MOHAMED NASSER

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EXPERIENCE

2024-Present
Lecturer, Mechanical Engineering Department, Faculty of Engineering, Zagazig University.

2020-2024
Ph.D. researcher, Energy Resources Engineering Department, Egypt-Japan University of Science and Technology (EJUST).

2019-2020
TEACHING ASSISTANT, Faculty of Engineering, Zagazig University.

2014 – 2019
DEMONSTRATOR, Faculty of Engineering, Zagazig University.

2013 – 2014
MAINTENANCE ENGINEER, German Company for Battery Manufacturing**.**

2012-2013
HYDRAULIC MAINTENANCE ENGINEER, Sedico for Pharmaceutical Industries.

EDUCATION

2024
Ph.D., Energy Resources Department (ERE) at Egypt-Japan University of Science and Technology (EJUST).
Green hydrogen production (GPA 3.92).

MARCH 2019
MSC, Faculty of Engineering, Zagazig University
Heat transfer enhancement in circular tube using artificial protrusions.

JULY 2012
BSC, Faculty of Engineering, Zagazig University
Grade: very good with honors (83.56%).

TRAINING

1. **Delta Fertilizers and Chemical Industries (Semad Talkha).**
2. **Industrial training council [HVAC & CAR Maintenance].**
3. **EMA Co. for Hydraulic Service.**
4. **Obour Company for Metal Industries (Galva- Metal).**

SKILLS

Computer skills

•ANSYS FLUENT
• Lab View
• Microsoft office
• HAP
• AutoCAD & REVIT MEP
•MATLAB
•TRNSYS
•ENGINEERING EQUATION SOLVER (EES)

TEACHING SKILLS

• Refrigeration & Air conditioning
• Heat and mass transfer.
• Thermodynamics.
• Engineering measurements.
• Fluid mechanics and Turbomachinery.
• Hydraulic circuits and Pneumatic.
• Renewable Energy.

PROFESSIONAL SKILLS

CONFERENCE ORGANIZATION

- **ICFD13-Egypt,2018.**
  (Held in Steigenberger Hotel El Tahrir Cairo).

• **Mechanical Power Dept. Annual Conference.**
(Held in Facility of Engineering Zagazig University).

MEMBERSHIPS

• **Engineers Syndicate.**
• **ASME.**

Research Skills

h-index: **14**
i10-index: **15**
Number of Citations: 995
ResearchGate: https://www.researchgate.net/profile/Mohamed-Nasser-40
Google Scholar: Mohamed Nasser - Google Scholar
Scopus Author Identifier: **57476605800**
OrcId: https://orcid.org/0000-0001-8983-7808

List of publications

[1] **Mohamed Nasser**, Tamer F. Megahed, Shinichi Ookawara, and Hamdy Hassan. "Techno-economic Assessment of Clean Hydrogen Production and Storage Using Hybrid Renewable Energy System of PV/Wind under Different Climatic Conditions." ***Sustainable Energy Technologies and Assessments*** *52*, (2022): 102195. https://doi.org/10.1016/j.seta.2022.102195.

[2] **Mohamed Nasser**, Tamer F. Megahed, Shinichi Ookawara, and Hamdy Hassan. " Techno-economic assessment of green hydrogen production using different configurations of wind turbines and PV panels." ***Journal of Energy Systems*** *6*, (2022): 560-572. https://doi.org/10.30521/jes.1132111.

[3] **Mohamed Nasser**, Tamer F. Megahed, Shinichi Ookawara, and Hamdy Hassan. "Performance Evaluation of PV Panels/Wind Turbines Hybrid System for Green Hydrogen Generation and Storage: Energy, Exergy, Economic, and Enviroeconomic." ***Energy Conversion and Management*** *267*, (2022): 115870. https://doi.org/10.1016/j.enconman.2022.115870.

[4] **Mohamed Nasser**, Tamer F. Megahed, Shinichi Ookawara, and Hamdy Hassan. A review of water electrolysis–based systems for hydrogen production using hybrid/solar/wind energy systems. **Environ Sci Pollut Res** 2022:1–25. https://doi.org/10.1007/S11356-022-23323-Y.

[5] **Mohamed Nasser**, and Hamdy Hassan. "Techno-enviro-economic Analysis of Hydrogen Production via Low and High Temperature Electrolyzers Powered by PV/Wind Turbines/Waste Heat." ***Energy Conversion and Management*** *278*, (2023): 116693. https://doi.org/10.1016/j.enconman.2023.116693.

[6] **Mohamed Nasser**, and Hamdy Hassan. "Assessment of Hydrogen Production from Waste Heat Using Hybrid Systems of Rankine Cycle with Proton Exchange Membrane/Solid Oxide Electrolyzer." ***International Journal of Hydrogen Energy*** *48*, no. 20 (2023): 7135-7153. https://doi.org/10.1016/j.ijhydene.2022.11.187.

[7] **Mohamed Nasser**, and Hamdy Hassan. "Assessment of Standalone Streetlighting Energy Storage Systems Based on Hydrogen of Hybrid PV/Electrolyzer/Fuel Cell/ Desalination and PV/Batteries." ***Journal of Energy Storage*** *63*, (2023): 106985. https://doi.org/10.1016/j.est.2023.106985.

[8] **Mohamed Nasser**, and Hamdy Hassan. "Thermo-economic Performance Maps of Green Hydrogen Production via Water Electrolysis Powered by Ranges of Solar and Wind Energies." ***Sustainable Energy Technologies and Assessments*** *60*, (2023): 103424. https://doi.org/10.1016/j.seta.2023.103424.

