

CV

Mohamed Ramadan Gomaa Behiri

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Personal Data

Name : Mohamed Ramadan Gomaa Behiri.
Date & place of Birth : December, 2,1979, Toukh.
Home Address : El-Safa, Toukh, Al Qalyubiyah.
Nationality : Egyptian.
Military Service : Postponed.
Social Status : Married.
ID No. : 27912021403157
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Mobile Phone : 00962-770219738 (Jordan).

Permanent Work

Occupation : Assistant Professor, Department of Mechanical Engineering, Benha Faculty of Engineering, Benha University, Benha, Al-Qalyubiyah, Egypt.
Field of Work : Mechanical Department,
Major: Mechanical Power Engineering and Energy.
Minor: Thermo-Fluid and Renewable Energy.
Address : Department of Mechanical Engineering, Benha Faculty of Engineering, Benha University, Benha 13512, Al- Qalyubiyah, Egypt.
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Education

PhD. : Mechanical Engineering (Power Plants Based on Renewable Energy Sources), December 2011, State Engineering University of Armenia (Polytechnic), Yerevan, Armenia.
Dissertation Title : *"Multi – Mirror Solar Energy Concentrating Photovoltaic and Thermal System Design"*.
M.Sc. : Mechanical Engineering (Dept. of Mechanical Power Engineering & Energy), March 2007, Minia University, Egypt.
Thesis Title : *"Investigation of Flow through Asymmetric Plane Diffusers"*.
B.Sc. : Mechanical Engineering (Dept. of Mechanical Power Engineering & Energy), final year grade is Very Good (83.27 %), May 2003, Faculty of Eng., Minia University.

Graduation Degree	:Very Good (78.92% Accumulated).
Project Degree	:Excellent.
Project Name	:Experimental Measurements on an Education, Continues Combustion.
Foreign Language	: - Arabic (Mother Tongue). - English.

Awards

- Honor and Appreciation from Benha University regarding the Outstanding Scientific Research Performance and International Publishing; Seven Round 2019.
- Honor and Appreciation from Benha University regarding the Outstanding Scientific Research Performance and International Publishing; Six Round 2018.
- Scientific Excellence in Faculty of Engineering, Mutah University, 2018-2019.
- Gaining a scholarship from the Egyptian Ministry of high education to study PhD in State Engineering University of Armenia (Polytechnic), Yerevan, Armenia, 2008.
- The first of 2003-Class, Mechanical Engineering (Dept. of Mechanical Power Eng. & Energy), Faculty of Engineering, Minia University, Minia, Egypt.

Computer Skills

- ☹ **IBM Platform.** (All Windows / Word / Excel / Access/ Power Point/ AutoCAD 2000, 2002)
- ☹ **Program Languages.** (Fortran77, 90, and starting in MATLAB)
- ☹ **Computer Program.** (Stanford gravity, origin 2018 and Tec plot)
- ☹ **Computer Certificate.** (ECDL/ICDL and ICTP)

Some Companies I Have Training

- ☞ Cairo Oil Refining Company \implies (Hydraulic Machines and Gas Turbine).
- ☞ Iron and Steel Helwan factory \implies (Power Plants, Solar Photovoltaic Systems).
- ☞ Khalda Petroleum Company \implies (Valves, Solar Thermal System).
- ☞ National Research Center (NRC) \implies (Solar Energy, Solar Energy Systems, Solar Dryer).
- ☞ Tabbin Institute for Metallurgical Studies (TIMS) \implies (Solar Energy, Solar Energy Systems, Solar Photovoltaic Systems).

Professional Lab Experience

- ✓ Fluid Mechanics lab
- ✓ Advanced thermo and fluid Mechanics lab
- ✓ Renewable Energies labs (**Solar Energy Lab**, Wind Energy Lab,...ets)
- ✓ Thermodynamic lab
- ✓ Hydraulic machines lab
- ✓ Aero dynamic lab
- ✓ Internal combustion lab

Work Experience

Since 15/09/2019 till now,

Associate Professor at Mechanical Engineering, Faculty of Engineering, Al-Hussein Bin Talal University, Ma'an, Jordan.

Since 01/09/2016, till 14/09/2019,

Assistant Professor at Mechanical Engineering, Faculty of Engineering, Mutah University, Al-karak, Jordan.

Since 01/08/2013 till 31/08/2016,

Teaching (Assistant Professor) at Mechanical Engineering, Benha Faculty of Engineering, Benha University, Al-qalyubia, Egypt.

Since 23/01/2012 till 31/07/2013,

Teaching (Assistant Professor) at Mechanical Engineering (Mechanical Power Engineering & Energy Department), Faculty of Engineering, Minia University, El-Minia, Egypt.

Since 28/10/2008 till 01/12/2011,

PhD. student (Scholarship) and teaching assistant at State Engineering University of Armenia, Yerevan, Armenia.

Since 03/2007 till 26/10/2008,

Teaching assistant at Mechanical Engineering (Mechanical Power Engineering & Energy Department), Faculty of Engineering, Minia University, El-Minia, Egypt.

