

# Curriculum Vitae

## 1. Personal Information

**Name:** Mohamed Obaid Ahmed Awad (**M. Obaid**)

**Date of Birth:** June 25, 1984

**Nationality:** Egyptian



**Position:** **Post-doctor** at Water Desalination and Reuse Center (WDRC), King Abdullah University of science and technology (KAUST), Saudi Arabia. **Assistant professor** at Chemical Engineering Department, Faculty of Engineering, Minia University, Egypt.

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## 2. Educations:

**2014.3 ~ 2017.2** Ph.D. Bionanosystem Engineering, Chonbuk National University (CBNU), Jeonju, South Korea.

**2009.9 ~ 2011.7** M.Sc. in Chemical Engineering Dept., Minia University, Egypt.

**2001.9 ~ 2006.5** B.Sc. in Chemical Engineering Dept., Minia University, Egypt.

### 3. Employment History

**2007.04 ~ 2013.12** Assistant Lecturer in Chemical Engineering Dept., Minia University, Egypt.

**2017.03 ~ 2019.04** Post-doctor at Global Desalination Research Center (GDRC), School of Earth Sciences and Environmental Engineering, GIST, South Korea.

**2017 ~ Up to now** Assistant Professor in Chemical Engineering Dept., Minia University, Egypt.

**2019.05 Up to now** Post-doctor at Water Desalination and Reuse Center (WDRC), King Abdullah University of science and technology (KAUST), Saudi Arabia.

### 4. Teaching Experience

#### **2009 ~ 2013 under Graduate Courses:**

- Transport Phenomena
- Chemical Unit Operation
- Chemical Unit Process
- Plant Design and Economics
- Thermodynamics
- Chemical engineering drawing
- Metallurgy
- Modeling and simulation
- Chemical process control
- Wastewater treatment

### 5. Research Interest

- ✚ Fabrication of electrospun nanofiber membranes for forward Osmosis and wastewater treatment (i.e Oil/Water separation) applications.
- ✚ Fabrication of flat sheet membranes using phase inversion method for ultrafiltration and forward osmosis applications.
- ✚ Capacitive deionization (CDI) for desalination.

## 6. Peer-Reviewed Journal Articles (International)

1. **M Obaid**, Mohammad Ali Abdelkareem, Seungho Kook, Hak-Yong Kim, Nidal Hilal, Noredine Ghaffour, In S Kim “*Breakthroughs in the fabrication of electrospun-nanofiber-supported thin film composite/nanocomposite membranes for the forward osmosis process: A review*” **Critical Reviews in Environmental Science and Technology**, 2019, 1-69. **IF (7.47)**
2. **M Obaid**, NorEddine Ghaffour, Sungrok Wang, Myung-Han Yoon, In S Kim “Zirconia nanofibers incorporated polysulfone nanocomposite membrane: Towards overcoming the permeance-selectivity trade-off” **Separation and Purification Technology**, 2019, 116236. **IF (5.107)**
3. **M Obaid**, Yesol Kang, Sungrok Wang, Myung-Han Yoon, Chang-Min Kim, Jun-ho Song, In S Kim “*Fabrication of highly permeable thin-film nanocomposite forward osmosis membranes via the design of novel freestanding robust nanofiber substrates*” **J. Mater. Chem. A**, 2018, 6, 11700-11713. **IF (9.9)**
4. **M Obaid**, Euntae Yang, Dong-Hee Kang, Myung-Han Yoon, In S Kim “Underwater superoleophobic modified polysulfone electrospun membrane with efficient antifouling for ultrafast gravitational oil-water separation”. **Separation and Purification Technology**, 200, July 2018, P284-293. **IF (3.9)**
5. **M. Obaid**, Hend Omar Mohamed, Ahmed S. Yasin, Mohamed A. Yassin, Olfat A. Fadali, and Hak-Yong Kim “*Under-Oil Superhydrophilic Wetted PVDF Electrospun Modified Membrane for Continuous Gravitational Oil/Water Separation with Outstanding Flux*”. **Water Research**, 123, 2017, 524-535. **IF (7.05)**.
6. **M. Obaid**, ZK Ghouri, OA Fadali, KA Khalil, AA Almajid, NAM Barakat, “*Amorphous SiO<sub>2</sub> NP-Incorporated Poly (vinylidene fluoride) Electrospun Nanofiber Membrane for High Flux Forward Osmosis Desalination*”. **ACS applied materials & interfaces** 8 (7), 4561-4574. **IF (7.145)**.
7. **M. Obaid**, Hend Omar Mohamed, Ahmed S. Yasin, Olfat A. Fadali, Khalil Abdelrazek Khalil, TaeWoo Kim “*Novel Strategy for Enhancing Electrospun PVDF Support layer of Thin Film Composite Forward Osmosis Membrane*”. **RSC Adv.**, 2016, 6, 102762-102772. **IF (3.289)**

