

Dr. Sadia Sagar Iqbal

Assistant Professor

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Department of Polymer Engineering and Technology
CEET, University of the Punjab, Lahore, Pakistan

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Objectives

Seeking a carrier oriented position in an environment that will utilize my technical expertise, challenge my innovation and benefits from my technical, managerial, analytical, logical and verbal skills. I bring extensive education and experience in science, engineering, and industrial projects of large-scale value added programs. Adept in recognizing future needs of industry and to start novel technical and academic initiatives that can produce results. Empowering team leader capable of motivating employees to increase productivity and committed to creative contribution through collaborative teams. Additionally, I am able to acquire a reputable position in teaching, research and development.

Education

- ❖ **PhD (Materials and Surface Engineering)**, Dept. of Materials Engineering, SCME, National University of Science and Technology (NUST), Islamabad, Pakistan (**October 2014**)
 - ***Dissertation Title:** "Thermo-mechanical Investigation of Nanoreinforcements Doped Elastomeric Nanocomposite Thermal Insulations"
 - * Thesis Supervisor: **Meritorious Prof. Dr. Asghari Maqsood (SI)**
(Professor, Dept. of Physics, Air University, Pakistan)
Prof. Dr. Mohammad Shahid
(HoD, Dept. of Materials Engineering, NUST, Pakistan)
- ❖ **MS (Materials and Surface Engineering)**, Dept. of Materials Engineering, SCME, National University of Science and Technology (NUST), Islamabad, Pakistan (**July 2009**)
 - ***Dissertation Title:** "Synthesis and Mechanical Testing of Particle & Fiber Reinforced High Strength Composite Materials"
 - * Thesis Supervisor: **Prof. Dr. Dr. Muhammad Bilal Khan (TI)**
(Principal/Project Director, Centre for Energy Systems, NUST, Pakistan)
- ❖ **M.Sc (Master of Physics)**, Dept. of Physics, Lahore College for Women University, Lahore, Pakistan (**August 2005**)
- ❖ **B.Sc (Physics, Chemistry, Mathematics)**, University of the Punjab, Lahore, Pakistan (**March 2003**)
- ❖ **F.Sc (Phy, Chem, Math)**, Board of Intermediate and Secondary Education, Lahore (**2001**)

Major areas

- ❖ Materials Engineering
- ❖ Surface Engineering
- ❖ Nanotechnology
- ❖ Polymer Engineering
- ❖ Membrane Technology
- ❖ Conducting Polymer
- ❖ Ceramic Composites

Research Interest

- ❖ High strength composites
- ❖ Ablative composites
- ❖ Polymeric membranes (MF, NF, RO)
- ❖ Polymer nanocomposite
- ❖ Synthetic fibers reinforced rubber composite
- ❖ Synthesis and surface treatment of nano-materials
- ❖ Fire retardant polymer coatings & rubber composites
- ❖ Nanoferrites and Conducting Polymer

