**RESUME**

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# Education

2001- 2004 Carnegie Mellon University, USA

*Ph.D. in Mechanical Engineering /Thermal Science*

1998 - 2000 Purdue University, USA

*Master Degree.in Nuclear Engineering/ Two-phase Flow*

1990 – 1995 King Saud University, Saudi Arabia

*B.Sc. in Mechanical Engineering*

# Professional Career

Aug. 2021- Jan. 2024 Vice President, Research, Innovation and Graduate Studies, Alfaisal University, Riyadh KSA

Aug. 2021- present Professor, Mechanical Engineering Dept, Alfaisal University

Sep. 2019- May 2021 Vice President of Research Institutes, King Abdulaziz City for Science & technology (KACST), Riyadh KSA

Feb.2020-Nov. 2020 S20 Circular Economy Task Force Lead, G20, Saudi Arabia.

Oct. 2018- Sep. 2019 Director, Industrial and Innovation Affairs, KACST

April 2014-Sep. 2019 Director, Institute of Water and Energy Research, KACST

Mar. 2014-July 2021 Professor, Institute of Energy Research, KACST

Aug. 2013- July 2021 Adjunct Faculty- Alfaisal University, Riyadh

Feb. 2010- July 2021 Associate Professor, KACST

June 2006- Dec. 2010 Executive Director, National Energy Efficiency Program

Jan. 2006-Jn 2010 Assistance Professor, Institute of Energy Research, KACST

Jan. 2002-Aug. 2002 Research Assistant, Integrated Complex Engineering System (ICES), Carnegie Mellon University

July 1995- Jan 2002 Scientific Researcher, KACST

# Major Projects:

* Water Desalination Plant for Producing 60K m3/a Day using 10 MW PV Solar Energy, Al Kafaji, Saudi Arabia, 2018.
* 100 MW PV Module Manufacturing Line Production., 2016.
* 100 MW PV Cell Manufacturing Line Production., 2018.
* Low Power Research Reactor, KACST,2019-2021.
* 5000 m3 /d CODECO Multi-Hybrid Desal & Crystallization Plant SWCC Rabig,.2021.
* JWAP Distillate CODECO Cooling System- RAS TANURAH, 2020.
* SWRO MNBF-CMF Pretreatment, Al-Khafji, 2019.
* Sorption Cooling by Utilizing Waste Heat in Power Plant PP9,2021-2022.
* MNB Flotation Muncipal Sewage Wastewater Treatment Plant-MODON, Sudair Zone, 2020-22.
* Multi-Hybrid Zero Liquid Discharge System for Radioactive -MODON, Tabuk, 2020-2022.
* MBB Generation System for Shrimp Farming for National Aquaculture Grp, NAQUA, 2020-2021.
* Advanced MNBFO3 Wastewater Treatment for NADEK, 2020-2021.

# Board Member

* Oil Demand Sustainability Program Steering Committee, 2019-2021.
* Saudi Energy Efficiency Center, Board Member, 2019-2021.
* King Abdullah City for Atomic & Renewable Energy (KACAR), Board Memb, 2015-2020.
* MODON, Board Member, 2018 - 2021.
* Research Product Development Company (RPDC), Board Member, 2018-2020.
* Saudi Authority for Intellectual Property, Board Member 2018-2020.