8. **M. Obaid**, Gehan MK Tolba, Moaded Motlak, Olfat A Fadali, Abdulhakim A Almajid, Bongsoo Kim, Nasser AM Barakat. “*Effective polysulfone-amorphous SiO<sub>2</sub> NPs electrospun nanofiber membrane for high flux oil/water separation*”. **Chemical Engineering Journal** 279, 2015, 631-638. **IF (6.216)**
  
9. **M. Obaid**, Nasser AM Barakat, Olfat A Fadali, Saeed Al-Meer, Khalid Elsaid, Khalil Abdelrazek Khalil “*Stable and effective super-hydrophilic polysulfone nanofiber mats for oil/water separation*”. **Polymer**, 2016, 72, 125-133. **IF (3.586)**
  
10. **M. Obaid**, Nasser AM Barakat, OA Fadali, Moaded Motlak, Abdulhakim A Almajid, Khalil Abdelrazek Khalil. “*Effective and reusable oil/water separation membranes based on modified polysulfone electrospun nanofiber mats*”. **Chemical Engineering Journal** 259, 2015, 449-456. **IF (6.216)**
  
11. **M. Obaid**, OA Fadali, Baek-Ho Lim, H Fouad, Nasser AM Barakat. “*Super-hydrophilic and highly stable in oils polyamide-polysulfone composite membrane by electrospinning*”. **Materials Letters** 138, 2015, 196-199. **IF (2.437)**.
  
12. Mohammad Abdelkareem, Enas Taha Sayed, Hend Omar Mohamed, **M. Obaid\***, Hegazy Rezk, Kyu-Jung Chae “ Nonprecious anodic catalysts for low-molecular-hydrocarbon fuel cells: Theoretical consideration and current progress” **Progress in Energy and Combustion Science**, 2020, 100805. **IF (26.467)**.
  
13. Abayomi Babatunde Alayande, **M Obaid**, In S Kim “ Antimicrobial mechanism of reduced graphene oxide-copper oxide (rGO-CuO) nanocomposite films: The case of Pseudomonas aeruginosa PAO1” **Materials Science and Engineering: C**, 2019, 110596. **IF (4.959)**.
  
14. Yesol Kang, **M. Obaid**, Jaewon Jang, In S Kim “ Sulfonated graphene oxide incorporated thin film nanocomposite nanofiltration membrane to enhance permeation and antifouling properties” **Desalination**, 2019, 114125. **IF (6.035)**.
  
15. Hager M Moustafa, **M. Obaid**, Mamdouh M Nassar, Mohammad A Abdelkareem, Mohamed S Mahmoud “Titanium dioxide-decorated rGO as an effective electrode for ultrahigh-performance capacitive deionization” **Separation and Purification Technology**, 2020, 116178. **IF (5.107)**

16. Abayomi Babatunde Alayande, **M. Obaid**, Hye-Weon Yu, In S. Kim “*High-flux ultrafiltration membrane with open porous hydrophilic structure using dual pore formers*” **Chemosphere**, 227, 2019, P 662-669.
17. Yesol Kang, **M Obaid**, Jaewon Jang, Moon-Ho Ham, In S Kim “*Novel sulfonated graphene oxide incorporated polysulfone nanocomposite membranes for enhanced-performance in ultrafiltration process*” **Chemosphere**, 207, 2018, P 581-589.
18. Hend Omar Mohamed, **M Obaid**, Kyung-Min Poo, Mohammad Ali Abdelkareem, Sawsan Abo Talas, Olfat A Fadali, Hak Yong Kim, Kyu-Jung Chae “*Fe/Fe<sub>2</sub>O<sub>3</sub> nanoparticles as anode catalyst for exclusive power generation and degradation of organic compounds using microbial fuel cell*” **Chemical Engineering Journal**, 349, 2018, P 800-807.
19. Ahmed S Yasin, **M. Obaid**, Ibrahim M A Mohamed, Ahmed Yousef, Nasser AM Barakat. “*Influence of Ti<sub>x</sub>Zr<sub>(1-x)</sub>O<sub>2</sub> nanofibers composition on the photocatalytic activity toward organic pollutants degradation and water splitting*”. **Ceramics International** 41 (9), 11876-11885.
20. Ahmed S Yasin, **M. Obaid**, Mohamed H El-Newehy, Salem S Al-Deyab, Nasser AM Barakat. “*ZrO<sub>2</sub> nanofibers/activated carbon composite as a novel and effective electrode material for the enhancement of capacitive deionization performance*”. **RSC Advances** 7(8):4616-4626 · January 2017
21. Hend Omar Mohamed, **M. Obaid**, Khalil Abdelrazek Khalil and Nasser A.M. Barakat. “*Power generation from unconditioned industrial wastewaters using commercial membranes-based microbial fuel cells*”. **International Journal of Hydrogen Energy** 41 (7), 4251–4263.
22. Hend Omar Mohamed, **M. Obaid**, Ahmed S. Yasin, Jun Hee Kim and Nasser A. M. Barakat “*Electrodepositing technique for improving the performance of crystalline and amorphous carbonaceous anodes for MFCs*”. **RSC Adv.**, 2016, 6, 111657-111665.
23. Olfat A Fadali, **Mohamed Obaid**, Mohamed S Mahmoud, Taha E Farrag, Kim TaeWoo, Khalil Abdelrazek Khalil, Nasser AM Barakat. “*Copper Ion Cementation in Presence of a Magnetic Field*”. **Chemical Engineering & Technology** 38 (3), 441-445.