Publications

H- Index: 07

i10 –Index: 05

Impact Factor: 43.565

Total Number of citations: 99

International Publications

1. Anbreen Bashir, Sehrish Jabeen, Nafisa Gull, Atif Islam, Misbah Sultan, Abdul Ghaffar, Shahzad Maqsood Khan, **Sadia Sagar Iqbal**, Tahir Jamil, Co-concentration effect of silane with natural extract on biodegradable polymeric films for food packaging, International Journal of Biological Macromolecules, DOI:10.1016/j.ijbiomac.2017.08.025, Volume , Page#, 11 August 2017, Publisher: Elsevier, Impact Factor:**3.671**.
2. Iqra Munnawar, **Sadia Sagar Iqbal**, Muhammad N. Anwar, Mehwish Batool, Sheraz Tariq, Nosheen Faitma, Asim L. Khan, Asad U. Khan, Umair Nazar, Tahir Jamil, Nasir M. Ahmad, Synergistic effect of Chitosan Zinc Oxide Hybrid Nanoparticles on Antibiofouling and Water Disinfection of Mixed Matrix Polyethersulfone nanocomposite Membranes, Carbohydrate Polymers, DOI: 10.1016/j.carbpol.2017.08.036, Volume 175, Page#661-670, 1 November 2017, Publisher: Elsevier, Impact Factor:**4.811**.
3. 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, DOI:10.1016/j.desal.2017.07.007, Volume 420, Page#136-144, 12 July 2017, Publisher: Elsevier, Impact Factor:**5.527**.
4. Maria Wasim, **Sadia Sagar**, Aneela Sabir, Muhammad Shafiq, Tahir Jamil, Decoration of open pore network in Polyvinylidene fluoride/MWCNTs with chitosan for the removal of Reactive Orange 16 dye, Carbohydrate Polymers, DOI:10.1016/j.carbpol.2017.06.086, Volume 174, Page#474-483, 24 June 2017, Publisher: Elsevier, Impact Factor:**4.811**.
5. **Sadia Sagar Iqbal**, Nadeem Iqbal, Tahir Jamil, Arshad Bashir, Exfoliated Sodium Montmorillonite Reinforced Elastomeric Nanocomposites: Ablation, Thermal Transport/Decomposition/Transitions and Mechanical Aspects, International Journal of Materials, Mechanics and Manufacturing (IJMMM), DOI: , Volume , Issue , Page# , 2018, Publisher: IJMMM (www.ijmmm.org)
6. **Sadia Sagar Iqbal**, Fawad Inam, Nadeem Iqbal, Tahir Jamil, Arshad Bashir, Mohammad Shahid, Thermogravimetric, Differential Scanning Calorimetric and Experimental Thermal Transport Study of Functionalized Nanokaolinite Doped Elastomeric Nanocomposites, Journal of Thermal Analysis and Calorimetry, DOI: 10.1007/s10973-016-5486-7, Volume 125, Issue 2, Page# 871–880 August 2016, Publisher: SPRINGER, Impact Factor: **1.953**.
7. Amina Afzal, Muhammad Shahid Rafique, Nadeem Iqbal, Asif Ali Qaiser, Abdul Waheed Anwer, **Sadia Sagar Iqbal**, Synergistic effect of functionalized nanokaolin decorated MWCNTs on the performance of Cellulose Acetate (CA) membranes, Nanomaterials, DOI:10.3390/nano6040079 Volume 6, Issue 4, Page#79-92, 21 April 2016, Publisher: MDPI, Impact factor:**3.553**
8. **Sadia Sagar Iqbal**, Nadeem Iqbal, Experimental thermal transport evolution of silane activated nanoclay reinforced styrene butadiene elastomeric nanocomposites, Materials Science and Engineering, doi:10.1088/1757-899X/146/1/012039, Volume No. 146, Page # 1-12 (012039), Publisher: IOP Conference Series, August 2016, Impact factor:**0.156**.

