

Dr. Javed Alam

Associate Professor

King Abdullah Institute for Nanotechnology (KAIN)

King Saud University

Saudi Arabia

Mobile- +966-0537251214

Tel: +966-1-467-0664; Fax: +966-1-467-0662

Email: javaalam@ksu.edu.sa; jaavedalam@gmail.com

Homepage: <http://www.nano.ksu.edu.sa>



Professional Profile

Assistant Professor YEAR 2010 to 2017	King Abdullah Institute for Nanotechnology, King Saud University, Kingdom of Saudi Arabia, Tel: +966-1-467-0664; Fax: +966-1-467-0662
Associate Professor 2017 to continue.....	King Abdullah Institute for Nanotechnology, King Saud University, Kingdom of Saudi Arabia, Tel: +966-1-467-0664; Fax: +966-1-467-0662
Postdoc , 2010	Project title- Development of nano antifouling membranes/films, University Kebangsaan Malaysia (UKM) Malaysia, (2009) UKM-GUP-KPB-08-32-129: 02-01-02-SF0529 (MOSTI)
Research Associate (R.A) 2009	Project title- Development of anticorrosive nano material coatings (CSIR), Jamia Millia Islamia, New Delhi-025 India (2009) India –Project code: 9/466(0/09)2K9-EMR-1

Research Interests

Advanced Membrane Materials Development	Ultrafiltration (UF), Nanofiltration(NF), and reverse osmosis (RO), applications Vacuum Membrane Distillation (VMD)
Sustainable Resource based Polymer Synthesis	Polyurethane Corrosion Protection Coatings , Conducting polymers and their composites
Electroactive Shape Memory Polymeric Nanocomposites	Polylactic acid and its composites as shape memory materials

Educational Qualifications

PhD (Chemistry, Polymer Science) 2009	Development, Characterizations and Application Studies of Ferrite Containing Nanoconducting Polymers” Jamia Millia Islamia, (Central University), New Delhi, India (2009) Advisor: Prof. Sharif Ahmad
Master of Science (MSc in Polymer Science and Technology) 2004	Chemistry; Polymer Science and Technology, CCS University Meerut; UP India
Bachelor of Science (BSc) 2002	Physics, Chemistry and Mathematics CCS University Meerut; UP India

Research Projects

Principle Investigator (2011-2015)	Development of Biodegradable Polymeric Electroactive Shape Memory Nanocomposites Actuator for Potential Medical and Industrial Applications National Science, Technology and Innovation Plan (NSTIP) Project No; 11-NAN-1486-02
Co-Investigator (2012-2015)	Mixed Matrix Dual-Layer Nanocomposite Hollow-Fiber Membranes for Desalination National Science, Technology and Innovation Plan (NSTIP) Project No; 11-NAN-1486-02
Students Supervision	Currently is Co-supervising; PhD student; thesis entitled “ Graphene Oxide based Nanocomposite Membrane for Nanofiltration Application ” King Saud University, Riyadh, Saudi Arabia Currently is Co-supervising; Master Student; thesis entitled “ Preparation and characterization of poly (ortho-toluidine) mixed polysulfone nanocomposite membrane for water applications , King Saud University, Riyadh, Saudi Arabia