24. Hend Omar Mohamed, Enas Taha Sayed, **M. Obaid**, Yun-Jeong Choi, Sung-Gwan Park, Siham Al-Qaradawi, Kyu-JungCh “Transition metal nanoparticles doped carbon paper as a cost-effective anode in a microbial fuel cell powered by pure and mixed biocatalyst cultures” **International Journal of Hydrogen Energy**, 43, 46, 2018.
25. Hend Omar Mohamed, Enas Taha Sayed, Hyunjin Cho, Mira Park, **M. Obaid**, Hak-Yong Kim “Effective strategies for anode surface modification for power harvesting and industrial wastewater treatment using microbial fuel cells” **Journal of Environmental Management**, 206, 2018, P 228-235.
26. Nasser AM Barakat, Ayman Yousef, **M. Obaid**, Gehan MK Tolba. “Ag-doped  $M_2O_3$  nanoflakes as effective catalyst for lignin liquefaction in supercritical methanol medium”. **Ceramics International** 42 (3), 4386-4392.
27. Ayman Yousef, Robert M Brooks, MM El-Halwany, **M. Obaid**, Mohamed H El-Newehy, Salem S Al-Deyab, Nasser AM Barakat. “A novel and chemical stable Co–B nanoflakes-like structure supported over titanium dioxide nanofibers used as catalyst for hydrogen generation from ammonia borane complex”. **International Journal of Hydrogen Energy** 41 (1), 285-293.
28. Moaaed Motlak, Nasser AM Barakat, Ahmed G El-Deen, AM Hamza, **M. Obaid**, O-Bong Yang, M Shaheer Akhtar, Khalil Abdelrazek Khalil. “NiCu bimetallic nanoparticle-decorated graphene as novel and cost-effective counter electrode for dye-sensitized solar cells and electrocatalyst for methanol oxidation”. **Applied Catalysis A: General** 501, 41-47.
29. Moaaed Motlak, Nasser AM Barakat, M Shaheer Akhtar, Ahmed G El-Deen, **M. Obaid**, Cheol Sang Kim, Khalil Abdelrazek Khalil, Abdulhakim A Almajid “High-efficiency dye-sensitized solar cells based on nitrogen and graphene oxide co-incorporated  $TiO_2$  nanofibers photoelectrode”. **Chemical Engineering Journal** 268, 153-161.
30. Zafar Khan Ghouri, Nasser AM Barakat, **M. Obaid**, Joong Hee Lee, Hak Yong Kim. “Co/CeO<sub>2</sub>-decorated carbon nanofibers as effective non-precious electro-catalyst for fuel cells application in alkaline medium”. **Ceramics International** 41 (2), 2271-2278.
31. Hegazy Rezk, Enas Taha Sayed, Mujahed Al-Dhaifallah, **M.Obaid**, Abou Hashema M. El-Sayed, Mohammad Ali Abdelkareem, A.G.Olabi “Fuel cell as an effective energy

*storage in reverse osmosis desalination plant powered by photovoltaic system*” **Energy** 175, 2019, P423-433.