9. **Sadia Sagar Iqbal**, Nadeem Iqbal, Tahir Jamil, Arshad Bashir, Zaffer M Khan, Tailoring in thermo mechanical properties of ethylene propylene diene monomer elastomer with silane functionalized multiwalled carbon nanotubes, *Journal of Applied Polymer Science*, DOI:10.1002/app.43221, Volume No.133, 20 March 2016, Publisher: WILEY ONLINELIBRARY, Impact Factor: **1.866**, Citation: **01**
10. Muhammad Asghar, Nadeem Iqbal, **Sadia Sagar Iqbal**, Mohsin Farooq, Tahir Jamil, Ablation and thermo-mechanical tailoring of EPDM Rubber using Carbon Fibers, *Journal of Polymer Engineering*, DOI: 10.1515/polyeng-2015-0337, Volumn No. 36, Issue 7, Page # 713-722, September 2016, Publisher: DE GRUYTER, Impact Factor: **0.631**, Citation : **01**
11. M Bassyouni, Nadeem Iqbal, **Sadia Sagar**, Mohammad Bilal Khan, Umair Javaid, Ablation and thermo-mechanical investigation of short carbon fiber impregnated elastomeric ablatives for ultrahigh temperature applications, *Polymer Degradation and Stability*, DOI: 0.1016/j.polymdegradstab.2014.08.032. Volume No.110, December 2014, Page # 195-202, Publisher: ELSEVIER, Impact Factor:**3.528**, Citations : **03**
12. Nadeem Iqbal, Nasir M. Ahmad, **Sadia Sagar Iqbal**, and Abdul Waheed Anwar, Effect of Quenching Temperatures on the Properties and Performance of Kevlar Supported IPP Membranes, *International Journal of Advanced Technology in Engineering and Science*, Volume No.02, Issue No. 11, November 2014, Page # 204-216, www.ijates.com, ISSN (online): 2348 – 7550
13. Nadeem Iqbal, Nasir M. Ahmad, **Sadia Sagar**, Abdul Waheed Anwar, and Samreen Mustafa, Kevlar supported novel polypropylene Membranes: effect of polymer concentrations on the properties and Performance, *International Journal of Advanced Technology in Engineering and Science*, Volume No.02, Issue No. 11, November 2014, Page # 191-203, www.ijates.com, ISSN (online): 2348 – 7550
14. Nadeem Iqbal, **Sadia Sagar Iqbal**, Abdul Waheed Anwar, Afsheen Sarwar, Faiza Jabeen, and Sarwat Jabeen, Acrylonitrile butadiene rubber/phenolic Resin blended ablative composites for High temperature applications, *International Journal of Advanced Technology in Engineering and Science*, Volume No.02, Issue No. 11, November 2014, Page # 225-234, www.ijates.com, ISSN (online): 2348 – 7550
15. Nadeem Iqbal, **Sadia Sagar Iqbal**, Abdul Waheed Anwar, Samreen Mustafa, Sajid Rashid, Activated nanoclay impregnated styrene Butadiene rubber nanocomposites: Thermal transport/decomposition, Thermal transitions and mechanical Parameters, *International Journal of Advanced Technology in Engineering and Science*, Volume No.02, Issue No. 11, November 2014, Page # 244-256, www.ijates.com, ISSN (online): 2348 – 7550
16. **Sadia Sagar**, Nadeem Iqbal, Asghari Maqsood, Muhammad Shahid, Nazar Abbas Shah, Tahir Jamil and Mohamed Ismail Bassyouni, Fabrication and thermal characteristics of functionalized carbon nanotubes impregnated polydimethylsiloxane nanocomposites, *Journal of Composite Materials*, DOI: 10.1177/0021998314528733, 27 March 2014, Publisher:SAGE, Impact Factor: **1.494**. Citations : **02**
17. **Sadia Sagar**, Nadeem Iqbal, Asghari Maqsood, and M. Bassyouni, MWCNTS Incorporated Natural Rubber Composites:Thermal Insulation, Phase Transition and Mechanical Properties, *IACSIT International Journal of Engineering and Technology*, DOI: 10.7763/IJET.2014.V6.689, Vol. 6, No. 3, 2014, Page # 168-173. Citations : **02**
18. **Sadia Sagar**, Nadeem Iqbal, Asghari Maqsood, Umair Javaid, Thermogravimetric, differential scanning calorimetric and experimental thermal transport study of MWCNT/NBR nanocomposites, *Journal of Thermal Analysis and Calorimetry*, DOI 10.1007/s10973-013-2949-y, Volume No.114, 2013, Page # 161-167. Publisher:SPRINGER, Impact Factor: **2.206**, 2013 Citations : **04**
19. **Sadia Sagar**, Nadeem Iqbal, Asghari Maqsood, Multiwalled carbon nanotubes impregnated rubber nanocomposites: thermal transport/decomposition and differential scanning calorimetric study, *Journal of Reinforced Plastics and Composites*, DOI: 10.1177/0731684413484184, Volume No.32, Issue No. 14, 2013, Page # 1052-1061, Publisher:SAGE, Impact Factor:**1.088** Citations : **02**
20. **Sadia Sagar**, Nadeem Iqbal, Asghari Maqsood, Dielectric, electric and thermal properties of carboxylic functionalized multiwalled carbon nanotubes impregnated polydimethylsiloxane nanocomposite, *Journal of Physics: Conference Series* 439 (**2013**) 012024, DOI:10.1088/1742-6596/439/1/012024, Publisher: IOP Conference Series, Impact Factor:**0.9**, Citations : **01**

