



## Dr. Yaghoub Mansourpanah

### Position

- Associate Professor of Applied chemistry,  
Lorestan University

- Principle Research Member  
Membrane Separation Technology Group  
Biofuel Research Team (BRTeam)  
Agricultural Biotechnology Research Institute of Iran (ABRII)  
Karaj- Iran



### Address

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### Date of Birth

23rd June 1975, Khorramabad, Iran

### Academic Career

<u>Degree</u>	<u>Course</u>	<u>Year</u>	<u>University</u>
Ph.D.	Applied Chemistry	2005- September 2009	Razi University, Iran
M.Sc.	Applied Chemistry	1998- January 2001	Razi University, Iran
B.Sc.	Chemistry	1993- January 1997	Lorestan University, Iran

### Research Area

1. Membrane manufacturing
2. Membrane modification
3. Chemical cleaning of membranes
4. Biodiesel purification
5. Water treatment using membranes



6. Wastewater treatment using membranes
7. Nanofiltration
8. Reverse osmosis
9. Ultrafiltration
10. Fuel cell membrane

### Language

Farsi, English

### Awards

1. First ranking in PhD entrance exam, Department of Applied Chemistry, Razi University, Kermanshah, Iran, 2005.
2. Distinguished researcher of basic science faculty, 2013.

### Patents

1. S. S. Madaeni, Y. Mansourpanah (2006), ***Pollution (COD) removal from wastewater of alcohol manufacturing plant using membranes***, Iran Patent 34845
2. S. S. Madaeni, Y. Mansourpanah (2006), ***Chemical cleaning of reverse osmosis membranes fouled by whey***, Iran Patent 34847

### Publications

#### Books

Y. Mansourpanah, E. Kakoei, A. Kakanejadifard, (2005), ***Water and Wastewater Treatment (in Persian)***, Seyedi Publications, Iran

### Full papers in peer reviewed journals

1. E. Betmichel, Y. Mansourpanah, K. Farhadi, M. Tabatabaei, M. M. Shirazi, (2014), ***Application of TiO<sub>2</sub> nanoparticles as a modifier to***



- develop membrane technology; A Review*, in preparation
2. Y. Mansourpanah, E. Momeni Habili, (2014), *Comparing the presence of TiO<sub>2</sub> nanoparticles in organic and aqueous phases during the preparation of poly(piperazineamide) thin layer membranes; preparation and characterization*, Journal of Membrane Science, Under Review.
  3. H. Soltani Afarani, Y. Mansourpanah, (2014), *Surface modification of polyamide thin layer membranes using UV irradiation*, Chinese Journal of Chemical Engineering, Under Review.
  4. Y. Mansourpanah, A. Kakanejadifard, F. Godarzi, M. Tabatabaei, H. Soltani Afarani, (2014), *Preparation of acrylic acid-modified chitosan thin layer membrane using microwave irradiation for changing performance*, Korean Journal of Chemical Engineering, Under Review.
  5. Y. Mansourpanah, Z. Amiri, (2014), *Preparation of modified polyethersulfone nanoporous membranes in the presence of sodium tripolyphosphate; preparation, characterization and antifouling properties*, Desalination, 335, 33-40.
  6. Y. Mansourpanah, E. Momeni Habili, (2013), *Preparation and modification of thin film PA membranes with high antifouling properties using acrylic acid and UV-irradiation*, Journal of Membrane Science, 430, 158-166.
  7. Y. Mansourpanah, H. Soltani Afarani, K. Alizadeh, M. Tabatabaei, (2013), *Enhancing the surface and performance properties of nanoporous PES membranes using microwave-assisted grafting of chitosan/acrylamide*, Desalination, 322, 60-68.
  8. Y. Mansourpanah, (2013), *Development and changing the surface and performance of a novel thin layer membrane in the presence of epichlorohydrine*, Desalination, 311, 221-226.
  9. Y. Mansourpanah, A. Gheshlaghi, F. Rekabdar, (2012), *Structural analysis of PES nanoporous membranes under different conditions of*



