

Saeed GUL. Ph.D

Department of Chemical Engineering
University of Engineering & Technology Peshawar
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Year of Birth: 1973
Nationality: Pakistani
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Education	
Ph.D	2012, Chemical Engineering Specialization: Membrane Engineering & Technology Institute: Institute of Chemical Engineering, Vienna University of Technology, Austria Thesis: Application of membrane processes for the concentration of clarified sugar juice
M.Sc	2004, Chemical Engineering Specialization: Computer Aided Design Institute: Department of Chemical Engineering, University of Engineering & Technology, Lahore, Pakistan Thesis: Optimization of Reverse Osmosis Membrane for water/wastewater treatment
B.Sc	2000 (1st div), Chemical Engineering Institute: Department of Chemical Engineering, University of Engineering & Technology Peshawar, Pakistan
DAE	1993 (1st div & 1st Position), Diploma of Associate Engineer in Chemical Technology Institute: Department of Chemical Technology, Government College of Technology Peshawar, Pakistan
Matriculation (SSC)	1989 (1st div), Secondary School Certificate (Science Group) Institute: Govt. High School No. 2 Peshawar City
Work Experience	
Professor Department of Chemical Engineering	February 08, 2018 till to date University of Engineering & Technology Peshawar, Pakistan
Director CDC, Career Development Centre	December 27, 2019 till to date University of Engineering & Technology Peshawar, Pakistan
Advisor, Postgraduate Studies, Chemical Engineering	September 04, 2018- September 03, 2019 University of Engineering & Technology Peshawar, Pakistan
Director ORIC, office of Research, Innovation & Commercialisation	April 14, 2016-August 01, 2017 University of Engineering & Technology Peshawar, Pakistan
Chairman / HoD Department of Chemical Engineering	August 03, 2012 –August 02, 2015 University of Engineering & Technology Peshawar, Pakistan
Associate Professor Department of Chemical Engineering	January 21, 2013 – February 07, 2018 University of Engineering & Technology Peshawar, Pakistan
Assistant Professor Department of Chemical Engineering	December 15, 2004 – January 20, 2013 University of Engineering & Technology Peshawar, Pakistan
Lecturer Department of Chemical Engineering	August 09, 2001 – December 14, 2004 University of Engineering & Technology Peshawar, Pakistan
Process Engineer Production Department	July 01, 2000 – August 08, 2001 Cherat Cement Company Pvt. Ltd., Nowshera, Pakistan
Junior Officer Chemical Production Department	January 15, 1994 – November 07, 1995 Askari Cement Wah (Formally Wah Cement), Pakistan
Research Interest	
<ul style="list-style-type: none"> ➤ Design of Membrane Processes ➤ Membrane Synthesis through Geopolymerization, ➤ Development and application of Geopolymeric materials 	