21. Nadeem Iqbal, **Sadia Sagar**, Mohammad Bilal Khan, Mohamed Ismail Bassyouni, Zaffar M. Khan, Aluminum Silicate Fibers Impregnated Acrylonitrile Butadiene Rubber Composites: Ablation, Thermal Transport/Stability, and Mechanical Inspection, Journal of Applied Polymer Science. DOI: 10.1002/APP.39717, Volume No.130, Issue No. 06, 2013, Page # 4392-4400, Publisher: WILEY ONLINELIBRARY, Impact Factor: **1.866**, Citations : **07**
22. Nadeem Iqbal, Mohammad Bilal Khan, **Sadia Sagar**, Asghari Maqsood, Fabrication and Characterization of Multiwalled Carbon Nanotubes/Silicone Rubber Composites, Journal of Applied Polymer Science, DOI: 10.1002/APP.38410, Volume No.128, Issue No. 04, May 2013, Page # 2439-2446, Publisher: WILEY ONLINELIBRARY, Impact Factor: **1.866**, Citations : **10**
23. Nadeem Iqbal, **Sadia Sagar**, Mohammad Bilal Khan, Hafiz Muhammad Rafique, Elastomeric Ablative Nanocomposites Used in Hyperthermal Environments, Polymer Engineering and Science, DOI 10.1002/pen.23573, Volume No.52, Issue No. 02, Feb 2014, Page # 255-263, Publisher: WILEY ONLINELIBRARY, Impact Factor: **1.52**, Citations : **05**
24. Nadeem Iqbal, **Sadia Sagar**, Mohammad Bilal Khan and Hafiz Muhammad Rafique, Ablation, thermal stability/transport and mechanical investigations of modified nanokaolinite impregnated acrylonitrile butadiene rubber composites, Journal of Composite Materials, DOI: 10.1177/0021998313484948, Publisher:SAGE, Impact Factor:**1.494**, Citations : **04**
25. Nadeem Iqbal, **Sadia Sagar**, and Mohammad Bilal Khan, Comprehensive Ablation Characteristics of Ceramic Fibers Impregnated Rubber Composites, IACSIT International Journal of Engineering and Technology , DOI: 10.7763/IJET.2014.V6.688, Volume No.06, Issue No. 03, 2014, Page # 162-167, Citations : **02**
26. Nadeem Iqbal, Nasir M. Ahmad, **Sadia Sagar**, Faisal Iqbal, Mohammad H. K. Tareen, Taimoor A. Khan, Saad Mehfooz, M. Bilal Khan, Tahir Jameel, Development of Kevlar Supported Novel PP Membranes: Effect of Concentration of Nucleating Agent on the Properties and Performance, Journal of Applied Polymer Science, DOI: 10.1002/APP.39363, Volume No.130, Issue No. 04, November 2013, Page # 2821-2831, Publisher: WILEY ONLINELIBRARY, Impact Factor: **1.866**