- preparation*, Desalination and Water Treatment, 50, 302-309.
10. Y. Mansourpanah, A. Gheshlaghi, (2012), *Effects of adding different ethanol amines during membrane preparation on the performance and morphology of nanoporous PES membranes*, Journal of Polymer Research, 19:13.
  11. Y. Mansourpanah, S.S. Madaeni, A. Rahimpour, M. Adeli, M.Y. Hashemi, (2011), *Fabrication New PES-Based Mixed Matrix Nanocomposite Membranes Using Polycaprolactone Modified Carbon Nanotubes as the Additive; Properties Changes and Morphological Studies*, Desalination, 277, 171-177.
  12. Y. Mansourpanah, K. Alizadeh, S.S. Madaeni, A. Rahimpour, H. Soltani, (2011), *Using Different Surfactants for Changing the Properties of Poly(piperazineamide) TFC Nanofiltration Membranes*, Desalination, 271, 169-177.
  13. M. Hasheminejad, M. Tabatabari, Y. Mansourpanah, (2011) *Upstream and downstream strategies to economize biodiesel production*, Bioresource Technology, 102, 461-468.
  14. Y. Mansourpanah, S.S. Madaeni, A. Rahimpour Z. Kheirollahi, M. Adeli, (2010), *Changing the performance and morphology of polyethersulfone/polyimide blend nanofiltration membranes using trimethylamine*, Desalination, 256, 101-107.
  15. A. Rahimpour, S. S. Madaeni, Y. Mansourpanah, (2010), *Nano-porous polyethersulfone (PES) membranes modified by acrylic acid (AA) and 2-hydroxyethylmethacrylate (HEMA) as additives in the gelation media*, Journal of Membrane Science, 364, 380-388.
  16. A. Rahimpour, S. S. Madaeni, Y. Mansourpanah, (2010), *Fabrication of polyethersulfone (PES) membranes with nano-porous surface using potassium perchlorate (KClO<sub>4</sub>) as an additive in the casting solution*, Desalination, 258, 79-86.



17. A. Rahimpour, S. S. Madaeni, Sh. Ghorbani, A. Shockravi, Y. Mansourpanah, (2010), *The influence of sulfonated polyethersulfone (SPES) on surface nano-morphology and performance of polyethersulfone (PES) membrane*, Applied Surface Science, 256, 1825-1831.
18. A. Rahimpour, M. Jahanshahi, N. Mortazavian, S. S. Madaeni, Y. Mansourpanah, (2010), *Preparation and characterization of asymmetric polyethersulfone and thin-film composite polyamide nanofiltration membranes for water softening*, Applied Surface Science, 256, 1657-1663.
19. Y. Mansourpanah, S.S. Madaeni, A. Rahimpour, (2009), *Fabrication and development of interfacial polymerized thin-film composite nanofiltration membrane using different surfactants in organic phase; study of morphology and performance*, Journal of Membrane Science, 343, 219-228.
20. Y. Mansourpanah, S.S. Madaeni, A. Rahimpour, (2009), *Preparation and investigation of separation properties of polyethersulphone supported poly(piperazineamide) nanofiltration membrane using microwave-assisted polymerization*, Separation and Purification Technology, 69, 234-242.
21. Y. Mansourpanah, S.S. Madaeni, A. Rahimpour, A. Farhadian, (2009), *The Effect of Non Contact Heating (Microwave Irradiation) and Contact Heating (Annealing Process) on Morphology and Performance of Polyethersulfone Nanofiltration Membranes*, Applied Surface Science, 225, 8395-8402.
22. Y. Mansourpanah, S.S. Madaeni, A. Rahimpour, A. Farhadian, A.H. Taheri, (2009), *Formation of appropriate sites on nanofiltration membrane surface for binding TiO<sub>2</sub> photo-catalyst: performance, characterization and fouling-resistant capability*, Journal of Membrane



- Science, 330, 297-306.
23. Y. Mansourpanah, S.S. Madaeni, M. Adeli, A. Rahimpour, A. Farhadian, (2009), *Surface modification and preparation of nanofiltration membrane from polyethersulfone/polyimide blend-Use of new material (PEG-triazine)*, Journal of Applied Polymer Science, 112, 2888-2895.
24. A. Rahimpour, S. S. Madaeni, M. Jahanshahi, Y. Mansourpanah, N. Mortazavian, (2009), *Development of high performance nano-porous polyethersulfone ultrafiltration membranes with hydrophilic surface and superior antifouling properties*, Applied Surface Science, 255, 9166-9173.
25. A. Rahimpour, S.S. Madaeni, S. Zeresghi, Y. Mansourpanah, (2009), *Preparation and characterization of modified nano-porous PVDF membrane with high antifouling property using UV photo-grafting*, Applied Surface Science, 255, 7455–7461.
26. A. Rahimpour, S.S. Madaeni, M. Amirinejad, Y. Mansourpanah, S. Zeresghi, (2009), *The effect of heat treatment of PES and PVDF ultrafiltration membranes on morphology and performance for milk filtration*, Journal of Membrane Science, 330, 189-204.
27. A. Rahimpour, S.S. Madaeni, A. H. Taheri, Y. Mansourpanah, (2008), *Coupling TiO<sub>2</sub> nanoparticles with UV irradiation for modification of polyethersulfone ultrafiltration membranes*, Journal of Membrane Science, 313, 158–169.
28. A. Rahimpour, S.S. Madaeni, Y. Mansourpanah, (2007), *The effect of anionic, non-ionic and cationic surfactants on morphology and performance of polyethersulfone ultrafiltration membranes for milk concentration*, Journal of Membrane Science, 296, 110-121.
29. A. Rahimpour, S.S. Madaeni, Y. Mansourpanah, (2007), *High performance polyethersulfone UF membrane for manufacturing spiral wound module: preparation, morphology, performance, and chemical*



