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Current Title: Assistant Professor in Mechanical Power Engineering Dept., Faculty of Engineering, Mansoura University, Egypt.

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FIELDS OF SPECIALIZATION

- Membrane Technology
- Water Desalination
- New and Renewable energy

DEGREES

- **PhD, 2020**, Egypt Japan University of Science and Technology (E-JUST), Egypt, “Development of A Membrane Distillation System Utilizing Renewable Energy”, GPA =4.0.
- **MSc, 2016**, Faculty of engineering, Mansoura University, Egypt, “Dynamic Characteristics of Adsorbed Natural Gas Storage during Charging and Discharging Processes”.
- **BSc, 2008**, Faculty of engineering, Mansoura University, Excellent with honor.

ACADEMIC AND INDUSTRIAL POSITIONS

- Assistant professor, Mechanical Power Engineering Department, Faculty of Engineering, Mansoura University, Egypt (March 2020 – present).
- Assistant lecturer, Mechanical Power Engineering Department, Faculty of Engineering, Mansoura University, Egypt (June 2016 - February 2017).
- Demonstrator, Mechanical Power Engineering Department, Faculty of Engineering, Mansoura University, Egypt (May 2009 - June 2016).
- Director of FABLAB, Faculty of Engineering, Mansoura University, Egypt (June 2021- present).

PATENTS, PUBLICATIONS

Journal Papers

- [1] Kandil A.A., Awad M.M., Sultan G.I., Salem M.S., Investigating the performance characteristics of low concentrated photovoltaic systems utilizing a beam splitting device under variable cutoff wavelengths, Renewable Energy, ELSEVIER (England), 196, 375-389, 2022.
- [2] Amer M.M., Shouman M.A., Megalaa K.F., Salem M.S., Flow Characteristics in Non-Conventional Combustion Chamber Configurations, Physics of Fluids, AIP publishing (USA), 34, 115141, 2022.
- [3] Abd-Elhady M.M., El-Sharkawy I.I., Hamed A.M., Salem M.S., Performance evaluation of a novel multi-tray packed bed solid desiccant dehumidification system, International Journal of

Refrigeration, ELSEVIER (England), 2022.

- [4] Salem M.S., Elmarghany M.R., Salem N., Nady N., Synthesis of Urchin-Shaped Gold Nanoparticles Utilizing Green Reducing and Capping Agents at Different Preparation Conditions: An In Vitro Study, *Sustainability*, MDPI (Switzerland), 14(24), 16838, 2022.
- [5] Nady N., Salem N., Elmarghany M. R., Salem M.S., Kandil S. H., Novel Magnetic Mixed Cellulose Acetate Matrix Membranes with Oxygen-Enrichment Potential, *Membranes*, MDPI (Switzerland), 12(12), 1259, 2022.
- [6] Abd-Elhady M.M., Salem M.S., Hamed A.M., El-Sharkawy I.I., Solid desiccant-based dehumidification systems: A critical review on configurations, techniques, and current trends, *International Journal of Refrigeration*, ELSEVIER (England), 133, 337-352, 2022.
- [7] Elmarghany M.R., Radwan A., Shouman M.A., Khater A.A., Salem M.S., Abdelrehim O., Year-long energy analysis of building brick filled with phase change materials, *Journal of Energy Storage*, ELSEVIER (Netherlands), 50, 104605, 2022.
- [8] Abo-Zahhad E.M., Ghenai C., Radwan A., Abdelrehim O., Salem M.S., Elmarghany M.R., Khater A., Shouman M.A., A Micro-Metal Inserts Based Microchannel Heat Sink for Thermal Management of Densely Packed Semiconductor Systems, *Sustainability*, MDPI (Switzerland), 14 (21),14182, 2022.
- [9] Garehbagh A.M., Rajabzadeh S., Shouman M.A., Elmarghany M.R., Salem M.S., Arahman N., Mohammadi T., Matsuyama H., Simulation Assessment of Inlet Parameters and Membrane-Surface-Structure Effects on CO₂ Absorption Flux in Membrane Contactors, *Sustainability*, MDPI (Switzerland), 14 (21),14527, 2022.
- [10] Zeitoun Z., El-Shazly A.H., Nosier S., Elmarghany M.R., Salem M.S., Taha M.M., Electrospinning of polyvinylidene fluoride membranes: Effect of membrane composition and fabrication conditions, *Egyptian Journal of Chemistry*, NATL INFORM & DOCUMENT CENTRE (Egypt), 65, 41-50, 2022.
- [11] Rabie M., Ali A.Y.M., Abo-Zahhad E.M., Elqady H.I., Elkady M.F., Ookawara S., El-Shazly A.H., Salem M.S., Radwan A., Thermal analysis of a hybrid high concentrator photovoltaic/membrane distillation system for isolated coastal regions, *Solar Energy*, ELSEVIER (USA), 215, 220-239, 2021.
- [12] Lin Y., Salem M.S., Zhang L., Shen Q., El-shazly A.H., Nady N., Matsuyama H., Development of Janus membrane with controllable asymmetric wettability for highly efficient oil/water emulsions separation, *Journal of Membrane Science*, ELSEVIER (Netherlands), 606, 118141, 2020.
- [13] Rabie M., Salem M.S., Ali A.Y.M., El-Shazly A.H., Elkady M.F., Ookawara S., Modeling of an integrated air gap membrane distillation unit utilizing a flat plate solar collector, *Energy Reports*, ELSEVIER (Netherlands), 6, 1591-1596, 2020.
- [14] Zeitoun Z., El-Shazly A.H., Nosier S., Elmarghany M.R., Salem M.S., Taha M.M., Performance evaluation and kinetic analysis of photocatalytic membrane reactor in wastewater treatment, *Membranes*, MDPI (Switzerland), 10 (10), 276, 2020.
- [15] Elmarghany M.R., El-Shazly A., Rajabzadeh S., Salem M.S., Shouman M.A., Sabry M.N., Matsuyama H., Nady N., Triple-layer nanocomposite membrane prepared by

