

Dr. Javed Alam

Associate Professor

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Google Scholar <https://scholar.google.com/citations?hl=en&user=HLblrzwAAAAJ&view_op=list_works&sortby=pubdate>

**Professional Profile**

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| **Associate Professor** 2017 to continue….. | King Abdullah Institute for Nanotechnology, King Saud University, Kingdom of Saudi Arabia. |
| **Assistant Professor** 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 |

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| **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) |

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| **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-MR-1 |

**Research Interests**

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| Membrane Materials Advances | Ultrafiltration (UF), Nanofiltration(NF), and Reverse Osmosis (RO) Vacuum  Membrane Distillation (VMD)  |
| Sustainable Resource based Polymer coatings Water based Adhesive for Flexible Packaging Applications  |  Polyurethane Corrosion Protection Coatings , Conducting polymers and their compositesWater based Adhesive for flexible packaging applications   |

**Educational Qualifications**

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| **PhD** (Chemistry, Polymer Science) 2009 | Development, Characterizations and Application Studies of Ferrite Containing  Nano conducting 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**

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| **Principle Investigator**(2019…….continue **Principle Investigator**(2011-2015)  |  **Development of Nanocomposite Membrane for Water Treatment (Deanship of**  **Scientific Research, KSU (Research group no. RG-1439-85)** **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-Principle 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   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 Co-supervising; Master Student; thesis entitled “**Vacuum membrane distillation for**  **RO Brine water treatment,,** King Saud University, Riyadh, Saudi Arabia |
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**Research outputs**

**US Patent-2020**

**Method of making an asymmetric polyvinylidene difluoride membrane, US Patent US10576429B1 2020; Javed Alam\*,** Arun Kumar Shukla, Ali Kanakhr Aldalbahi, Mansour salah Alhoshan

**Book Chapter**

Book entitled “**Carbon-based Polymer Nanocomposites for Environmental and Energy Applications**, 1st Edition, ISBN: 9780128135747, Published Date: 1st April 2018, Page 412 Chapter entitled-**Carbon-Based Polymer Nanocomposites as Electrodes for Microbial Fuel Cells**

Tahereh Jafary, Mostafa Ghasemi, **Javed Alam,** Saad A. Aljlil, Suzana Yusup

© 2018 Elsevier, DOI: <https://doi.org/10.1016/B978-0-12-813574-7.00015-0>

**Published Research Papers**

**2020**

1. **A highly permeable Zinc-based MOF/polyphenylsulfone composite membrane with elevated antifouling properties** Arun Kumar Shukla, **Javed Alam**\*, Fekri Abdulraqeb Ahmed Ali, Mansour Alhoshan “**Chemical Communications**, RSC

1. **A Facile Approach for Elimination of Electroneutral/Anionic Organic Dyes from Water Using a Developed Carbon-Based Polymer Nanocomposite Membrane**

 Arun Kumar Shukla, **Javed Alam**\*, Mostafizur Rahaman, Abdulaziz Alrehaili, Mansour

 Alhoshan, Ali Aldalbahi “**Water, Air, & Soil Pollution***,* Springer 231, 104

1. **A Novel Approach To Optimize the Fabrication Conditions of Thin Film Composite RO Membranes Using Multi-Objective Genetic Algorithm II**

 Fekri Abdulraqeb Ahmed Ali, **Javed Alam**\*, Arun Kumar Shukla, Mansour Alhoshan,

 Basem MA Abdo, Waheed A Al-Masry “**Polymers** 12(2), 494,

1. **Probing the surface ultrastructure of Brevibacillus laterosporus using atomic force microscopy,**  Khalid Alzahrani, Arun Kumar Shukla, **Javed Alam**, Abdurahman A Niazy, Abdullah M

 Alsouwaileh, Mansour Alhoshan, Jamal Khalid, Hamdan S Alghamadi” **Micron** 10282

1. **Synthesis and characterization of polyvinyl alcohol/corn starch/linseed polyol-based hydrogel loaded with biosynthesized silver nanoparticles**

Eram Sharmin et al., **Javed Alam**, Lamiaa A. Al-Madboly, Nagwa A. Shoeib, Alaa M. Alqahtani, Mariam Mojally,

**International Journal of Biological Macromolecules**, 2020

**2019**

1. **k-Carrageenan–A versatile biopolymer for the preparation of a hydrophilic PVDF composite membrane**

**Javed Alam\***,**,** M Alhoshan, AK Shukla, A Aldalbahi, FAA Ali

**European Polymer Journal 120, 109219**

1. **Graphene oxide-silver nanosheet-incorporated polyamide thin-film composite membranes for antifouling and antibacterial action against Escherichia coli and bovine serum albumin**

**FAA Ali, Javed Alam\***,**,** AK Shukla, M Alhoshan, JM Khaled, WA Al-Masry, ...

**Journal of Industrial and Engineering Chemistry,**

1. **Evaluation of antibacterial and antifouling properties of silver-loaded GO polysulfone nanocomposite membrane against Escherichia coli, Staphylococcus aureus, and BSA protein**

**FAA Ali, Javed Alam\***,**,** AK Shukla, M Alhoshan, MA Ansari, WA Al-Masry, ...

**Reactive and Functional Polymers 140, 136-147,**

1. **Selective ion removal and antibacterial activity of silver-doped multi-walled carbon nanotube/polyphenylsulfone nanocomposite membranes**

**AK Shukla, Javed Alam\***,**,** MA Ansari, M Alhoshan, M Alam, A Kaushik

**Materials Chemistry and Physics 233, 102-112,**

1. **In situ formation and immobilization of silver nanoparticles using thermo-responsive microgel particles and their cytotoxicity evaluation**

