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Dr. Mohamed A. Sharaf Eldean

https://www.researchgate.net/profile/Mohamed_Sharaf_Eldean/contributions
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Personal data, Objective and Biography

Personal Data	**Date Of birth:** January 1st 1977
	Place Of Birth: Tanta - Egypt
	Nationality: Egyptian
	Marital Status: Married
Biography	Dr Mohamed Sharaf is a specialist in modeling, design and simulation of renewable desalination systems. He is awarded the PhD in design and simulation of solar desalination systems. His master degree was in the field of manufacturing a small solar desalination unit (solar-MSF type). He awarded his B.Sc degree in mechanical engineering. Currently, he is a full time teacher at the University of Suez-the College of Petroleum and Mining - Energy Engineering Department. He is also a member of the Board of Suez and Engineers Association official of the Cultural Committee. He is a permanent reviewer (Editorial Board Member) of Modern Applied Science Journal-Canadian Center of Science and Education and Editorial Board of Insight - Energy Science, Editorial board member of Journal of Management Science & Engineering Research. He also participated in several international projects with the European Union in the field of solar energy and water desalination. Moreover; he has many of the research papers in the field of solar desalination. He has awarded a top reviewer certificate in 2011 and 2012 from Desalination Journal. He is the creator and owner of REDS software library.

Education

Education	**Ph.D.** "**Design and Simulation of Solar Desalination Systems**". (Date Awarded: 27/7/2011), Suez Canal University, Faculty of Engineering, Enegineering Science Dept. **Main Supervisor:** Lourdes García-Rodríguez, Energy Dept, Faculty of Engineering, Sevilla University, Sevilla, Spain. **M.Sc.** Master Degree (M.Sc.) in Solar Desalination Technology "Study of Water Desalination by Solar Energy Using Multi-Stage Flash (MSF) Process" (Date

	Awarded: 11/3/2007), Suez Canal University, Faculty of Engineering, Enegineering Science Dept.	
	B.Sc. Bachelor Degree (B.Sc.), Mechanical Power, Arab Academy For Science Technologies And Marine Transportation, Alexandria, Egypt (Date Awarded: 1999).	
Career History & Accomplishments		
Teaching Experiences	**Under Graduate Courses:** – Engineering Drawing (Since 2001 till now). – Introduction to Computer Science (Since 2001 till now). – Programming with Mat-Lab (Since 2001 till now). – Machine Drawing (Since 2003-2008). – Auto-Cad (since 2003-2008). – Fluid Mechanics (Since 2003-2008). – Thermodynamics (Since 2001 till now). – Internal Combustion Engine (Since 2003-2008). – Refrigeration and Air conditioning (Since 2003-2008). – Engineering Turbo machinery and Hydraulics (Since 2001-2008). – Energy Sources (Since 2010-present).	
	Post Graduate Courses: - Renewable Energy. - Seawater Desalination. - Modeling & Simulation of Thermal Systems. - Advanced Thermodynamics. - Advanced Heat Transfer.	
Position Occupied	Full time demonstrator, Faculty of Petroleum and Mining Engineering, Suez Canal University, Egypt.	2001
	Full time Asst. Ph.D, Faculty of Petroleum and Mining Engineering, Suez Canal University, Egypt.	2006-2007
	Full time Senior Lecturer, Engineering Science Dept., Suez University, Egypt.	2011-Present
	Member of Supreme Council of the Engineers Syndicate in Suez.	2012-2013
	The permanent reviewer (Editorial Board Member) of Modern Applied Science Journal-Canadian Center of Science and Education.	2012-Present
	Editorial Board designer of Faculty of Petroleum and Mining Engineering Journal (FPMEJ).	2012-Present
	Board member and Vice-President of the Suez University Club.	2013-Present
	A founding member of the Center for Energy and Water at the University of Suez (http://www.energy-water.org/).	2013-Present
	The permanent reviewer (Editorial Board Member) of Insights Energy Science Journal-Singapor	2018-2022
Skills	-Skill of effective communication (course: 2011). -University Management (course:2007). -Courses teacher preparation (course: 2006).	Specific Skills