Distinctions & Awards	
<ul style="list-style-type: none"> ➤ Received Ernst Mach-Nachbetreuungsstipendium (EZA), Follow-up Grant for post-doctoral research: financed by Austrian Federal Ministry of Science, Research and Economy (July-August, 2017). ➤ Prototype award “PRIZE 2010”: on June 07, 2011 by the Austrian Government in recognition of the successful project submission (As Co PI) for the design and construction of a prototype membrane-based thin sugar concentration pilot facility based on the award of Patent (Saeed GUL as Co-Inventor) to the TU Wien. ➤ 1st prize in the Competition for the Best Poster Award:(Zdenek Burianec Memorial Award) at 14th International Conference on Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction (PRES'11) May 08-11, 2011, Florence, Italy. ➤ Award of Ph.D Scholarship: by Higher Education Commission of Pakistan in 2007 under the scheme “Overseas Scholarships for MS/MPhil leading to PhD in Selected Fields (Phase – II)” ➤ Award of Marie Curie Grant 2010: to attend the NanoMemCourse EA3: “Nano-structured materials and Membranes in the food industry”, September 15 - 24, 2010, Cetraro and Rende (CS), Italy. ➤ Secured First Position in DAE Chemical Technology (1993) 	
Trainings	
<ul style="list-style-type: none"> ➤ NanoMemCourse EA3: “Nano-structured materials and Membranes in the food industry”, September 15 - 24, 2010, Cetraro and Rende (CS), Italy. ➤ Three months Production and Operation training at Wah Cement Pakistan by FLS & Co. Denmark. ➤ Safety and fire fighting (At Cherat Cement Pakistan). ➤ ISO 9000, Introduction and Standards, Quality Policy and Work Instructions (At Cherat Cement Pakistan). ➤ Six month (July 27, 1993 to January 29, 1994) operational training in the production department of Visionite Pvt. Ltd, Gadoon Amazai, Pakistan for making urea formaldehyde resin. 	
Funded Projects	
<ol style="list-style-type: none"> 1) 2021 (PI), NRPU, No. 20-16456/NRPU/R&D/HEC/2021 2021, 9. 45 Million, Synthesis and characterization of low cost hydrophobic geopolymeric membrane for water desalination. (In Progress) 2) 2018 (PI), Pak-China Joint Research Project, Project No. PSF/NSFC-II/Eng/KP-UET(09), 3.74 Million PKR, Design and structure modulation of nano-composite membrane with bi-interception layers for juice concentration. (Completed) 3) 2010 (CoPI), Austrian Government (Prototype award “PRIZE 2010”), Project No. Z100354, 147,000 Euros, Design and construction of a prototype membrane-based thin sugar concentration pilot facility. (Completed) 	
PUBLICATIONS & PROCEEDING	
<p>Patent:</p> <ul style="list-style-type: none"> ➤ Harasek M. and Gul S., (2011), <i>Method and device for concentration of material solutions</i>, Austrian Patent Number 508549 (Granted: 17.03.2011), European Patent National Number 2010768853 (Published: 18.07.2012), US Patent National Number 13394859 (Published: 20.09.2012) <p>Journal Papers:</p> <ol style="list-style-type: none"> 1) K Khan, M Irfan, NU Amin, H Jiang, S Gul, <i>Synthesis and characterization of porous reduced graphene oxide based geopolymeric membrane with titanium dioxide coating for forward osmosis application</i>, Chemosphere, 137480, 2022 2) AA Farman, M Irfan, NU Amin, Z Jahan, X Song, H Jiang, S Gul, <i>Evaluation of sodium acetate and glucose as minor additives with calcium chloride as optimum mixed draw solutes for fruit juice concentration via forward osmosis</i>, Korean Journal of Chemical Engineering 39 (11), 3102-3108, 2022 3) N Amin, S Gul, S Sultana, S Alam, A Naveed, <i>Impact of Synthetic Parameters on the Compressive Strength of Bagasse Ash-Clay Geopolymer</i>, Crystals 11 (8), 937, 2021 4) M Ali, Z Jahan, F Sher, MBK Niazi, SJ Kakar, S Gul, <i>Nano architected cues as sustainable membranes for ultrafiltration in blood hemodialysis</i>, Materials Science and Engineering: C, 112260, 2021 5) Z Jahan, MBK Niazi, S Gul, F Sher, SJ Kakar, MB Hägg, ØW Gregersen, <i>Mimic Enzyme Based Cellulose Nanocrystals/PVA Nanocomposite Membranes for Enrichment of Biogas as a Natural Gas Substitute</i>, Journal of Polymers and the Environment, 1-11, 2021 6) Song X., Zhang Y., Ghafar H.M.A., Aal El.S.A.A., Huang M., Gul S., Jiang H., <i>Polyamide membrane with an ultrathin GO interlayer on macroporous substrate for minimizing internal concentration polarization in forward osmosis</i>, Chemical Engineering Journal, 412, 128607, 2021 	