- cleaning*, Polymers for Advanced Technologies, 18, 403–410.
30. S.S. Madaeni, Y. Mansourpanah, (2006), *Screening membranes for COD removal from dilute wastewater*, Desalination, 197, 23-32
  31. S.S. Madaeni, Y. Mansourpanah, (2004), *Chemical cleaning of reverse osmosis membranes fouled by whey*, Desalination, 161(1), 13-24.
  32. S.S. Madaeni, Y. Mansourpanah, (2003), *COD removal from concentrated wastewater using membranes*, Filtration & Separation, 40(6), 40-46.

### Presentation

1. Hamid Soltani Afarani, Yaghoub Mansourpanah, *Study of different concentrations of epichlorohydrine on the formation of chitosan thin layer onto PES membrane*, The 14<sup>th</sup> Iranian National Chemical Engineering Congress (IChEC 2012), Iran, 16-18 October, 2012
2. Yaghoub Mansourpanah, Hamid Soltani Afarani, *Study pH effect on the formation of thin layer Synthesis by Chitosan-Graft-Acrylamide*, The 14<sup>th</sup> Iranian National Chemical Engineering Congress (IChEC 2012), Iran, 16-18 October, 2012
3. Mohammad Mahdi A. Shirazi, Meisam Tabatabaei, Mohammad Javad A. Shirazi, Yaghoub Mansourpanah, *Comparative study of atomic force microscopy (AFM) and scanning electron microscopy (SEM) for characterizing pore size and pore size distribution of microfiltration polymeric membranes*, ISPST2012, Amirkabir University of Technology, Tehran, Iran, 21-25 October 2012
4. Y. Mansourpanah, E. Momeni Habili, *Investigation of antifouling properties and flux recovery of AA-modified PA TFC membranes*, ISPST2012, Amirkabir University of Technology, Tehran, Iran, 21-25 October 2012



5. Y. Mansourpanah, E. Momeni Habili, *Study of unmodified and modified PA thin layers with AA and UV irradiation using SEM, AFM and contact angle measurements*, ISPST2012, Amirkabir University of Technology, Tehran, Iran, 21-25 October 2012
6. P. MOHAMMADI, A. M.NIKBAKHT, M. TABATABAEI, KH. FARHADI, M. KHATAMIFAR, Y. MANSOURPANAH, H. GHORBANI and M. HOSSEINI, *WASTE PLASTIC-WVO BIODIESEL AS AN ADDITIVE TO BOOST DIESEL FUEL PROPERTIES* , 4th International Conference on Engineering for Waste and Biomass Valorisation, *September 10-13, 2012 – Porto, Portugal*.
7. A. JAVANI, M. TABATABAEI, Y. MANSOURPANAH, M. HASHEMINEJAD, M. KHATAMIFAR, A.M. NIKBAKHT, *SIMULTANEOUS HIGH QUALITY POTASSIUM PHOSPHATE PRODUCTION AND GLYCEROL PURIFICATION DERIVED FROM WASTE COOKING OIL THROUGH STEP-BY-STEP ACIDIFICATION PROCESS*, 4th International Conference on Engineering for Waste and Biomass Valorisation, September 10-13, 2012 – Porto, Portugal.
8. Y. Mansourpanah, H. Soltani Afarani (2011), *Improvement of a new approach to fabricate a chitosan thin layer on PES UF membrane; treatment of different ion solutions*, 1st International Conference on Desalination and Environment: A Water Summit, Abu Dhabi, UAE.
9. Y. Mansourpanah, M.Y. Hashemi (2011), *Investigation the effect of modified carbon nanotubes with –OH end polymeric groups on the performance and morphology of PES nanofiltration membrane*, 1st Iranian National Membrane and Membrane Processes Conference, Tehran, Iran.
10. Y. Mansourpanah, K. Alizadeh, H. Soltani Afarani (2011), *Improved interfacial polymerization process in the presence of non-ionic*