A Khan, TH Khan, AM El-Toni, A Aldalbahi, **Javed Alam\*,** T Ahamad

**Materials Letters 235, 197-201,**

**2018**

1. **Graphene oxide, an effective nanoadditive for a development of hollow fiber nanocomposite membrane with antifouling properties**

**Javed Alam\***, Arun Kumar Shukla, Mansour Alhoshan, Lawrence Arockiasamy Dass, Fekri, Abdulraqeb Ahmed Ali, **Advances in Polymer Technology, 00:1–12.**

1. **Antimicrobial and antifouling properties of versatile PPSU/carboxylated GO nanocomposite membrane against Gram-positive and Gram-negative bacteria and protein.** Shukla, A.K., **Javed Alam\***, Ansari, M.A. *et al.* ***Environ Sci Pollut Res*** **25,** 34103–34113
2. **Removal of heavy metal ions using a carboxylated graphene oxide-incorporated polyphenylsulfone nanofiltration membrane**

Arun Kumar Shukla, **Javed Alam\***, Mansour Alhoshan, Lawrence Arockiasamy Dass, Fekri, Abdulraqeb Ahmed Ali

**Environmental Science: Water Research & Technology**, DOI: 10.1039/C7EW00506G

1. **Semibath Polymerization Approach for One Pot Synthesis of Temperature- and Glucose-Responsive Core-Shell Nanogel Particles**

Hezam, Aslam Khan\*, Ahmed Mohamed El-Toni, **Javed Alam**, Ali Aldalbahi, Mukhtar Ahmed, Joselito Puzon Labis, Tansir Ahamad, Mahmoud

1. **Temperature-Responsive Polymer Microgel-Gold Nanorods Composite Particles: Phyicochemical Characterization and Cytocompatibility**

 Khan A, Khan TH, Ahamed M, El-Toni AM, Aldalbahi A, **Alam J**, Ahamad T. **Polymers** 10(1):99.

**2017**

1. **κ-Carrageenan as a promising pore-former for the preparation of a highly porous polphenylsulfone membrane**

**Javed Alam\***, Mansour Alhoshan, Arun Kumar Shukla, Ali Aldalbahi, Fekri Abdulraqeb Ahmed Ali, Lawrence Arockiasamy Dass, M.R. Muthumareeswaran, **Materials Letters**, 204, 108-111.

1. **Bacilli as Biological Nano-factories Intended for Synthesis of Silver Nanoparticles and Its Appication in Human Welfare**

Varish Ahmad Qazi, Mohammad Sajid Jamal, Arun K. Shukla, **Javed Alam,** Ahamad Imran, Usama Mohamed Abaza, **Journal of Cluster Science,** 2017, 28, 1775–1802.

1. **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**

1. **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.

1. **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.
2. **Effect of the Membrane Type and Resistance Load on the Performance of the Microbial Fuel Cell: A Step ahead of Microbial Desalination Cell Establishment**

Tahereh Jafary, Saad A. Aljlil**, Javed Alam,** Mostafa Ghasemi

**Journal of the Japan Institute of Energy** 96(9):346-351.

**2016**

1. **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

**23-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**

**24**-**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.**

**25-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.

**26-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

**27- 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.

**28-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.

**2015**

**29-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.

**30-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)

**31-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.

**32-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**

**33-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

34-**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

**2013**

**35-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

**36-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

**37**-**Carbon nanotubes-blended poly (phenylene sulfone) membranes for ultrafiltration applications,**

DL Arockiasamy, **Javed Alam**, M Alhoshan , Applied Water Science 3 (1), 93-103

**38-Fabrication of polysulfone/ZnO membrane: influence of ZnO nanoparticles on membrane**

 **characteristics**

 M Alhoshan, **Javed Alam\***, LA Dass, N et. al Advances in Polymer Technology 32 (3)

**39-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.

**40-Mixed-matrix membranes for desalination of water, Javed Alam**, LA Dass, M Alhoshan, Society

 of Plastic Engineering <http://www.4spepro.org,>

**41**-**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.

**42-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.

**43-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.

**44-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

 **2012**

**45-** **Development of polyaniline-modified polysulfone nanocomposite membrane, Javed Alam**, LA

 Dass, MS Alhoshan, M Ghasemi, AW Mohammad, Applied Water Science 2 (1), 37-46

**46-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

**2011**

**47-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

**48-Nanostructured polyaniline reinforced sustainable resource (soy oil alkyd) based composites**

**Javed Alam**, U Riaz, S Ahmad, Polymer Composites 31 (1), 32-37

**49**-**High performance corrosion resistant polyaniline/alkyd ecofriendly coatings, Javed Alam**, U

 Riaz, S Ahmad, Current Applied Physics 9 (1), 80-86

**50-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.

**51-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.

**52-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**

**53-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-

1. , **2008**

**54-Development of nanostructured polyaniline dispersed smart anticorrosive composite coatings**

**Javed Alam**, U Riaz, S Ahmad , Polymers for Advanced Technologies 19 (7), 882-888 **2008**

**55-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**

**56-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

I**nternational 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**

1. **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**](http://aut.researchgateway.ac.nz/bitstream/handle/10292/2558/PaxtonR_PFAM_10292-2558.pdf?sequence=5) **2011**
2. **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**](http://aut.researchgateway.ac.nz/bitstream/handle/10292/2558/PaxtonR_PFAM_10292-2558.pdf?sequence=5) **2011**
3. **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**](http://www.dkagencies.com/doc/from/1063/to/1123/bkId/DK375233945523219768161731371/details.html) **2007**
4. **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**

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