- 7) Amin N.U., Hameed. Y., Alam S., Sultana S., **Gul S.**, Naveed A., *Synthesis of zeolite-A from bagasse ash and removal of heavy metals from industrial effluents*, Advances in Cement Research, 1-5, 2020
- 8) Song X., Zhang Y., Wang Y., Huang M., **Gul S.**, Jianga H., *Nanocomposite membranes embedded with dopamine-melanin nanospheres for enhanced interfacial compatibility and nanofiltration performance*, Separation and Purification Technology, 242, 116816, 2020
- 9) Naveed A., Gul S., Amin NU., Khraisheh M., Gul R., *Graphene Oxide (GO) Based Coated Geopolymeric Membrane for Concentrating Orange Juice through Forward Osmosis*, International Journal of Fruit Science, 20, 1-14, 2020
- 10) Khattak A., Amin N.U., Saeed F., Khraisheh M., Bakri M. A., **Gul S.**, *Synthesis and characterization of fly ash based geopolymeric membrane for produced water treatment*, Desalination and Water Treatment, 161, 126-131, 2019
- 11) Khattak A., Saeed F., Khraisheh M., Bakri M. A., Amin N.U., **Gul S.**, *Porosity control of self-supported geopolymeric membrane through hydrogen peroxide and starch additives*, Desalination and Water Treatment, 152, 11-15, 2019
- 12) Song X., Wang Y., Wang C., Huang M., **Gul S.**, and Jiang H., *Solar-Intensified Ultrafiltration System Based on Porous Photothermal Membrane for Efficient Water Treatment*, ACS Sustainable Chem. Eng. 7, 5, 4889-4896, 2019
- 13) Khattak A., **Gul S.**, Amin N.U., Younas M., *Synthesis and characterization of inorganic microfiltration membrane through Geopolymerization*, Desalination and Water Treatment, 203-209, 2017
- 14) Amin N.U., Faisal M., Muhammad K., **Gul S.**, *Synthesis and characterization of geopolymer from bagasse bottom ash, waste of sugar industries and naturally available china clay*, Journal of Cleaner Production, 129, 491-495, 2016
- 15) Amin N.U., Alam S., **Gul S.**, *Effect of thermally activated clay on corrosion and chloride resistivity of cement mortar*, Journal of Cleaner Production, 111, 155-160, 2016
- 16) Ahmad I., Younas M., **Gul S.**, *A simple empirical model for processing (washing) of bauxite ore*, Journal of the Pakistan Institute of Chemical Engineers, 44 (1), 14-16, 2016
- 17) Amin N.U., Alam S., **Gul S.**, *Assessment of pozzolanic activity of thermally activated clay and its impact on strength development in cement mortar*, RSC Adv, 8 (5), 6079-6084, 2015
- 18) Younas M., Ahmad M.I., Khan H., **Gul S.**, *Reverse osmosis as one-step wastewater treatment: a case study on groundwater pollution*, Polish Journal of Chemical Technology, 17(4). 42-48. 2015
- 19) **Gul S.**, Saeed F., Amin N.U., *Conversion of low cost mineral material to Pozzolana and its impact on cement parameters and cost of production*, Chemical Engineering Transactions, 39, 1225-1230, 2014