- surfactant for preparation of TFC nanofiltration membrane*, 1st Iranian National Membrane and Membrane Processes Conference, Tehran, Iran.
11. Y. Mansourpanah, K. Alizadeh, H. Soltani Afarani (2011), *Investigation the Effect of Ionic Surfactant into the Aqueous Phase on the Morphology of TFC Membranes*, 1st Iranian National Membrane and Membrane Processes Conference, Tehran, Iran.
  12. Y. Mansourpanah, H. Soltani Afarani (2010), *Changing the skin layer properties of TFC membranes in the presence of CTAB*, 13<sup>th</sup> Iranian National Chemical Engineering Congress, Kermanshah, Iran.
  13. Y. Mansourpanah, S. S. Madaeni (2009), *Effect of feed concentration on ion transfer using dialysis process*, Euromembrane conference, Montpellier, France.
  14. Y. Mansourpanah, S. S. Madaeni (2009), *Effects of microwave radiation on nanofiltration membrane morphology*, **6th International Chemical Engineering Congress & exhibition, Kish Island, Iran.**
  15. A. Rahimpour, S.S. Madaeni, S. Zereshki, Y. Mansourpanah (2009), *Hydrophilic Modification of Surface of PVDF Membrane using UV Photografting of Acrylic acid and 2-hydroxyethylmetacrylate*, 9th International Seminar on Polymer Science and Technology, Iran Polymer and Petrochemical Institute, Tehran, Iran.
  16. Y. Mansourpanah, S. S. Madaeni, A. Rahimpour (2008), *Surface Modification of Nanofiltration Membrane via Chemical Treatment (Grafting-to)*, 12th National Iranian Chemical Engineering Congress, Tabriz, Iran.
  17. Rahimpour, A., Madaeni, S.S., Mansourpanah, Y., (2007), " *The effect of pore former concentration on properties of Polyethersulfone (PES) /Cellulose Acetate Phthalate (CAP) ultrafiltration blend membranes*" **5th International Chemical Engineering Congress & exhibition, Accepted.**



18. Y. Mansourpanah, S. S. Madaeni, (2006), *Separation of mixtures of zinc and magnesium ions via dialysis process using PM30 and GVHP membranes*, 11th National Iranian Chemical Engineering Congress, Tehran, Iran, 213
19. Y. Mansourpanah, S. S. Madaeni, (2005), *Effect of membrane morphology on treatment of industrial wastewater*, 10th National Iranian Chemical Engineering Congress, Zahedan, Iran, 2273-2283.
20. S. S. Madaeni, Y. Mansourpanah, (2002), *Resistance removal in whey concentration using FT30 membrane*, Proceedings of 7th National Iranian Chemical Engineering Congress, Tehran, Iran, 5, 725-730.
21. S. S. Madaeni, Y. Mansourpanah, (2002), *COD reduction using polymeric membranes*, Proceedings of 7th National Iranian Chemical Engineering Congress, Tehran, Iran, 5, 444-449.

### Graduate Students

#### MSc.:

#### Ph.D. Students

- 1- Elsi Betmicheal (Ph.D.) Supervisor (Status: On-going)
- 2- Pourzare (Ph.D.) Supervisor (Status: On-going)

#### M.Sc. Stusents

- 1- Mohammad Yaser Hashemi (MSc)- Supervisor (*Status: Graduated, 2011*)

**Thesis Title:** “Using poly caprolactone modified nanotubes for preparation and modification of nanofiltration membranes”

- 2- Mozghan Moradi Doureh (MSc)- Supervisor (*Status: Graduated, 2011*)

**Thesis Title:** “Investigation the Effect of polyimide on the performance and Morphology of Polyethersulphone Membranes for Rermoving COD”

- 3- Hamid Soltani Afarani (MSc)- Supervisor (*Status: Graduated, 2012*)



**Thesis Title:** “1- Prepartation of TFC membrane by interfacial polymerization using different surfactants in aqueous phase, 2- Fabrication membrane TFC with Chitosan and using Acrylamide under Microwave irradiation, 3- Acidity constant determination of some benzoic acid derivative compounds in different membranes”