# Selected Papers Published in ISI Journals

* Karol Sztekler, Wojciech Kalawa, Tomasz Bujok, Piotr Boruta, Ewelina Radomska, Łukasz Mika, Agata Mlonka-Mędrala, Wojciech Nowak, Joanna Słoma, Artur Wójcikowski, **Yousef M Alyousef**, Nader H Daher, Dominik Pawlak, Aleksander Widuch, “[Hybrid desalination system for Baltic Sea water: A preliminary study](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=ehhN5jsAAAAJ&cstart=20&pagesize=80&citation_for_view=ehhN5jsAAAAJ:iH-uZ7U-co4C)”, Desalination 574, 117269. (2024).
* Mattheus Goosen, Hacene Mahmoudi, Yousef Alyousef, Noreddine Ghaffour, “ [Solar desalination: A review of recent developments in environmental, regulatory and economic issues](https://www.sciencedirect.com/science/article/pii/S2772940023000024)”, Solar Compass,2023.
* Felix Hippauf, Thomas Abendroth, Julia Neidhardt, Holger Althues, Saad A Aljlil, Radwan A Alrasheed, **Yousef M Alyousef**, Stefan Kaskel, “[Increasing the Stability of LiMn2O4 Against Harsh Conditions During Lithium Recovery from Real Brine Solutions](https://onlinelibrary.wiley.com/doi/abs/10.1002/ente.202100145)”, Energy Technology, 9, 8, page 2100145, 2021/8.
* Feraih Alenazey, Bandar AlOtaibi, Raja A. L. Otaibi, **Yousef Alyousef**, Salma Alqahtania, Amjad Qazaq, Umer Zahid. “A Novel Carbon-Resistant Perovskite Catalyst for Hydrogen Production Using Methane Dry Reforming”, Catalysis volume 64, pages348–356 (2021).
* Feraih Alenazey\*, **Yousef Alyousef**, Bandar AlOtaibi, Ghzzai Almutairi, Manickam Minakshi, Chin Kui Cheng, and Dai-Viet. “Degradation Behaviors of Solid Oxide Fuel Cell Stacks in Steady-State and Cycling Conditions” Energy Fuels 2020, 34, 11, 14864–14873 (2020).
* Ghzzai Almutairi, Feraih Alenazey, and **Yousef Alyousef** "Impact of Changing Mode on the Execution of 100 W Solid Oxide Fuel Cells (SOFCs)" Journal of New Materials for Electrochemical Systems 22,4, 179-184 (2019).
* G. Almutairi, **Y. Alyousef** and F. Alenazey “Analysing Carbon Deposition on Ni/YSZ Anode Tested in a Solid Oxide Fuel Cell (SOFC)” Journal of New Materials for Electrochemical Systems 20, 129-133 (2017).
* Ghzzai Almutairi, Feraih Alenazey**, Yousef Yousef** and Basheer Alshammari “Alanine Assisted Synthesis and Characterization of La0.65Sr0.3MnO3 (LSM) Nanocrystalline Cathode Powders for Solid Oxide Fuel Cells (SOFC)” Int. J. Electrochem. Sci., 12(2017).
* G.N. Almutairi \*, M. Ghouse, **Y. M. Alyousef**, and F.S.Alenazey “Synthesis and characterization of nanocrystallineLa0.65Sr0.3 MnO3 andLa0.8Sr0.2MnO3 cathode powders by auto-ignition technique for solid oxide fuel cells (SOFC)” Journal of New Materials for Electrochemical Systems 19(2), 65-76 (2016(.
* G.N. Almutairi, **Y. M. Alyousef**, F. S. Alenazey, S. A Alnassar and H. Alsmail “Electrochemical Characteristics of La0.65Sr0.3 MnO3 and La0.8Sr0.2MnO3 Nanoceramic Cathode Powders for Intermediate Temperature Solid Oxide Fuel Cell (SOFC) Application” Int. J. Electrochem. Sci., 11(2016).
* Hassan, H.Z., Mohamad, A.A., **Alyousef, Y.**, Ansary, H.A. " A review on the equations of state for the working pairs used in adsorption cooling systems" Renewable and Sustainable, Energy Reviews 45, pp.600-609, 2015.
* **Y. Alyousef**, A.A. Antukh, A.P. Tsitovich and L.L. Vasiliev, (2012), *“Three Adsorbers Solar Cooler with Composite Sorbent Bed and Heat pipe Thermal Control”* Applied Thermal Engineering, Vol 38, pp. 124-130, 2012.
* **Y. Alyousef** and Mohammad Ghouse, (2011), *“Synthesis of Ba0.5Co0.2Fe0.8O3 (BSCF) Nanoceramic Cathode Powders by Sol-Gel Process for Solid Oxide Fuel Cell (SOFC) Application”* World Journal of Nano Science and Engineering, Vol 1, pp. 99-107, 2011.
* **Y. Alyousef** and Paul Stevens, (2011), “The cost of domestic energy prices to Saudi Arabia” Journal of Energy Policy, Vol 39, pp.6900-6905, 2011.
* **Y. Alyousef** and Mohammad Ghouse, (2011), *“Synthesis of Ba0.5Co0.2Fe0.8O3 (BSCF) Nanoceramic Cathode Powders by Sol-Gel Process for Solid Oxide Fuel Cell (SOFC) Application”* World Journal of Nano Science and Engineering, Vol 1, pp. 99-107, 2011.