Submitted research articles to International Journals

1. **Sadia Sagar Iqbal**, Nadeem Iqbal, Tahir Jamil , Arshad Bashir, Silane treated Nanokaolinite /EPDM elastomeric nanocomposites: Ablation, Thermal Transport/Degradation, and Mechanical Properties, Journal of Materials Science, Publisher: SPRINGER, Impact Factor: 2.371 (**Submitted to Journal**)
2. Samreen Mustafa, Nadeem Iqbal, Hafiz Muhammad Rafique, Amina Afzal , Abdul Waheed Anwer, Rehana Sharif, **Sadia Sagar Iqbal**, Impact of Mg ion doping on the structural, morphological, thermal, electrical and dielectric properties of bismuth cobalt nanoferrites, Journal of Alloys and Compounds, Publisher: ELSEVIER, Impact Factor:2.99 (**Revision submitted**)
3. Nadeem Iqbal, **Sadia Sagar Iqbal**, Sajid Rashid Ahmed, Glass Fibers Impregnated Polymer Composites: Ablation, Thermal Conductivity/Decomposition and Mechanical Investigation, Materials Science and Engineering, Publisher: IOP Conference Series. (**Under Review**)
4. Muhammad Asghar, Nadeem Iqbal, **Sadia Sagar Iqbal**, M. Bassaouni, Mohsin Farooq, Tahir Jamil, Blended Polymer Composites; Ablation, Thermal and Mechanical Aspects, Polymer Degradation and Stability, Publisher: ELSEVIER, Impact Factor:3.528 (**Under Review**)
5. Waseem Arshad, Shahid Bashir, Nadeem Iqbal, **Sadia Sagar Iqbal**, Aamir Mehmood, A novel approach to improve the mechanical strength of ductile iron, Journal of Alloys and Compounds, Publisher: ELSEVIER, Impact Factor:2.99 (**Submitted to Journal**)
6. **Sadia Sagar Iqbal**, Nadeem Iqbal, Arshad Bashir, Zaffar M Khan, Role of Functionalized Multiwalled Carbon Nanotubes to Enhance Ablation/ Thermo-Mechanical Properties of Acrylonitrile Butadiene Rubber, High Temperature Materials and Processes, Publisher:DE GRUYTER, Impact Factor: 0.377 (**Revision Under Review**)
7. **Sadia Sagar Iqbal**, Nadeem Iqbal, Abdul Waheed Anwer, Mohammad Bilal Khan, Zaffar M Khan, Mohsin Farooq, Mechanical, Thermal, and High Temperature Performance of Ultrahigh Molecular Weight Polyethylene Fibers Incorporated Elastomeric Composites, Journal of Thermoplastic Composite Materials, Publisher: SAGE, Impact Factor: 1.25 (**Under Review**)

8. **Sadia Sagar Iqbal**, Nadeem Iqbal, Abdul Waheed, Zaffar M Khan, Low and High Temperature Thermal and Ablation investigation of Cork Powder incorporated Elastomeric Composites, Polymer Composites, Publisher: WILEY ONLINELIBRARY, Impact Factor: 1.632 (**Under Review**)
9. **Sadia Sagar Iqbal**, Nadeem Iqbal, Zaffar M Khan, Abdul Waheed Anwer , Mohammad Asghar, Hyperthermal characteristics of Kevlar incorporated NBR Composites, Plastics, Rubber, and Composites, Publisher: MANEY ONLINE, Impact Factor: 0.583 (**Submitted to the Journal**)
10. Waseem Arshad, Shahid Bashir, Nadeem Iqbal, **Sadia Sagar Iqbal**, Aamir Mehmood, Nano-Materials Impact on Mechanical Properties of Ductile Iron, Journal of minerals, Metals, and materials Society , Publisher: SPINGER, Impact Factor: 1.757, (**Submitted to the Journal**)
11. **Sadia Sagar Iqbal**, Nadeem Iqbal, High Temperature Performance of Sodium Montmorillonite Incorporated Polymer Composite, Science and Engineering of Composite Materials, Publisher: DE GRUYTER, Impact Factor: 0.515 (**Submitted to the Journal**)