4- Fatemeh Godarzi Dehrizi (MSc)- Supervisor (*Status: Graduated, 2012*)

**Thesis Title:** “Preparation of novel composite nanofiltration membranes by grafting acrylic acid onto chitosan/PES membrane under microwave irradiation”

5- Elham Momeni Habili (MSc)- Supervisor (*Status: Graduated, 2012*)

**Thesis Title:** “Investigation the effect of anti-fouling properties of TFC nanofiltration membrane in the presence of hydrophilic additives and using UV grafting”

6- Zahra Amiri (MSc)- Supervisor (*Status: Graduated, 2013*)

**Thesis Title:** “Performance and morphological study of polyethersulfone nanoporous membranes in the presence of sodium polythriphosphate as an inorganic additive”

7- Zeinab Jafari (MSc)- Supervisor (*Status: Graduated, 2013*)

**Thesis Title:** “Modification of polymeric nanoporous membranes using dendrimers for increasing the membrane performance”

8- Azadeh Ostad Chinigar (MSc)- Supervisor (*Status: Graduated, 2013*)

**Thesis Title:** “Fabrication and optimazation of thin film composite (TFC) membranes for improvement of the performance”

9- Hoda Shah Ebrahimi (MSc)- Supervisor (*Status: Graduated, 2013*)

**Thesis Title:** “Preparation and characterization of thin film PA membranes modified by grapheme oxide and comparing with commercial membranes”

10- Maryam Samimi (MSc)- Supervisor (*Status: On-going*)

11- Zahra Afsarian (MSc)- Supervisor (*Status: On-going*)



## Teaching Experience

### Tutorial

1. Characterization methods of nanostructures
2. Nanotechnology in polymers
3. Basic principles and calculation in industrial chemistry
4. Industrial chemistry 1
5. Industrial chemistry 2
6. Corrosion
7. Principle of water treatment
8. Oil chemistry
9. General Chemistry 1
10. General Chemistry 2

### Laboratory

1. Industrial chemistry
2. General Chemistry

## Scientific Reports:

- a. *Designing and preparation of polymeric nanoporous membrane in lab scale to remove foulants for decreasing of fouling phenomenon in drip irrigation systems*, 2013, Lorestan Regional Water Company, Ministry of Energy, Iran.
- b. *Preparation and modification of top layer of polyamide thin film membranes with high antifouling properties*, 2013, Iran National Science Foundation, Iran.
- c. *Investigation the effects of membrane thickness and PI concentration on the properties of blend nanoporous PES membranes*, 2012, Lorestan



University, Iran.

- d. *Preparation of Nanofiltration Membranes for Removing of Toxic Heavy Metals and Improvement of Water Quality*, 2010, Lorestan Regional Water Company, Ministry of Energy, Iran.
- e. *Investigation and Preparation of Polymeric Nanofiltration Membranes for Water Treatment*, 2009, New Technologies Center, Ministry of Industry, Iran.
- f. *Separation of Zinc and Magnesium Ions via Dialysis Process*, 2005, Lorestan University, Iran.
- g. *Waste treatment for alcohol manufacturing plant*, 2001, Bidestan Company, Iran.
- h. *Chemical cleaning of reverse osmosis membranes fouled by whey*, 2001, Razi University, Iran.

#### **Scientific Position:**

-Member of Membrane Excellence Center

-Principle associate (Membrane Separation Technology Group) of Biofuel Research Team (BRT)-Agricultural Biotechnology Research Institute of Iran (ABRII)

-Member of Biodiesel Research Team (BRT)

-Member of Editorial Board of ISRN Nanotechnology journal

-Referee of Journal of Membrane Science

-Referee of Desalination

-Referee of Applied Surface Science

-Referee of Advances in Polymer Technology



- Referee of Journal of Industrial and Engineering Chemistry
- Referee of Asia-Pacific Journal of Chemical Engineering
- Referee of Desalination and Water Treatment
- Referee of Iranian Polymer Journal
- Deputy of Science Faculty
- Former Director of University's Industry Relations Office
- Former Director of Postgraduate Committee of Science Faculty of Lorestan University
- Former Member of Postgraduate Committee of Lorestan University
- Member of Research Committee of Lorestan Provincial Directorate of Environmental Protection
- Member of European Membrane Society
- Member of European Desalination Society
- Member of Iranian Chemical Engineers Association
- Member of Iranian Chemistry Society