* **Y. Alyousef** and Paul Stevens, (2011), “The cost of domestic energy prices to Saudi Arabia” Journal of Energy Policy, Vol 39, pp.6900-6905, 2011.
* **Y. Alyousef** and Mohammad Ghouse, (2011), *“Preparation of La0.6Ba0.4Co0.2Fe0.8O3 (LBCF) Nanoceramic Cathode Powders by Sol-Gel Process for Solid Oxide Fuel Cell (SOFC) Application”* Journal of Energy and Power Engineering, Vol 3, pp. 382-391, 2011.
* **Y. Alyousef** and Mohammad Ghouse, (2011), *“Preparation of La0.6Ba0.4Co0.2Fe0.8O3 (LBCF) Nanoceramic Cathode Powders by Sol-Gel Process for Solid Oxide Fuel Cell (SOFC) Application”* Journal of Energy and Power Engineering, Vol 3, pp. 382-391, 2011.
* M. Ghouse, A. Al-Musa, **Y. Alyousef** and M.F. Al-Otaibi, (2010), *“Synthesis of Mg doped LaCrO3 Nano Powders by Sol-Gel Process for Solid Oxide Fuel Cell (SOFC) Application”* Journal of New Materials for Electrochemical Systems, Vol 13, pp. 99-106, 2010.
* Leonard L. Vasiliev, Larisa E. kanonchik and **Y. Alyousef**, (2010), *“Advanced Sorbent thermally regulated hydrogen vessel”* Applied Thermal Engineering, Vol. 30, pp. 908-916, 2010.
* M. Ghouse, **Y. Alyousef**, A. Al-Musa and M.F. Al-Otaibi, (2010), *“Preparation of La0.6Sr0.4Co0.2Fe0.8O3 nanoceramic cathode powders for solid oxide fuel cell (SOFC) application”* International Journal of Hydrogen Energy, pp. 1-9, 2010.
* **Y. Alyousef** and A. Varnham, (2010), *“Saudi Arabia’s National Energy Efficiency Program: Description, Achievements, and Way Forward”* International Journal of Low-Carbon Technologies, IJLCT-2010-012, 2010.
* **Y. Alyousef** and A. Varnham, (2010), *“Saudi Arabia’s National Energy Efficiency Program: Description, Achievements, and Way Forward”* International Journal of Low-Carbon Technologies, IJLCT-2010-012, 2010.
* M. Ghouse, **Y. Alyousef**, A. Al-Musa and M.F. Al-Otaibi, (2010), *“Preparation of La0.6Sr0.4Co0.2Fe0.8O3 nanoceramic cathode powders for solid oxide fuel cell (SOFC) application”* International Journal of Hydrogen Energy, pp. 1-9, 2010.
* Leonard L. Vasiliev, Larisa E. kanonchik and **Y. Alyousef**, (2010), *“Advanced Sorbent thermally regulated hydrogen vessel”* Applied Thermal Engineering, Vol. 30, pp. 908-916, 2010.
* **Y. Alyousef,** Moni Kanchan Datta, Karan Kadakia, S.C. Yao and Prashant N. Kumta, (2010), *“Sol-gel synthesis of Pt-Ru-Os-Ir based anode electro-catalysts for direct methanol fuel cells”* Journal of Alloys and Compounds, vol 506, pp.698-702, 2010.
* M. Ghouse, A. Al-Musa, **Y. Alyousef** and M.F. Al-Otaibi, (2010), *“Synthesis of Mg doped LaCrO3 Nano Powders by Sol-Gel Process for Solid Oxide Fuel Cell (SOFC) Application”* Journal of New Materials for Electrochemical Systems, Vol 13, pp. 99-106, 2010.
* **Y. Alyousef,** Moni Kanchan Datta, Karan Kadakia, S.C. Yao and Prashant N. Kumta, (2010), *“Sol-gel synthesis of Pt-Ru-Os-Ir based anode electro-catalysts for direct methanol fuel cells”* Journal of Alloys and Compounds, vol 506, pp.698-702, 2010.
* **Y. Alyousef**, P. Kumta, M.Datta, and S.Yao, (2009), “Complexed Sol-Gel Synthesis of Improved Pr-Ru-Os based Anode Electro-catalysts for Direct Methanol Fuel Cells” Journal of Physics and Chemistry of Solids, vol 70, pp. 1019-1023, 2009.
* Hee Joon Lee, Dong Yao Liu, **Y. Alyousef** and S.C. Yao, (2009), “*Generalized Two-phase Pressure Drop and Heat Transfer Correlations in Evaporative Micro/Mini-channels,*” Accepted for publication in the Journal of Heat Transfer.
* M. Ghouse, **Y. Alyousef**, A. Al-Musa, and M. Al-Otaibi, (2009), “Preparation La0.7Ca0.3CrO3 Nano Ceramic Powders by Sol-Gel process for Solid Oxide Fuel Cell (SOFC) Application,” World Journal of Engineering, Vol. 6, (1), pp. 149-155, 2009.
* C.C. Hsieh, S.C. Yao and **Y. Alyousef**, (2000), “*Development of a silicon-based passive gas-liquid separation system for microscale direct methanol fuel cells,*” International Journal of Nonmanufacturing, Vol.4, N0. (1-4), pp. 13-25, 2009.