- 20) **Gul S.**, Hai A., Younas M., Islam K., Shah A.A., Rafiq M., Zeb A., *Optimizing the performance of Hybrid: Induced-Forced Draft Cooling Tower*, Journal of the Pakistan Institute of Chemical Engineers, 43 (2), 2015,
- 21) **Gul S.**, Irfan M., Bilal H., Rehman A-U., Khan U., Khan S-U., *Recycling of used engine oil using solvent extraction and distillation*, J. Engg. And Appl. Sci. 33 (2) 2014
- 22) Ahmad M.I., Sajjad M., , Khan I.A., Durrani A, Durrani A.A., **Gul S.**, Ullah A., *Sustainable production of blended cement in pakistan through addition of natural pozzolana*, Chemical Industry and Chemical Engineering Quarterly, 22 (1), 41-45, 2016
- 23) Shah M. Zubair, Younas M., Niazi M. Bilal K., **Gul S.**, Ahmad M.I, Humayun M., *Gravimetric Corrosion Rates Analysis Of Carbon Steel, Stainless Steel And Aluminum In Process Industry*, Journal of the Pakistan Institute of Chemical Engineers, 43 (2), 41-44, 2015
- 24) **Gul S.**, Harasek M., *Energy saving in sugar manufacturing through the integration of environmental friendly new membrane process for thin juice pre-concentration*, Applied Thermal Engineering, 43, 128-133, 2012
- 25) Amin N.U., Alam S., **Gul S.**, *Synthesis of Alkali Activated Cement from Local Clay and Its Characterization*, Chemical Engineering Transactions, 39, 1555-15560, 2014
- 26) Amin N.U., Ayaz M., Aslam S., **Gul S.**, *Heavy metal contamination through industrial effluent to irrigation water in Gadoon Amazai (Swabi) and Hayatabad (Peshawar) Pakistan*, Journal of Scientific Research, 6 (1) 111-124, 2014
- 27) Shoaib M., Ahmad M. I., Younas M., Khan A., **Gul S.**, *Investigation of Urea-Formaldehyde Resin Synthesis Using Design of Experiments*, Journal of the Pakistan Institute of Chemical Engineers, 42 (2), 115-120, 2014
- 28) Tahir M.S., Saleem M., **Gul S.**, Khan W.A., Siebenhofer M., *Actinometric Determination of UV-radiation in Wet-tube Electrostatic Precipitator (WESP)*, Journal of the Pakistan Institute of Chemical Engineers, 42 (2), 133-143, 2014
- 29) Amin N-U., Aslam S., **Gul S.**, Muhammad K., *Chemical activation of clay in cement mortar, using calcium chloride*, Advances in Cement Research, 25 (3), 164-170, 2013
- 30) Amin N-U., Aslam S., **Gul S.**, Muhammad K., *Hydration mechanism of tricalcium silicate (alite) ,* Advances in Cement Research, 25 (2), 60-68, 2012
- 31) Amin N-U., Aslam S., **Gul S.**, Muhammad K., *Activation of clay in cement mortar applying mechanical, chemical and thermal techniques*, Advances in Cement Research, 24 (6), 319-324, 2012.
- 32) Irfan M., **Gul S.**, Younas M., *Fermentation of sugarcane molasses by Saccharomyces cerevesia: Effect of operating parameters on ethanol production*, J. Engg. And Appl. Sci. 33 (1) 2014.
- 33) Irfan M., **Gul S.**, Younas M., *Statistical and experimental study of sea water purification using solar still*, J.