32. OA Fadali, EE Ebrahiem, TE Farrag, MS Mahmoud, **M. Obaid**, AM Barakat. “*Enhancement of Mass Transfer Rate and Diminution of the Power Consumption of Copper Cementation Using Electromagnetic Field*”. **Energy and Environment Focus 2** (2), 133-138.
33. Olfat A. Fadali, Ebrahiem E. Ebrahiem, Taha E. Farrag, Nasser A. Barakat, Mohamed S. Mahmoud and **M. Obaid** “*Effect Of Magnetic Field On The Rate Of Copper Cementation Onto Rotating Iron Cylinder*” **Journal of Engineering Science, EL-Minia University, Vol. 30, September, 2011.**
34. Nasser A.M. Barakat, Mohannad Alajami, Yazan Al Haj, **M. Obaid**, Saeed Al-Meer. “*Enhanced onset potential NiMn-decorated activated carbon as effective and applicable anode in urea fuel cells*”. **Catalysis Communications**, Vol. 97, Pp. 32–36. 5/7/2017.
35. Nasser A.M. Barakata, M. Shaheer Akhtar, Ibrahim M.A. Mohamed, Yara Abu Dakk, Rawan Hamdan, Ahmed G. El-Deen, Khalid Elsaid, **M. Obaid**, Saeed Al-Meer. “*Effective and stable FeNi@ N-doped graphene counter electrode for enhanced performance dye sensitized solar cells*”. **Materials Letters**, Vol. 191, PP. 80–84. 15/3/2017.

## **7. Submitted Manuscript**

→ Yuna Bang, **M. Obaid**, Mihee Jang, and In S. Kim “Influence of bore fluid composition on physiochemical properties and performance of hollow fiber membrane for ultrafiltration” **Chemical Engineering Journal**, Under Review.

## **8. Conference Presentations (international)**

1. **M. Obaid**, Olfat A. Fadali, Euntae Yang, Abayomi Babatunde Alayande and In S. Kim “Synthesis and characterization of TFC-FO supported by SiO<sub>2</sub> NPs incorporated PVDF electrospun nanofiber” **IDW 2017**, the 10<sup>th</sup> International Desalination Workshop, South Korea, November, 2017.

2. **M. Obaid**, Hend Omar Mohamed and Nasser Barakat. “Novel electrospun polymeric membranes for efficient and high flux Oil/Water Separation” ICEEA 2016 Kuala Lumpur, Malaysia, July 25-27, 2016.

3. **M. Obaid**, Olfat A. Fadali and Nasser A. M. Barakat. “Influence of GO NPs and SiO<sub>2</sub> NPs on Electrospun Nanofiber Membrane for Hexane/Water Separation”. ICHM201516-03, 2015 International Conference on Hybrid Materials, Jeonju, South Korea, May 15-17, 2015.

## 9. Book and Book Chapter

- 1- **Mohamed Obaid**, Olfat A. Fadali, Mohamed S. Mahmoud. “Magic of magnetic field: Influence of Magnetic Field on Removal of Copper Ions from Waste-water” ISBN:978-3-659-14273-4.

## 10. Other Professional Experiences

### **Designer in R&D TECH CENTER**

- 1- I participated in the design of the first production line of Pharmaceutical products from herbs for Eva Pharma Company. 2009, (R&D TECH Center).[**Design of Evaporators, Condensers, and precipitator and Percolator**]
- 2- I participated in the design of treatment system for Gray Water Treatment.
- 3- I participated in the design of treatment system for wastewater from car wash station.
- 4- I worked as a member of project Team of water desalination using solar energy project for 2 years, Minia University.
- 5- I participated in the feasibility study for design of fancy molasses factory.

## 11. Academic References

1- **Prof. In Soo Kim, Professor** Global Desalination Research Center (GDRC), School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), 123 Cheomdangwagi-ro, Buk-gu, Gwangju, 61005, South Korea.

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2- **Prof. Olfat A. Fadali, Professor** Chemical Engineering Department, Faculty of Engineering, EL-Minia University, EL-Minia, Egypt.

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3- **Prof. Hak Yong Kim, Professor** Department Organic Materials & Fibers and Director-Center for Healthcare Technology Development, Chonbuk National University, Jeonju 561-756, Republic of



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4- **Prof. Mohammad Ali, Associate Professor** Dept. of Sustainable and Renewable Energy Engineering, University of Sharjah, PO Box 27272, Sharjah, United Arab Emirates.

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5- **Prof. Chan Hee Park, Associate Professor** Department of Bionanosystem Engineering, Graduate school, Chonbuk National University, Jeonju, Jeonbuk 561-756, Republic of Korea.

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