	-Managing work teams (course: 2011). -Deployment of international researchers (course 2011). -Teaching aids course (2006).	
	-English: Writing, Reading, and Speaking: Fluent. **-Arabic:** Mother tongue. **-French:** Writing, Speaking, and Reading: Good. -Auto cad. -Visual basic. -MatLab toolbox. -Simulink. -Neural network (ANN). -Genetic Algorithm. -Statistical analysis. -Windows: Office, Access, Programming.	Language Skills Computer & Programming Skills

Research Curriculum	
Research field	-Thermal (MSF, MED, MED-TVC, MED-MVC) & Membrane (RO and EDR) desalination technologies. -Solar desalination techniques. -Design and simulation (Modeling). -Wind turbine: Design and Simulation. -Photovoltaic technology (Design & Simulation). -Geothermal desalination systems. -Energy Engineering. -Thermodynamics.
International research projects	**1. POWERSOL project "Mechanical POWER generation based on Solar heat engines"** (FP6-INCO2004-MPC3, 032344). -**Funding:** 1.050.000,00 €, European Commission. -**Program:** International Cooperation Activities, INCO. 1/01/2007- 31/12/2009. -**Administrative coordinator:** Julián Blanco Gálvez (CIEMAT, Spain). -**Scientific coordinator:** Lourdes García Rodríguez (University of Sevilla, Spain). **-Role:** Partner co-PI, Suez Univ. **2. MATS Project "Multipurpose Applications by Thermodynamic Solar" via EC (**FP7- Project N° 268219**).** **-**FP7-ENERGY-2010-2-ENERGY CALL PART 2 Topic 2.9-1 Demonstration of innovating multipurpose solar plants. **-Role:** Partner co-PI, Suez Univ. **3.** ESIP Project **"Egiptian-Spanish Innovation Programme"** 2017-STDF. **-Role:** Consultant. **4.** NPRP Project **"Development of Solar Driven Adsorption Water Desalination/Cooling System Using Advanced Metal Organic Framework Material"** 2017. **-Budget: 692,465 USD.** **-Submitting institution:** Qatar Environment and Energy Research Institute (QEERI). **-Role:** Consultant-Post Doctor.

Local research projects	**1. POWERSUN project "Power Generation from the Sun: Design, Fabrication and Applications of Combined Solar Heat Power System- ID 1372"** project with University of Ain Shams via STDF organization (2010-2012). -**Funding:** 1.844.240,00 EGP, Science and Technology Development Fund-STDF (Egypt). -**Administrative coordinator:** Prof. Dr. Sabry Abdel-Mottaleb [PI]. -**Period:** Two years. **-Role:** Partner PI-manager, Suez Univ. **2. RDI Project with Alexandria University "Innovative Renewable Energy (RE) Driven-MSF System with Salts Precipitator and Nano-Filtration (NF) Feed Pre-treatment (RE-NF-MSF)".** -**Administrative coordinator:** Prof Medhat Serour (Alexandria, Egypt) -**Scientific coordinator:** Prod Dr Hassan Fath (Masdar Institute, UAE). **-Period:** Three years. **-Role:** Partner PI-manager, Suez Univ.
Travels	**1- Portugal (POWERSOL project) 2008.** **2- Spain (POWERSOL project) 2009.** **3- Tunisia (POWERSOL project) 2009.** **4- India (JIT university, Integral Univeristy-Guest Lecturer) 2016.** **5- Indonesia, Jakarta 2017.** **6- Malaysia 2017.** **7- Turkey 2019.**
Publications in international journals with impact factor	1- A. M. Soliman, Abdullah G. Alharbi, Mohamed A. Sharaf Eldean, Techno-Economic Optimization of a Solar–Wind Hybrid System to Power a Large-Scale Reverse Osmosis Desalination Plant, Sustainability 2021, 13, 11508. https://doi.org/10.3390/su132011508 2- Abdullah Almtairi, Mohamed A. Sharaf Eldean, A.M. Soliman, Abdelnasser Mabrouk, Hassan E.S. Fath, A new preliminary system design of using geothermal well brine heater for desalination/nanofiltration process, **Cleaner Engineering and Technology 4 (2021) 100213,** https://doi.org/10.1016/j.clet.2021.100213 3- Fan Wu, Aiqin Li, Saihua He, Mohammad Ikbal, Mohamed A. Sharaf Eldean, Research on Measurement and Control System of Common Parameters of Agricultural Equipment Based on Wireless Transmission, **International Journal of Agricultural and Environmental Information Systems, DOI: 10.4018/IJAEIS.20210401.oa6** 4- Shuyan Sun, Yun Liu, Mohamed A. Sharaf Eldean, Design and implementation of an optical fiber sensing based vibration monitoring system, **JOURNAL OF VIBROENGINEERING, https://doi.org/10.21595/jve.2021.21631** 5- A.M. Soliman, Abdelnasser Mabrouk, Mohamed A. Sharaf Eldean, Hassan E.S. Fath, Techno-economic analysis of the impact of working fluids on the concentrated solar power combined with multi-effect distillation (CSP-MED),