Engg. And Appl. Sci. 32 (2),1-8, 2013.

- 34) Gul S., Harasek M., *Energy saving in sugar manufacturing with the implementation of a new membrane process*, Chemical Engineering Transactions, 25, 1085-1090, 2011
- 35) Gul S., Naveed S., Younas M., *Effect of operating parameters on the performance of reverse osmosis membrane*, J. Engg. And Appl. Sci., 25 (2) 59-64, 2006
- 36) Younas M., Naveed S., Gul S., *Waste minimization of a process fluid through effective control under various controllers tuning*, J. Engg. And Appl. Sci., 24 (2), 78-82, 2005
- 37) Younas M., Naveed S., Gul S., 2006, *Comparative study of process performance for regulatory control under Ziegler-Nichols and Cohen-Coon tuning of controllers*, Journal of the Pakistan Institute Chemical Engineers, 34, 37-40, 2006
- 38) Naveed S., Younas M., Gul S., 2006, *Effect of Ziegler-Nichols and Cohen-Coon Tuning for Bumpless shift in a process*, UET Lahore Research Journal, 16 (1-2), 56-60, 2005-2006.

Conferences and Workshops:

- 1) Gul S., *Geopolymeric membrane Synthesis: Challenges and Opportunities*, 4th Conference on Emerging Materials and Processes (CEMP-2019), October, 30-31, 2019, NUST, Islamabad, Pakistan (**Invited Speaker**).
- 2) Gul S., Naveed A., Saeed F., *Synthesis of Self-Supported Geopolymeric membranes from waste ashes*, Euromembrane-2018, July 9-13, 2018, Valencia, Spain
- 3) Gul S., *Improving the performance of Geopolymeric membranes: GO coating and addition of foaming agents for improving permeate flux and porosity control*, 5th International Conference on Energy Environment and Sustainable Development (EESD2018), November 14-16, 2018, MUET, Jamshoro, Pakistan, (**Keynote Speaker**)
- 4) Gul S., *Membrane Technology: An approach towards Process Intensification (PI)*, 2nd Conference on Emerging Materials and Processes, 2nd International Conference On Chemical Engineering, December 21st – 22nd 2017, PU-UET, Lahore, Pakistan (**Invited Speaker**).
- 5) Gul S., *Geo-polymerization: A sustainable approach for converting waste ashes to useful products*, 3rd Conference on Emerging Materials and Processes (CEMP-2017), November 13th – 14th 2017, NUST, Islamabad, Pakistan (**Invited Speaker**).
- 6) Gul S., *Membrane Technology: The Ultimate alternative for Conventional Unit Operations for Separations*, 2nd Conference on Emerging Materials and Processes (CEMP-2015), December 22nd – 23rd 2015, NUST, Islamabad, Pakistan (**Invited Speaker**).
- 7) Ahmed A. El Gohary., Harasek M., Gul S., *Solutions Concentration through Multistage Membrane Process with permeate recycle: Modeling & Simulation*; Euromembrane-2015, September 06 – 09, 2015, Aachen, Germany.
- 8) Gul S., *Solution Concentrations through Membrane Technology: A Green Approach*, Seminar on Emerging Challenges in Membrane Technology, March 19, 2015, COMSATS, Lahore, Pakistan (**Invited Speaker**).
- 9) Gul S., *Modelling and Simulation of Multistage RO Processes*, Symposium on Advances in Process Engineering, October 20 – 21, 2014, Islamabad, Pakistan (**Keynote Speaker**).
- 10) Gul S., Saeed F., Amin N., *Investigation of a locally available mineral material as a pozzolana in cement and its impact on energy savings and emissions of green house gases*, 17th International conference on process integration, modelling and optimization for energy saving and pollution reduction (PRES'14), August 23 - 27, 2014, Prague, Czech Republic.
- 11) Gul S., Ahmed A. El Gohary., Harasek M., *Beet sugar pulp-press water treatment: A comparison of nanofiltration and reverse osmosis processes*, Euromembrane 2012, September 23-27, 2012, London, UK.
- 12) Ahmed A. El Gohary., Gul S., Harasek M., *Beet sugar pulp-press water treatment through membrane technology*, The 29th Annual Water Treatment Technology Conference, May 15 – 17, 2012, Alexandria, Egypt.
- 13) Harasek M., Gul S., *Multistage Energy Efficient Concentration Of Clarified Thin Sugar Juice Through Multistage-NF/RO Membrane Technology*, 11th World Filtration Congress (WFC 11), April 16 – 20, 2012, Graz, Austria.
- 14) Gul S., Harasek M., *Multistage-NF/RO process for energy efficient sugar juice concentration- Experiments, Modelling and Scale-up*, International Congress on Membranes and Membrane Processes (ICOM-2011), July 23-29, 2011, Amsterdam, The Netherlands.
- 15) Gul S., Harasek M., *Concentration of clarified thin sugar juice through multistage- NF/RO membrane technology*, 21st Annual Meeting of the North American Membrane Society (NAMS), June 4-8, 2011, Las Vegas, NV USA.
- 16) Gul S., Harasek M., *Energy saving in sugar manufacturing with the implementation of a new membrane process*, 14th International conference on process integration, modelling and optimization for energy saving and pollution reduction (PRES'11), May 08-11, 2011, Florence, Italy.
- 17) Gul S., Harasek M., *Benefits of high temperature membrane filtration for thin sugar juice preconcentration*, NYM-2010, June 07-09, 2010, Lappeenranta, Finland.
- 18) Gul S., Harasek M., *Thin sugar juice preconcentration at elevated temperatures*, NanoMemCourse EA3: "Nano-structured materials and Membranes in the food industry", September 15-24, 2010, Cetraro and Rende (CS), Italy.
- 19) Gul S., Harasek M., *Combined Membrane-Evaporation Process (C-MEP) for thin sugar juice concentration*,