[9] **Mohamed Nasser**, and Hamdy Hassan., Egyptian green hydrogen Atlas based on available wind/solar energies: Power, hydrogen production, cost, and CO2 mitigation maps, **International Journal of Hydrogen Energy**, 50, (2024): 487-501, https://doi.org/10.1016/j.ijhydene.2023.09.127.

[10] **Mohamed Nasser**, and Hamdy Hassan., Feasibility Analysis and Atlas for Green Hydrogen Project in MENA Region: Production, Cost, and Environmental Maps, **Solar Energy** 2024;268:112326. https://doi.org/10.1016/j.solener.2024.112326,

[11] Mohamed G. Gado**, Mohamed Nasser**, and Hamdy Hassan., Potential of solar and wind-based green hydrogen production frameworks in African countries evaluation, **International Journal of Hydrogen Energy**, 68, (2024): 520-536, https://doi.org/10.1016/j.ijhydene.2024.04.272.

[12] **Mohamed Nasser**, Mohamed M. Awad, and Ahmed A. Hassan, 4E assessment of all-day clean electricity generation systems based on green hydrogen integrated system using PV and PVT solar collectors and wind turbines, **International Journal of Hydrogen Energy**, https://doi.org/10.1016/j.ijhydene.2024.05.089.

[13] **Mohamed Nasser**, and Hamdy Hassan. Green hydrogen production mapping via large scale water electrolysis using hybrid solar, wind, and biomass energies systems: 4E evaluation, **Fuel** 371 (2024) 131929. https://doi.org/10.1016/j.fuel.2024.131929

[14] Mohamed G. Gado**, Mohamed Nasser**, Ahmed A. Hassan, and Hamdy Hassan. Adsorption-based atmospheric water harvesting powered by solar energy: Comprehensive review on desiccant materials and systems, **Process Safety and Environmental Protection**, 160, (2022): 166-183, https://doi.org/10.1016/j.psep.2022.01.061.

[15] Dabar, Omar A., Mohamed O. Awaleh, Moussa M. Waberi, Hamed Ghiasirad, Abdi I. Adan, Moussa M. Ahmed, **Mohamed Nasser** et al. "Techno-economic and Environmental Assessment of Green Hydrogen and Ammonia Production from Solar and Wind Energy in the Republic of Djibouti: A Geospatial Modeling Approach." **Energy Reports** 12, (2024): 3671-3689. Accessed March 2, 2025. https://doi.org/10.1016/j.egyr.2024.09.037.

[16] Alasiri, Abdulaziz, and **Mohamed Nasser**. "Comparative Analysis of PCM Configurations for Energy-efficient Air Conditioning Systems: A Case Study in Riyadh, Saudi Arabia." **Case Studies in Thermal Engineering** 65, (2024): 105691. Accessed March 2, 2025. https://doi.org/10.1016/j.csite.2024.105691.

[17] Hassan, Ahmed A., Mohamed M. Awad, and **Mohamed Nasser**. "Towards Clean Energy Independence: Assessing MENA Region Hybrid PV-wind Solutions for Green Hydrogen Generation and Storage and 24/7 Power Production." **Sustainable Energy Technologies and Assessments** 73, (2024): 104158. Accessed March 2, 2025. https://doi.org/10.1016/j.seta.2024.104158.

[18] **Mohamed Nasser**, M. Al-Dossari, N.S. A. EL-Gawaad, and M. Ismail. "Towards Net-zero Carbon Cooling: A Comprehensive Study on PCM-integrated Condenser and Green Hydrogen Power Supply in Air Conditioning Systems." **Journal of Energy Storage** 114, (2025): 115790. Accessed March 2, 2025. https://doi.org/10.1016/j.est.2025.115790.

[19] **Mohamed Nasser**. "Biomass Valorization in Green Hydrogen Production, Storage and Transportation Using Low and High-temperature Water Electrolyzers: A Thermo-economic Approach." **Energy** 319, (2025): 135011. Accessed March 2, 2025. https://doi.org/10.1016/j.energy.2025.135011.

Conference papers

[1] **Mohamed Nasser**, Tamer F. Megahed, Shinichi Ookawara, and Hamdy Hassan. Economic and efficiency analysis of coupled of different ratios of PV and wind energy systems for green hydrogen production, Istanbul, Turkey: 10**. Eur. Conf. Ren. Energy Sys**; 2022, p. 5–11.

Book chapters

[1] **Mohamed Nasser**, and Hamdy Hassan. "Wind and Hydrogen-Based Cogeneration Technologies." ***Reference Module in Earth Systems and Environmental Sciences***, (2023). https://doi.org/10.1016/B978-0-323-93940-9.00102-X.

[2] **Mohamed Nasser**, H. Hassan, Hydrogen production and hydrogen as an energy vector, **Energy Clim. Chang. (2025)** 409–431. https://doi.org/10.1016/B978-0-443-21927-6.00015-

[3] **Mohamed Nasser**, H. Hassan, Examining the Viability of Green Hydrogen: Economic and Environmental Analysis of Renewable Energy Integration, **ACS Symp**. Ser. (2024) 315–336. https://doi.org/10.1021/BK-2024-1474.CH013 .

[4] M.G. Gado, **Mohamed Nasser**, H. Hassan, Solar Adsorption-Based Atmospheric Water Harvesting Systems: Materials and Technologies, (2023) 93–113. https://doi.org/10.1007/978-3-031-21746-3_5.