Desalination and Water Treatment, 210 (2021) 1–21, doi: 10.5004/dwt.2021.26566

6- A.M. Soliman, Adil Al-Falahi, Mohamed A. Sharaf Eldean, Monaem Elmnifi, Magdi Hassan, Basim Younis, Abdelnasser Mabrouk, Hassan E.S. Fath, A new system design of using solar dish-hydro combined with reverse osmosis for sewage water treatment: case study Al-Marj, Libya, **Desalination and Water Treatment, 193 (2020) 189–211, doi: 10.5004/dwt.2020.25782**

7- A. M. Soliman, Mohamed A. Sharaf Eldean & Imed Miraouia, Experimental and Economical Analysis of an Autonomous Renewable Power Supply System for Water Desalination and Electric Generation, **Modern Applied Science; Vol. 13, No. 9; 2019, https://doi.org/10.5539/mas.v13n9 p43.**

8- Sayed M. Saleh, A. M. Soliman, Mohamed A. Sharaf, Bhushan Gadgil, Vishal Kale, Influence of solvent in the synthesis of nano-structutred ZnO by hydrothermal method and their application in solar still, **Journal of Environmental Chemical Engineering 5 (2017) 1219–1226.**

9- Mohammed Laissaoui, Patricia Palenzuela, Mohamed A. Sharaf Eldean, Driss Nehari, Diego-César Alarcón-Padilla, Techno-economic analysis of a stand-alone solar desalination plant at variable load conditions, **Applied Thermal Engineering 133 (2018) 659–670,** https://doi.org/10.1016/j.applthermaleng.2018.01.074.

10- Mohamed A. Sharaf, Adel Elshahat, A. M. Soliman, A new modeling technique based on performance data for photovoltaic modules and horizontal axis wind turbines, **Wind Engineering Journal, 2017,** DOI: 10.1177/0309524X17737052.

11- Mohamed A. Sharaf Eldean, Khwaja M Rafi, A. M. Soliman, Performance Analysis of Different Working Gases for Concentrated Solar Gas Engines: Stirling & Brayton, under publication, **Energy Conversion & Management, 150 (2017) 651-668**.

12- Mohamed A. Sharaf, A. M. Soliman, A Novel Study of Using Oil Refinery Plants Waste Gases for Thermal Desalination and Electric Power Generation: Energy, Exergy and Cost Evaluations, **Applied Energy 195 (2017) 453–477.**

13- Mohamed A. Sharaf Eldean, A. M. Soliman, Study of Using Solar Thermal Power for Margarine Melting Process Heat, **Journal of Solar Energy Engineering APRIL 2015, Vol. 137/021004-1 ASME Journal, DOI: 10.1115/1.4028367**.

14- M. Adel Elshat, A. M. Soliman, Mohamed A. Sharaf Eldean, Solar Photovoltaic Modules Modeling Based Design Technique, **Energy technology Track of IAC 2014 International Conference on Industrial Academia (2014) 3-5 March**.

15- Adel El Shahat, Ahmed M. Soliman, Mohamed A. Sharaf, Wind Turbines Design and Simulation Aspects for Renewable Energy Applications, **ARPN Journal of Science and Technology, Vol. 4, No. 6 June 2014,** http://www.ejournalofscience.org.

16- Ahmed M. Soliman, Adel El Shahat, Mohamed A. Sharaf, Solar Panels Modeling Based Design Technique for Distributed Generation Applications, **International Journal of Engineering Research and Management (IJERM) ISSN: 2349-2058, Volume-1, Issue-9, December 2014**.