International Conference Papers

1. **Sadia Sagar Iqbal**, Nadeem Iqbal, Tahir Jamil, Zaffar Muhammad Khan and Amir Ijaz, Thermal Transport/Decomposition/Transition and Mechanical Performance of Activated Multiwalled Carbon Nanotubes incorporated SBR/NBR/SR Nanocomposites, International Conference of Solid State Physics 2015. **Centre of Excellence in Solid State Physics**, University of the Punjab, QAC, Lahore-54590, Pakistan (**Invited Speaker, Oral presentation**)
2. **Sadia Sagar Iqbal**, Nadeem Iqbal, Experimental Thermal Transport Evaluation of Silane Activated Nanoclay Reinforced Styrene Butadiene Elastomeric Nanocomposites, International Symposium on Advanced Materials (ISAM), Islamabad, Pakistan. (2015) (Oral Presentation)
3. Nadeem Iqbal, **Sadia Sagar Iqbal**, Glass Fiber Impregnated Polymer Composites: Ablation, Thermal Conductivity/Decomposition and Mechanical Investigation, International Symposium on Advanced Materials (ISAM), Islamabad, Pakistan. (2015) (Poster Presentation)
4. **Sadia Sagar**, Nadeem Iqbal, Asghari Maqsood, Thermo-mechanical and differential calorimetric study of the grapheme oxide impregnated EPDM rubber nanocomposites, NanoTech Advanced Materials & Applications, 15-18 June 2014, Washington DC, USA. (**Winning Best Poster Award**)
5. **Sadia Sagar**, Nadeem Iqbal, Asghari Maqsood, MWCNTS Incorporated Natural Rubber Composites: Thermal Insulation, Phase Transition and Mechanical Properties, ICASIT, 2nd International Conference on civil engineering and Materials (ICCEM), 6-7 July 2013, Hong kong, China. (**Winning Best Presentation Award**)
6. **Sadia Sagar**, Zaffer M Khan, Nadeem Iqbal, Asghari Maqsood, Thermomechanical study of Nanoclay-Nitrile butadiene rubber composites, IBCAST, Islamabad. (2013) (**Best Poster Presentation Award**).
7. **Sadia Sagar**, Nadeem Iqbal, Asghari Maqsood, Dielectric, Electric and Thermal properties of Carboxylic Functionalized Multiwalled Carbon Nanotubes Impregnated Polydimethylsiloxane (PDMS) composite. VASSCAA -6 (2012) (**Winning Second Prize in Poster Presentation**).
8. **Sadia Sagar**, Nadeem Iqbal, Shakaib Arslan Gursal, Asghari Maqsood, Functionalization & uniform dispersion of MWCNTs into PDMS, Nano Africa, South Africa (2012) (**First Prize in Oral Presentation**).
9. Nadeem Iqbal, **Sadia Sagar**, Mohammad Bilal Khan, Comprehensive Ablation Characteristics of Ceramic Fibers Impregnated Rubber Composites, ICCEM 2013, China. (Oral Presentation)
10. **Sadia Sagar**, Zaffer M Khan, Nadeem Iqbal, Asghari Maqsood, A comparative study on thermal & mechanical evaluation of diverse fibers impregnated polymer composites, IBCAST, Islamabad. (2013) (Oral Presentation).
11. Nadeem Iqbal, **Sadia Sagar**, M.B. Khan, Asghari Maqsood, Zaffar M. Khan, A Comprehensive Ablation Investigation of Kevlar/NBR Ablative Composites, IBCAST, Islamabad. (2013) (Oral Presentation).
12. Nadeem Iqbal, **Sadia Sagar**, Anum Imtiaz, M .B. Khan, M. I. Bassyouni, Kevlar Fabric Supported PVDF Microfiltration membranes, IMECE, ASME 15-21 November **2013** USA.
13. **Sadia Sagar**, Nadeem Iqbal, Asghari Maqsood, M I Bassyouni, Heat Transfer through Phenolic resin/EPDM rubber blended composites, IMECE, ASME 15-21 November **2013** USA.

14. **Sadia Sagar** 4th All Pakistan Engineering Conference on Materials (MATECH 12), 03-05 Feb 2012, GIKI, Topi, Pakistan (**Participation**)

Workshops

1. Synthesis and Characterization of amorphous and nanomaterials, Organized by Pakistan Institute of Nuclear Science and Technology (**PINSTECH**), 12-16 December 2011, Nilore, Islamabad, Pakistan

Books

1. **Sadia Sagar**, Nadeem Iqbal, M.B.Khan, High Strength Composites: Synthesis and Mechanical Testing of Particle and Fiber Reinforced High Strength Composite Materials Published in VDM. Germany

