSSP'17)" Won Third Prize in Poster Competition** held in Centre of Solid State Physics, University of the Punjab, Lahore, Pakistan. **Dec 10-14, 2017**
12. Adnan Ahmad, Aneela Sabir, Sadia Sagar, Muhammad Adrees, Fahd Jamsheed, Shahzad Maqsood Khan. Polyurethane and cellulose acetate mixed matrix membrane for chromium (VI) removal from wastewater. "**7th Invention to Innovation Summit 2018"** held in University of the Punjab, Lahore, Pakistan **Mar. 7-8th, 2018**
13. Radhika Vaid, Tushar bambharroliya, Saba Zia, Aneela Sabir, Atif Islam, Tahir Jamil, Shahzad Maqsood Khan, Martin W. King. Characterization of polyvinyl alcohol (PVA) and Cellulose acetate (CA) based films and their evaluation for wound dressing applications. "**7th Invention to Innovation Summit 2018"** held in University of the Punjab, Lahore, Pakistan **Mar. 7-8th, 2018**
14. Fahd Jamshed, Shahzad Maqsood Khan, Adnan Ahmad, Aneela Sabir, Sadia Sagar, Muhammad Shafiq, Atif Islam. Multi-scale hybrid glass fiber composite with nano and (3-mercaptopropyl) trimethoxy silane (MPTS) functionalized carbon black inclusions. "**7th Invention to Innovation Summit 2018"** held in University of the Punjab, Lahore, Pakistan **Mar. 7-8th, 2018**
15. Hira Zaheer, Atif Islam, Adnan Ahmad, Aneela Sabir, Fahd Jamsheed, Shahzad Maqsood Khan. Novel crosslinked ultrafiltration membranes for chromium ion removal. **7th Invention to Innovation Summit 2018"** held in University of the Punjab, Lahore, Pakistan **Mar. 7-8th, 2018**.
16. Huma Andleeb, Aneela Sabir, Muhammad Shafiq, Muhammad Taqi Zahid Butt, Saba Zia, Saba Urooge Khan, Sadaf Hafeez. Fabrication of cellulose acetate membrane by incorporation of aluminosilicate (Halloysite clay) and surface engineered multi walled carbon nanotube. "**7th Invention to Innovation**

Summit 2018" held in University of the Punjab, Lahore, Pakistan **Mar. 7-8th, 2018**.

17. Humaira Idrees, Aneela Sabir, Muhammad Shafiq, Nafisa gull, Shahzad Maqsood Khan, Sehrish Jabeen. Pb (II) removal from wastewater using cellulose acetate membrane modified with vinyl triethoxy silane-graphene oxide/gum arabic. "**7th Invention to Innovation Summit 2018"** held in University of the Punjab, Lahore, Pakistan **Mar. 7-8th, 2018**.
18. Maria Wasim, Aneela Sabir, Sadia Sagar, Muhammad Shafiq, Shahzad Maqsood Khan. The tunable porosity of PVDF/MWCNTs membranes with chitosan for enhanced reactive orange 16 dye removal. "**7th Invention to Innovation Summit 2018"** held in University of the Punjab, Lahore, Pakistan **Mar. 7-8th, 2018**.
19. Saba Zia, Shahzad Maqsood Khan, Atif Islam, Aneela Sabir, Radhika Vaid, Tushar bambharroliya, Martin W. King, Muhammad Taqi Zahid Butt. Super Absorbing hydrogels. "**7th Invention to Innovation Summit 2018"** held in University of the Punjab, Lahore, Pakistan **Mar. 7-8th, 2018**.

SHORT COURSES

- **2nd In-Service Faculty Training Program by HEC** in University of the Punjab, Lahore.
- **Porous Carbon Materials & Polymer Fibers Composite**. PIEAS, Nilore Islamabad.
- **ISO 9001:2000 Quality Management System**. University of the Punjab, Lahore.
- **Communication Skill Development Course** from Institute of Chemical Engineering and Technology.

RESEARCH AREA

- Reverse Osmosis/pervaporation for desalination and other separation purposes
- Gas separation membranes
- Natural and synthetic polymers
- Nanofibers synthesis from natural polymers
- Polymeric synthesis and processing with special focus on crosslinking, grafting, etc.
- Chitosan composites for different industrial, biomedical and

desalinations/pervaporation/gas separation applications

- Electrospinning for nano/fibrous materials/membranes
- Graphene synthesis and composites, Controlled release of fertilizers, hydrogel beads synthesis
- Blends for packaging material using different extracts

MPhil Students Supervised/Ongoing Ph.D students:

- Supervised/Co-supervised **35 MPhil students** of the Department of Polymer Engineering and Technology (DPET), University of the Punjab (**Reverse Osmosis Membranes, Nanofiltration Membranes, Mixed Matrix and Hybrid Membrane systems, nanofibers, Electrospinning**).
- Dealing with **06 PhD students** of DPET, PU for their PhD research work doing project on polymeric membranes for reverse osmosis, pervaporation, gas separation and removal of heavy metal ions from Industrial wastewater.

PROFESSIONAL MEMBERSHIPS/AFFILIATIONS

1. **Pakistan Engineering Council** (PEC) CHEM / 5836
2. **Pakistan Engineering Congress** (PECC) /4817
3. **Pakistan Institute of Chemical Engineers** (PICHE) A10061
4. **Institute of Engineers Pakistan** (IEP)
5. **Chemical Society of Pakistan** (P0433)
6. **Member Youth Parliament of Pakistan (YPP)**
7. **Population Association of Pakistan (R12-003)**
8. **Member Purchase Committee of** Department of Polymer Engineering & Technology, University of the Punjab**.**
9. **Member Departmental Committee (DPC) for** Department of Polymer Engineering & Technology, University of the Punjab**.**
10. **Members GRE test conducting committee (Ph.D Programme) Department** of polymer Engineering & Technology, University of the Punjab**.**
11. **Course Coordinator Ph.D Polymer Engineering & Technology,** University of the Punjab, Lahore.

Computer Skills

- Mechanical Design — PV-ELITE, Auto Cad
- Software — MATLAB
- Engineering Calculator — Thermo solver, Steam Table Calculator etc.
- Languages — FORTRAN
- Operating Systems — Win 9X, Win 2000
- Tools — MS Office, Visio

REFERENCES

Will be submitted on demand.