17- Mohamed A. Sharaf Eldean & A.M. Soliman, A new visual library for modeling and simulation of renewable energy desalination systems (REDS), **Desalination and Water Treatment (2013), doi: 10.1080/19443994.2013.777369**.

18- Mohamed A. Sharaf Eldean, H.E. Fath, Exergy and thermo-economic analysis of solar thermal cycles powered multi-stage flash desalination process, **Desalination and Water Treatment (2013), DOI:10.1080/19443994.2013.775670**.

	19-Mohamed A. Sharaf, Thermo-economic Comparisons of Different Types of Solar Desalination Processes. **ASME, J. Sol. Energy Eng. 134, 031001 (2012)**. 20-M.A. Sharaf, A.S. Nafey, Lourdes García-Rodríguez, Thermo-economic analysis of solar thermal power cycles assisted MED-VC (multi effect distillation-vapor compression) desalination processes, **Energy, Volume 36, Issue 5, May 2011, Pages 2753-2764**. 21-M.A. Sharaf, A.S. Nafey, Lourdes García-Rodríguez, Exergy and thermo-economic analyses of a combined solar organic cycle with multi effect distillation (MED) desalination process, **Desalination 272 (2011) 135–147**. 22-A.S. Nafey, M.A. Sharaf, Lourdes García-Rodríguez, Thermo-economic Analysis of a Combined Solar Organic Rankine Cycle-Reverse Osmosis Desalination Process with Different Energy Recovery Configurations, **Desalination 261 (2010) 138–147**. 23-A.S. Nafey, M.A. Sharaf, Lourdes García-Rodríguez, A new visual library for design and simulation of solar desalination systems (SDS), **Desalination 259 (2010) 197–207**. 24-A. S. Nafey, M. A. Sharaf, Combined Solar Organic Rankine Cycle with Reverse Osmosis Desalination Process: Energy, Exergy, and Cost Evaluations, **Renewable Energy, 35 (2010) 2571-2580**. 25-A. S. Nafey, M. A. Mohamad, M. A. Sharaf, Enhancement of solar water distillation process by surfactant additives, **Desalination 220 (2008) 514–523**. 26-A. S. Nafey, M. A. Mohamad, M. A. Sharaf, Theoretical and experimental study of a small unit for solar desalination using flashing process, **Energy Conversion and Management, Volume 48, Issue 2, February 2007**. 27-A. S. Nafey, M. A. Mohamad, Mohamed A. Sharaf, Statistical Evaluation of Some Models to Estimate Instantaneous Total Insolation on Horizontal Surfaces within Suez Gulf Region, **7th Egyptian Syrian Conference on Chemical and Petroleum Engineering, Suez-Egypt, October 29 to 31, 2007**. 28-S Nafey, A El Shahat, MA Sharaf, A neural model for flat plate collector, **EGY-38, 6th International Conference on Role of Engineering towards a Better Environment, RETBE, 16-18 December 2006, Alexandria, Egypt.**
Reviewer of international journals with impact factor	-Desalination Journal -Energy Journal -Energy Conversion & Management -ASME-Solar Energy Journal -Applied Energy Journal -Modern Applied Science Journal (4 Papers)
Editorial Board Member	-Editorial Board IJBST Journal Group https://board.ijbst.org/home -Modern Applied Science Journal-Canadian Center of Science and Education http://www.ccsenet.org/journal/index.php/mas -Editorial Board of our journal, entitled Insight - Energy Science http://insight.piscomed.com/index.php/I-ES/about/editorialTeam -Editorial board member of Journal of Management Science &Engineering Research http://ojs.bilpublishing.com/index.php/jmser -Editorial board member of International Journal of Engineering for Computer Science and Application (IJECSA) http://www.ijecsa.org/

Supervision of Master/PhD thesis	**- A Numerical and experimental study of tubular solar still, 2015** **- Study of Solar Brackish Water Desalination for Domestic Applications, 2016** **- Simulation of Wind Energy Systems in Egypt, 2015** **-Ph.D: 5** **-Ms.C: 4**
References	**1. Prof. Dr. Lourdes Garcia Rodreguiz, Seville University, Spain** Tel.+34954487231 Fax.+34954487233 Email. lourdesg@esi.us.es **2. Prof Dr. Hassan S Fath, EJUST University, Egypt** hassan.fath@ejust.edu.eg +2171111740

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