Courses Taught: Teaching M. Phil/PhD course work

1. Advanced Composite Materials (PET605)
2. Elastomeric Materials (PET610)
3. Viscoelasticity (PET814)

Honors/Awards

- ❖ **Performing role of Judge in Presentation session** in 6th Invention to Innovation Summit 2017.
- ❖ **Winning 9th Technology Award** in 6th Invention to Innovation Summit 2017.
- ❖ **Winning Best Presentation Award** in NanoTech2014, Washington DC, USA.
- ❖ **Winning Best Presentation Award** in ICCEM 2013, Hong Kong, China.
- ❖ **Best Poster Presentation Award** in IBCAST 2013, Islamabad, Pakistan.
- ❖ **Winning Second Prize in Poster Presentation** in VASSCAA-6 2012, Islamabad, Pakistan.
- ❖ **First Prize in Oral Presentation** in Nano Africa 2012, South Africa.
- ❖ **Recipient of Indigenous Scholarship** from the Higher Education Commission (HEC), Pakistan

Work Experience

❖ Academic Experience

19 February 2016 – Continue	Assistant Professor, Dept. of Polymer Engineering and Technology, CEET, University of the Punjab, Lahore, Pakistan
19 February 2015 - 18 Feb 2016	Assistant Professor, Dept. of Polymer Engineering and Technology, CEET, University of the Punjab, Lahore, Pakistan
01 December 2006 – 30 August 2007	Science Teacher, Sagar Model Girls & Boys Higher Secondary School, Mughal Pura Lahore, Pakistan
September 2005 – November 2006	Senior Teacher, The Cathedral Higher Secondary School, Cantt, Lahore, Pakistan

❖ Industrial Experience

Pakistan Carnes & Hoists (PVT) LTD (Verlind Lifting Equipment- France), Liaison Office, Lahore, Pakistan	<ul style="list-style-type: none"> ➤ Evaluate critical quality attributes ➤ determine the acceptability of materials ➤ conduct a physical inspection of products ➤ trainees to new employees in all aspects of this position
25 February 2013 – 15 February 2015	
Longman Mills Lahore	<ul style="list-style-type: none"> ➤ Synthetic fiber (Kevlar, Spectra, Carbon, Ceramic) impregnated rubber composites for automotive industries. ➤ Fire retardant EPDM rubber nanocomposites for electric cables insulation.

- Mild steel plate/Neoprene composites for shock absorber in bridge construction.
- Kevlar fabrics incorporated NBR composites for bullet proof jackets.
- Anwar Khawaja Industries ➤ Development of polymer nanocomposites used to fabricate field hockey sticks
- Escorts International ➤ Developed of functionalized Multiwalled Carbon Nanotubes (F-MWCNTs) impregnated Polydimethylsiloxane (PDMS) nanocomposite coatings on the weaved Kevlar fabric to enhance its thermal stability/resistance and fire retardant properties to enhance the protection level of safety apparels
- ATS Coating Industries ➤ Established the following polymeric fabric coatings using Doctor blade, Dip and Paper transfer coating techniques:
 1. Water proof coating
 2. Fire retardant coating
 3. Cut/Puncture resistant coating

Experimental Skills

- Built an **Ablation testing experimental set up** to investigate the Ablation Characteristics of various Elastomeric Composites. The apparatus included O-A torch setup, flow meter, pressure regulated thermocouples, temperature controller and data logger along with laptop.
- Built a **Thermal Insulation Testing Experimental Set Up** to analyze the thermal conductivity/impedance at low/high temperatures. The apparatus included a Heater, heat sink, temperature controller and data logger along with laptop.
- Conducted **Thermogravimetric/Differential Thermal analysis (TGA)** to determine thermal stability and heat quenching capability of different polymeric systems.
- Performed experiments on a **Scanning Electron Microscopy/Energy Dispersive Spectroscopy (SEM/EDS)** to examine surface morphology and compositional.
- Carried out variant experiments on **Universal Testing Mechine (UTM)** to execute the Ultimate tensile strenght (UTS), Compression testing, and Three point Bend test of MMCs and PMCs
- Fabrication of elastomeric polymer composites using dispersion kneader, two roller mixing mill and hot isostatic press.
- Synthesis and characterization of clay nanoparticles.
- Synthesis and characterization of polymer membranes (MF, NF, RO) using TIPS and TAEP techniques.