IMeTI workshop on "Membrane Applications in Agrofood", October 18 - 20, 2009, Cetraro (CS), Italy.

- 20) Gul S., Friedl A. and Harasek M., *Reverse Osmosis as a Pre-Concentration Technology in the Sugar Industry*, Euromembrane 2009, September 06-10, 2009, Montpellier, France.
- 21) Gul S., Harasek M., *Minimizing energy consumption of thin juice evaporation through preconcentration by membrane technology*, 1st ESST conference & Exhibition, 18.-20. May 2009, Rotterdam, The Netherlands.
- 22) Gul S., Friedl A., Harasek M., *An Investigation into the design and use of membrane technology for thin juice preconcentration in the sugar industry*, NYM-2009, September 03-04, 2009, Meze, France.

Membership of Learned Societies & other Professional Activities

- Elected Governing Body Member of the Pakistan Engineering Council(2021-2024)
- Member Engineering Accreditation Board (EAB), Pakistan Engineering council(2021-2024)
- Member Selection Board, Pakistan Engineering council(2021-2024)
- Member Selection Board, University of Chakwal
- Member Selection Board and Academic Council, Pak-Austria Fachhochschule Institute of Applied Sciences and Technology, Haripur, Khyber Pakhtunkhwa
- Member/Secretary, National Curriculum Revision Committee (NCRC) in Chemical Engineering, HEC, Pakistan(2015-2018)
- Convener National Curriculum Revision Committee (NCRC) in Chemical Engineering Technology, National Technology Council, Pakistan
- Convener National Curriculum Revision Committee (NCRC) in Petroleum and Gas Engineering Technology, National Technology Council, Pakistan
- Member curriculum Advisory Board (CAB), School of Chemical and Materials Engineering (SCME), National University of Science & Technology (NUST) Islamabad, Pakistan
- Member of the Research & Policy Committee, U.S. Pakistan Centre for Advanced Studies in Energy (USPCAS-E), UET Peshawar
- Member Board of Studies, Department of Chemical Engineering, The University of Faisalabad
- Member Selection Board, Khwaja Fareed University of Engineering and Information Technology (KFUEIT)
- Member "Pakistan Engineering Council"
- Member Advisory Board, Pakistan Membrane Society
- Member "Pakistan Institute of Chemical Engineers" PIChE
- Member Board of Studies, Department of Chemical Engineering, Balochistan University of Information Technology, Engineering and Management Sciences (BUIEMS)
- Reviewer of local and international journals related to Chemical Engineering

Conferences/seminars/workshops Organized

- One Day Interactive workshop on Synthesis and Applications of Membrane Technology, March 17, 2022, UET Peshawar.
- Two days Project formulation workshop with collaboration of Pakistan science Foundation, July 12 -13, 2017, UET Peshawar.
- Invention to Innovation Summit, November 16-17, 2016, UET Peshawar
- One day National Seminar on Impact of Research & Innovation on Socio-Economic Development, July 28, 2016, UET Peshawar
- 2nd Conference on sustainability in Process Industry" SPI-2014, May 22, 2014, UET Peshawar