Published Research Papers

- 1- **κ -Carrageenan as a promising pore-former for the preparation of a highly porous polyphenylsulfone membrane**
Javed Alam, Mansour Alhoshan, Arun Kumar Shukla, Ali Aldalbahi, Fekri Abdulraqeb Ahmed Ali, Lawrence Arockiasamy Dass, M.R. Muthumareeswaran, [Materials Letters](#), Volume 204, 2017, Pages 108-111. **2017**
- 2- **Bacilli as Biological Nano-factories Intended for Synthesis of Silver Nanoparticles and Its Application in Human Welfare**
 Varish Ahmad Qazi, Mohammad Sajid Jamal, Arun K. Shukla, **Javed Alam**, Ahamad Imran, Usama Mohamed Abaza, [Journal of Cluster Science](#), 2017, Volume 28, Issue 4, Page 1775–1802 **2017**
- 3- **Development of a nanocomposite ultrafiltration membrane based on polyphenylsulfone blended with graphene oxide**, Arun Kumar Shukla, **Javed Alam**, Mansour Alhoshan, Lawrence Arockiasamy Dass, Muthumareeswaran MR, [Scientific Report -Nature](#) **2017**
- 4- **Separation of proteins and antifouling properties of polyphenylsulfone based mixed matrix hollow fiber membranes**, Lawrence Arockiasamy Dass, Mansour Alhoshan, **Javed Alam**, Muthumareeswaran MR, Alberto Figoli, Arun Kumar Shukla, [Separation and Purification Technology](#) 174:529–543 **2017**
- 5- **Tubular Poly(ϵ -caprolactone)/Chitosan Nanofibrous Scaffold Prepared by Electrospinning for Vascular Tissue Engineering Applications**, Mohammed Fayez Al Rez, Abdullah Binobaid, Abdulmajeed Alghosen, Eraj Humayun Mirza, **Javed Alam**, H. Fouad, Mohamed Hashem, Hussain Alsalman, Hassan Mohammed Almalak, Amer Mahmood, Ihab Moussa, and Fawzi F. Al-Jassir, [Journal of Biomaterials and Tissue Engineering](#), 7, 427–436 **2017**
- 6- **Atomic layer deposition of TiO₂ film on a polyethersulfone membrane: separation applications**, **Javed Alam**, Mansour Alhoshan, Lawrence Arockiasamy Dass, Arun Kumar Shukla, M. R. Muthumareeswaran, Mukhtar Hussain, Abdullah S. Aldwayyan, [Journal of Polymer Research](#), 23:183 **2016**
- 7- **Polysulfone–poly (Orthotoluidine) nanocomposite membrane with an improved separation performance**, Mansour Alhoshan, **Javed Alam**, Aslam Khan, Fahad Surur Al Shabouna, Senthivel Sasivarnam, Lawrence Arockiasamy Dass and Arun Kumar Shukla, [Polymer Composites](#), Published online **2016**
- 8- **Production of hydrogen by Enterobacter aerogenes in an immobilized cell reactor**, Ibdal Satar, Mostafa Ghasemi, Saad A. Aljlil, Wan Nor Roslam Wan Isahak, Abdalla M. Abdalla, **Javed Alam**, Wan Ramli Wan Daud, Mohd Ambar Yarmo, Omid Akbarzadeh, [International Journal of Hydrogen Energy](#) **2016**
- 9- **Green synthesis and antifungal activity of Al₂O₃ NPs against fluconazole-resistant Candida spp isolated from a tertiary care hospital**, Mohammad Jalal, Mohammad Azam Ansari, Arun Kumar Shukla, Syed G. Ali, Haris M. Khan, Ruchita Pal, **Javed Alam** and Swaranjit Singh Cameotra, [RSC Advances](#), 6, 107577-107590 **2016**
- 10- **Sulfonated poly ether ether ketone with different degree of sulphonation in microbial fuel cell: Application study and economical analysis**, Mostafa Ghasemi, Wan Ramli Wan Daud, **Javed Alam**, Yaghoob Jafari, Mehdi Sedighi, Saad A. Aljlil, Hamid Ilbeygi, [International Journal of Hydrogen Energy](#), 41, 4862–4871 **2016**
- 11- **Treatment of two different water resources in desalination and microbial fuel cell processes by poly sulfone/Sulfonated poly ether ether ketone hybrid membrane**, Mostafa Ghasemi, Wan Ramli Wan Daud, **Javed Alam**, Hamid Ilbeygi, Mehdi Sedighi, Ahmad Fauzi Ismail, Mohammad H. Yazdi, Saad A. Aljlil, [Energy](#), 96, 303-313. **2016**