electrospinning based on modified PES with carbon nanotubes for membrane distillation applications, *Membranes*, MDPI (Switzerland), 10 (1), 15, 2020.

- [16] Salem M.S., El-shazly A.H., Nady N., Elmarghany M.R., Shouman M.A., Sabry M.N., 3-D numerical investigation on commercial PTFE membranes for membrane distillation: Effect of inlet conditions on heat and mass transfer, *Case Studies in Thermal Engineering*, ELSEVIER (Netherlands), 13, 100396, 2019.
- [17] Salem M.S., El-Shazly A., Nady N., Elmarghany M., Sabry M., PES/PVDF blend membrane and its composite with graphene nanoplates: Preparation, characterization, and water desalination via membrane distillation, *Desalination and Water Treatment*, Desalination Pub. (Italy), 166, 9-23, 2019.
- [18] Salem M.S., El-Shazly A.H., Elmarghany M.R., Sabry M.N., Nady N., Effect of adding functionalized graphene on the performance of PVDF membrane in direct contact membrane distillation, *Key Engineering Materials*, Trans Tech. (Switzerland), 801, 337-342, 2019.
- [19] Elmarghany M.R., El-Shazly A.H., Salem M.S., Sabry M.N., Nady N., Novel membrane suitable for membrane distillation: Effect of mixed nanofillers on the membrane performance, *Key Engineering Materials*, Trans Tech. (Switzerland), 801, 325-330, 2019.
- [20] Elmarghany M.R., El-shazly A.H., Salem M.S., Sabry M.N., Nady N., Thermal analysis evaluation of direct contact membrane distillation system, *Case Studies in Thermal Engineering*, ELSEVIER (Netherlands), 13, 100377, 2019.
- [21] Shouman M.A., El-shazly A.H., Elkady M.F., Salem M.S., Elmarghany M.R., Sabry M.N., Shape optimization of an innovative hepatic sinusoids-based micromixer, *Chemical Engineering and Processing-Process Intensification*, ELSEVIER (Switzerland), 146,107684, 2019.

Conference Publications

- [1] Radwan A., Abo-Zahhad E.M., Abdelrehim O., El-Shazly A.H., Ookawara S., Awad M.M., El-Kady M.F., Elmarghany M.R., Salem M.S., Shouman M.A., Developing an optimum design of the double layer microchannel heat sink for high-speed CPUs, 18th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM 2020), Online, ASME (USA), 2020.
- [2] Shouman M.A., El-Shazly A.H., Salem M.S., Elmarghany M.R., Abo-Zahhad E.M., Elkady M.F., Sabry M.N., Radwan A., A hepatic sinusoids-based microreactor for photocatalytic degradation of methylene blue by titanium dioxide, 18th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM 2020), Online, ASME (USA), 2020.
- [3] Abo-Zahhad E.M., El-Shazly A.H., Ookawara S., El-Kady M.F., Ali A.Y.M., Elqady H.I., Elmarghany M.R., Salem M.S., Shouman M.A., Radwan A., Four compartments stepwise varied width microchannels cooling approach for densely-packed module of concentration photovoltaics, 18th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM 2020), Online, ASME (USA), 2020.
- [4] Elmarghany M.R., El-Shazly A.H., Radwan A., Abo-Zahhad E.M., Nady N., Sabry M.N., Shouman M.A., Salem M.S., Effect of cell design on the thermal performance of direct contact membrane distillation system utilizing a nanocomposite membrane. *Heat Transfer Summer*

Conference (HT 2020), Online, ASME (USA), 2020.

- [5]Tawfik M., Salem M.S., Key parameters affecting concentration ratio of a solar concentrator based on lens-lens beam generator configuration, 43rd ASES National Solar Conference (SOLAR 2014), San Francisco, USA, 6-10 July 2014, ASES (USA), 95-101, 2014.
- [6]Salem M.S., Tawfik M., Hamed A.M., Analysis and Performance of Solar Concentrating-Tracking System, 7th General International Engineering Conference, Sharm AL sheikh, Egypt, November 2010, faculty of engineering, Mansoura University, 2010.