# Patents

1. Patent Name: "Energy-efficient method for producing compressed carbon dioxide suitable for enhanced oil or gas recovery", EP3060520.
2. Patent Name: "Combined system for the production of electricity, heat, cold and water for district cooling using a three-bed adsorption chiller", P.420314 (EU),
3. Patent Name: "Multi-Effect Adsorption Distillation with Cooling", P.422713 (EU).
4. Patent Name: " Device for collecting solar energy by means of a concentrator of the nonimaging type", no. 16728094.0 (EU).
5. Patent Name: " Combined desalinated water production system", P.423020. (EU).
6. Patent Name: " Water desalination system", P.423244(EU).
7. Patent Name: " Evaporative water desalination system, scale build-up prevention method in evaporative water desalination systems and use of water saturated with micro-nano bubbles", P.423783(EU).
8. Patent Name: " Cooling tower and method for preventing development of contamination on cooling tower heat exchanger", P.423807(EU).
9. Patent Name: " Method and apparatus for the extraction of lithium from aqueous lithium sources containing dissolved lithium, carbonate, calcium and/or magnesium with aid of nanofiltration and reverse osmosis membranes”, Patent No 2021160241.
10. Patent Name: " [Method and apparatus for the extraction of lithium from aqueous lithium sources](https://publica.fraunhofer.de/entities/patent/bb0b62b2-8a9e-4ec5-ae2c-f360a086ecf6)”. Patent No 2021160239.
11. Patent Name: " [Method and apparatus for the electrochemical extraction of lithium from aqueous lithium sources](https://publica.fraunhofer.de/entities/patent/d0c9c95a-25db-4320-8507-f4fc488989e1)”, Patent No 2021160240
12. Patent Name: " Water treatment system and a method of filtration membranes cleaning", P.424148 (EU)
13. Patent Name: "Water desalination system and a method for brine concentration." P. 425611(EU).
14. Patent Name: "Water desalination system with desalination collector", P.426038 (EU).
15. Patent Name: “Hydrogen production device and a method of hydrogen production using thereof.” P.434074.
16. Patent Name: “Method for anode production material preparation and device for thereof.” P.436471.
17. Patent Name: “Mobile sanitization unit.” P.433765

# Book Chapters

1. Alyousef, Y., Goosen, M., and Elakwah Y., 2017, ***A critical review of fuel cell commercialization and its application in desalination***. in: Mahmoudi, H, Ghaffour, N., Goosen, M.F.A. and Bundschuh, J (Eds). “*Renewable Energy Technologies for Water Desalination*”, CRC Press (Taylor Frances Group) (Balkema NDL), Chapt 9, pp169-182.
2. “Energy Efficiency: Abridge to Low Carbon Economy” Chapter 13 entitled “Energy ***Efficiency Initiatives for Saudi Arabia on Supply and Demand Sides”*** March 2012.

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