- 12- Influence of Multiwalled Carbon Nanotubes on Biodegradable Poly(lactic acid) Nanocomposites for Electroactive Shape Memory Actuator, Mohan Raja, j. Subha, **Javed Alam**, *Advances in Polymer Technology*, 21664, 10.1002/adv.21664 **2016**
- 13- Electroactive Shape Memory Property of a Cu-decorated CNT Dispersed PLA/ESO Nanocomposite. **Javed Alam**, Manawwer Alam, Raja Mohan, Aslam Khan *Materials* 2015, 8, 6391-6400. **2015**
- 14- Influence of Hexamethylenediamine Functionalized Graphene Oxide on Structural Characteristics and Properties of Epoxy Nanocomposites. **Javed Alam**, Sung Hun Ryu; A. M. Shanmugharaj, *Science of Advanced Materials* 7 (5) 993-1001(9) **2015**
- 15- Performance Comparison of Three Common Proton Exchange Membranes for Sustainable Bioenergy Production in Microbial Fuel Cell, Mostafa Ghasemi, Elnaz Halakoo, Mehdi Sedighi, **Javed Alam**, Majid Sadeqzadeh, *Procedia CIRP*, Volume 26, 2015, Pages 162-166, **2015**
- 16- MWCNTs-Reinforced Epoxidized Linseed Oil Plasticized Polylactic Acid Nanocomposite and Its Electroactive Shape Memory Behaviour, **Javed Alam**, A Manawwer, R Mohan, A Zainularifeen, *International Journal of Molecular Sciences* 15 (11), 19924-19937 **2014**
- 17- Performance enhancement of microbial fuel cell by PVDF/Nafion nanofibre composite proton exchange membrane, AFI Samaneh Shahgaldi, Mostafa Ghasemi, Wan Ramli Wan, Javed Alam *Fuel Processing Technology* 124 (-), 290-295 **2014**
- 18- Development of plasticized PLA/NH₂-CNTs nanocomposite: potential of NH₂-CNTs to improve electroactive shape memory properties, **Javed Alam**, M Alam, L Arockiasamy Dass, AM Shanmugharaj, M Raja *Polymer Composites*, Wiley 35(11) 2129-2136 **2014**
- 19- Advances in Membrane Development Based on Electrically Conducting Polymers, **Javed Alam**, LA Dass, MS Alhoshan, AW Mohammad, *Advances in Polymer Technology* 32 (S1), 189-197 **2013**
- 20- Synthesis and optimization of PES-Fe₃O₄ mixed matrix nanocomposite membrane: Application studies in water purification, **Javed Alam**, LA Dass, M Ghasemi, M Alhoshan *Polymer Composites* 34 (11), 1870-1877 **2013**
- 21- Carbon nanotubes-blended poly (phenylene sulfone) membranes for ultrafiltration applications, DL Arockiasamy, **Javed Alam**, M Alhoshan , *Applied Water Science* 3 (1), 93-103 **2013**
- 22- Fabrication of polysulfone/ZnO membrane: influence of ZnO nanoparticles on membrane characteristics, M Alhoshan, **Javed Alam**, LA Dass, N Al-Homaidi *Advances in Polymer Technology* 32 (3) **2013**
- 23- Improvement of Microbial Fuel Cell Performance by Using Nafion Polyaniline Composite Membranes as a Separator, N Mokhtarian, M Ghasemi, WRW Daud, M Ismail, G Najafpour, **Javed Alam**, *Journal of Fuel Cell Science and Technology* 10 (4), 041008 **2013**
- 24- Mixed-matrix membranes for desalination of water, **Javed Alam**, LA Dass, M Alhoshan, *Society of Plastic Engineering* <http://www.4spepro.org> **2013**
- 25- Iron oxide nanoparticle-induced oxidative stress and genotoxicity in human skin epithelial and lung epithelial cell lines, M Ahamed, H A Alhadlaq, **Javed Alam**, M Khan, D Ali, S Alarafi, *Current pharmaceutical design* 19 (37), 6681-6690 **2013**
- 26- Optimisation of polyethersulfone/polyaniline blended membranes using response surface methodology approach, NF Razali, AW Mohammad, N Hilal, CP Leo, **Javed Alam**, *Desalination* 311, 182-191 **2013**
- 27- The effect of nitric acid, ethylenediamine, and diethanolamine modified polyaniline nanoparticles anode electrode in a microbial fuel cell , M Ghasemi, WRW Daud, N Mokhtarian, A Mayahi, M Ismail, F Anisi, ... **Javed Alam**, *International Journal of Hydrogen Energy* 38 (22), 9525-9532 **2013**
- 28- Carbon nanotube as an alternative cathode support and catalyst for microbial fuel cells