Insutrunments Expertise

- Scanning Electron Microscopy/Energy Dispersive Spectroscopy (SEM/EDS, JSM 6490A, Jeol Japan)
- Thermal Diffusivity Apparatus (Laser flash apparatus)
- BET analyser (Surafce Area and Porocity, Micrometrctics, Gemini VII)
- Melt Flow Index (MFI, Noselab ats)
- Laser Scattering Particle Size Distribution Analyser (Horiba, LA-920)
- Thermogravimetric/Differential Thermal Analyses (Perkin Elmer, TG/DTA Diamond)
- Fourier Transformation InfaRed Spectoscopy (Perkin Elmer, FTIR)
- X-Ray Difrraction (XRD, JSX 3201 M, Jeol Japan)
- Atomic force microscopy (AFM, Jeol Japan)
- Universal Testing Mechine (UTM, Shimadzu AGX Plus 20KN)
- Universal Testing Mechine (UTM, Tinius Tolsen, Willow grore, PA, 300KN)
- Imapct Testing Mechine (Brooks, Impact tester)
- Gel permeation chormatograpy (GPC, Viscotec GPCmax, VE 2001 GPC Solvent/Sample Module)
- Hall effect Measurement (HMS-5000)
- Microwave impedance analyzer (E491A-3GHz)
- Furneses (Muffle furneses, Tube furnese)
- Ball mill (WiseMix Ball Mill)
- Centrifuge (Centurion Scientific C2-Series)

Computer Skills

- Sigma Plot
- Origin 8
- Data Fit
- Endnote
- Latex
- Coral Draw
- SE309
- Curve expert
- Inpage

Projects

1. **“Study of structural, electrical, dielectric, magnetic, and thermal properties: Nanoferrites reinforced conducting polymer nanocomposites”**, This project is funded by Research Grant University of Punjab, Project Worth: Rs:1,50,000, Duration: 12 Months **(Principal Investigator)**
2. **“Polymer nanocomposites; Visco-elastic, thermal and mechanical properties”**. This project is funded by Start Up Research Grant Program (SRGP), HEC, Pakistan. Project Worth: Rs: 0.5 Million, Duration: 9 Months. **(Principal Investigator)**
3. **“Fabrication, Ablation, Thermal and Mechanical Investigation of Ablative.Composites for Ultrahigh Temperature Applications”**. This project was funded by the Deanship of Scientific Research (DSR), King Abdulaziz University, Jeddah, under grant No (412/829/1433). The authors, therefore, acknowledge with thanks DSR technical and financial support. **(Co-Investigator)**

Country Visited

- ❖ **China:** *Cultural Exchange Program*, Youth delegation 2009-2010, 18-28 Apr 2009
- ❖ **Hong Kong:** *Oral Presentation in ICCEM 2013*, 4-9 July 2013
- ❖ **USA, Washington DC:** *Poster presentation*, Nanotech 2014, 15-19 June 2014

References

1. **Meritorious Prof. Dr. Asghari Maqsood (SI)**, Professor/ Dean of Faculty of Basic and Applied Sciences, Air University, Islamabad, Pakistan. Email: tpl.qau@usa.net , asghri.maqsood@mail.au.edu.pk, Contact Number: +92-333-5115261
2. **Prof. Dr. Fawad Inam**, Director, Department of Mechanical & Construction Engineering, Faculty of Engineering and Environment, Northumbria University, Wynne-Jones Building (room WJ508, 5th floor), Newcastle upon Tyne, NE1 8ST, United Kingdom. Email: fawad.inam@northumbria.ac.uk, Contact Number: +44 (0) 191 227 3741
3. **Prof. Dr. Mohammad Bilal Khan (TI)**, Principal/Dean USPCAS-E NUST, President Medal for Technology, U.S Pakistan Center for Advanced Studies in Energy (USPCAS-E), National University of Sciences and Technology (NUST), Islamabad, Pakistan. Email: principal.ces@nust.edu.pk , Contact Number: +92-307-5558720, Fax Number: +92-51-90855272
4. **Prof. Dr. Mohammad Mujahid**, Principal, School of Chemical and Materials Engineering (SCME), National University of Sciences and Technology (NUST), Islamabad, Pakistan. Email: mujahids@gmail.com , Contact Number: +92-300-5008530
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