- M Ghasemi, M Ismail, SK Kamarudin, K Saeedfar, WRW Daud, ... **Javed Alam**, *Applied Energy* 102, 1050-1056 **2013**
- 29- Development of polyaniline-modified polysulfone nanocomposite membrane, **Javed Alam**, LA Dass, MS Alhoshan, M Ghasemi, AW Mohammad, *Applied Water Science* 2 (1), 37-46 **2012**
- 30- Polysulfone composed of polyaniline nanoparticles as nanocomposite proton exchange membrane in microbial fuel cell, M Ghasemi, M Rahimnejad, C Esmaeili, WRW Daud, MS Masdar, ...**Javed Alam**, *American Journal of Biochemistry and Biotechnology* 8 (4), 311 **2012**
- 31- Recent advances in conjugated polymers for light emitting devices, MS AlSalhi, **Javed Alam**, LA Dass, M Raja, *International journal of molecular sciences* 12 (3), 2036-2054 **2011**
- 32- Nanostructured polyaniline reinforced sustainable resource (soy oil alkyd) based composites **Javed Alam**, U Riaz, S Ahmad, *Polymer Composites* 31 (1), 32-37 **2010**
- 33- High performance corrosion resistant polyaniline/alkyd ecofriendly coatings, **Javed Alam**, U Riaz, S Ahmad, *Current Applied Physics* 9 (1), 80-86 **2009**
- 34- Soft template synthesis of super paramagnetic Fe₃O₄ nanoparticles a novel technique S Ahmad, U Riaz, A Kaushik, **Javed Alam**, *Journal of Inorganic and Organometallic Polymers and Materials* 19 (3), 355-360 **2009**
- 35- Development of sustainable resource-based nanostructured polyaniline/castor oil polyurethane composites, S Ahmad, U Riaz, **Javed Alam**, *Advances in Polymer Technology* 28 (1), 26-31 **2009**
- 36- Iron oxide nanoparticles–chitosan composite based glucose biosensor, A Kaushik, R Khan, PR Solanki, P Pandey, **Javed Alam**, S Ahmad, ...*Biosensors and Bioelectronics* 24 (4), 676-683 **2008**
- 37- Corrosion-protective performance of nano polyaniline/ferrite dispersed alkyd coatings **Javed Alam**, U Riaz, SM Ashraf, S Ahmad, *Journal of Coatings Technology and Research* 5 (1), 123-128 **2008**
- 38- Development of nanostructured polyaniline dispersed smart anticorrosive composite coatings **Javed Alam**, U Riaz, S Ahmad , *Polymers for Advanced Technologies* 19 (7), 882-888 **2008**
- 39- Effect of ferrofluid concentration on electrical and magnetic properties of the Fe₃O₄/PANI nanocomposites , **Javed Alam**, U Riaz, S Ahmad, *Journal of magnetism and magnetic materials* 314 (2), 93-99 **2007**
- 40- Electrochromic properties of polyaniline thin film nanostructures derived from solutions of ionic liquid/polyethylene glycol, M Deepa, S Ahmad, KN Sood, **Javed Alam**, S Ahmad, AK Srivastava, *Electrochimica acta* 52 (26), 7453-7463 **2007**

International Conference Proceedings

- 1) Synthesis of poly (o-toluidine)-mixed polysulfone nanocomposite membrane for desalination; 1st International Conference on Desalination using Membrane Technology; <http://www.desalinationusingmembrane.com/index.html> **2014**
- 2) Poly(phenylene sulfone)(PPSU) and TiO₂ hybrid nanocomposite membranes for desalination 1st International Conference on Desalination using Membrane Technology; <http://www.desalinationusingmembrane.com/index.html> 6th IWA Specialist Conference on Membrane Technology for Water and Waste water treatment, , 4-7 October 2011, Eurogress, Aachen, Germany **2014**
- 3) Carbon Nanotubes Based Flexible Transparent Conducting Films for Display Applications” International conference, the Nineteenth in a series, on Processing and Fabrication of Advanced Materials to be held at Auckland, New Zealand in 14-17 January, 2011. Oral;

http://aut.researchgateway.ac.nz/bitstream/handle/10292/2558/PaxtonR_PFAM_10292-2558.pdf?sequence=5 2011

- 4) Development of PANI/Polysulfone nanocomposites: New generation membrane materials” International conference, the Nineteenth in a series, on Processing and Fabrication of Advanced Materials to be held at Auckland, New Zealand in 14-17 January, 2011; http://aut.researchgateway.ac.nz/bitstream/handle/10292/2558/PaxtonR_PFAM_10292-2558.pdf?sequence=5 2011
- 5) Javed Alam, Ufana Riaz and Sharif Ahmad, title “International conference on corrosion [CORCON-2007]” Mumbai, India; <http://www.dkagencies.com/doc/from/1063/to/1123/bkId/DK375233945523219768161731371/details.html> 2007
- 6) Javed Alam, Ufana Riaz and Sharif Ahmad title “International conference on advanced materials and composites [ICAMC 2007]”, Thiruvananthapuram Kerala, India 2007

Instruments Handling/Experience

- Scanning Electron Microscope (SEM) and Atomic Force Microscope (AFM)
- Contact Angle Meter, and Electrokinetic (Streaming Potential) Analyser
- Thermo Gravimetric Analysis (TGA) and Differential Scanning Calorimetry (DSC)
- Universal Tensile Testing Machines – LLOYD
- Rheometer
- Membrane porosity- Capillary Flow Porometer

Membrane casting and Performance studies

- Trirs Rayflow lab scale UF/NF cross flow module
- Sterlitech RO cross flow testing unit
- Amicon UF and MF dead end cells
- Sterlitech RO Dead end cell
- Hollow fiber UF testing Unit

Membrane preparation and modification

- Automatic membrane casting unit
- Hollow fiber spinning machine
- Spin Coater

Sincerely