Since 12/2/2004 till 2/2007,

Demonstrator at Mechanical Engineering (Mechanical Power Engineering & Energy Department), Faculty of Engineering, Minia University, El-Minia, Egypt.

Teaching Experience

- Teaching since 2019 in the Faculty of Engineering, Al-Hussein Bin Talal University till now.
- Teaching since 2016 in the Faculty of Engineering, Mutah University till now.
- Teaching since 2013 in the Benha faculty of Engineering, Benha University until 2016.
- Teaching since 2004 in the Faculty of Engineering, Minia University until 2013.
- Taught at the Faculty of Engineering, October 6 University, Egypt, 2013, 2015.
- Taught at the University of Science and Technology, Egypt, 2013, 2015.
- Taught at the Faculty of Engineering, South Valley University, Qena, Egypt, (2012 to 2014).
- Taught at the Faculty of Engineering, Benha University, Al- Qalyubia, Egypt, 2012.

Some Courses I Have Taught

Undergraduate

- | | | |
|---------------------------------------|---|------------------------|
| ▪ Fluid Mechanics I and II | ▪ Gas Dynamic | ▪ Turbo Machinery |
| ▪ Thermo Dynamic I and II | ▪ FORTRAN | ▪ Hydraulic Machine |
| ▪ Heat Transfer I and II | ▪ Refrigeration | ▪ Energy Efficiency |
| ▪ Renewable Energy | ▪ Air Condition | ▪ Numerical Methods |
| ▪ Power Plants | ▪ Cryogenic | ▪ Eng. Mathematics |
| ▪ Energy Management | | (Engineering Analysis) |
| ▪ Thermo-Fluid and Heat transfer | ▪ Energy Conversion and Storage | |
| ▪ Measurements and Measurement Device | ▪ Numerical Application on Heat and Fluid | |
| ▪ Internal Combustion Engine (ICE) | ▪ Dynamics and Statics | |
| ▪ Theory of Machine | ▪ Mechanical Drawing | |
| ▪ Mechanical Design | ▪ Control | |
| ▪ Materials | ▪ Environmental and Pollutions | |

Graduate

- | | |
|----------------------------------|---------------------------------|
| ▪ Renewable Energy | ▪ Photovoltaic System |
| ▪ CSP (Concentrated Solar Power) | ▪ Energy Conversion and storage |
| ▪ Energy Efficiency | ▪ Solar Energy |
| ▪ Wind Energy | ▪ Solar Desalination Systems |

Theses Directed

- 1- **Sae'da Mohammed Alkhsabah** "An Optimal Sizing of Hybrid Solar PV/Wind Power System to Supply A Certain Load" MSc. Under preparation start Feb. 2020.
- 2- **Mahmoud Adnan Awajan** "Solar Water Desalination Powered by Concentrated System" MSc. Under preparation start Feb. 2020.
- 3- **Ala'a Al-Bawwat** "Optimal Design and Economic Study of a Hybrid Renewable Energy System to Desalinate Seawater" MSc. Under preparation start Feb. 2020.
- 4- **Abd Alrahman S. Awajan** "performance analysis and comparison of different photovoltaic technology under Ma'an conditions" MSc. Under preparation start October 2019.
- 5- **Nadiyah Al-Farajat** "Life Cycle Assessment and Environmental Impacts of Al-Rajef Wind Farm" MSc. Defended on November 2020.
- 6- **Moath Attalah Altarawneh** "Waste Heat Recovery in Cement Plant with Thermo-Electric Generator Implementation" MSc. Defended on July 2019.
- 7- **Mazen M. Al-Oran** "Optimization Global Maximum Power Point for Photovoltaic Using Arduino Microprocessor Based on MPPT under Partial shading" MSc. Defended on May 2019.
- 8- **Ahmad A. Aqeel** "Theoretical study of a Combined Concentrated PV/Thermal System" MSc. Defended on July 2018.
- 9- **Nesrien S. Al-Dmour** "Solar Gasification: Production of Synthesis Gas from Carbonaceous Materials" MSc. Defended on July 2018.
- 10- **Shadi M. Alshagarin** "Reduction of Co2 Emission by Using Wind Turbine Plants" MSc. Defended on May. 2017.
- 11- **Omar A. Al-Qudah** "Organic Rankine Cycle Powered by Combined Solar-Waste Heat Recovery System" MSc. Defended on Jan. 2017.
- 12- **Mohammed J. Al Shammri** "Performance Analysis of Oryx PV Plant (OPVP) in Ma'an, Jordan" MSc. Defended on July 2016.

Journal Editor and Reviewer

- 1- The International Journal on the Science and Technology of Desalting and Water Purification (Elsevier, IF: 6.035) *Reviewer*.
<https://www.journals.elsevier.com/desalination>
- 2- The International Journal of Renewable Energy (Elsevier, IF: 5.439) *Reviewer*.
<https://www.journals.elsevier.com/renewable-energy>.
- 3- Electrical Engineering Journal (Springer, IF: 1.296) *Reviewer*.
<http://www.editorialmanager.com/elen/default.aspx>
- 4- International Journal of Energy Research (Wiley, IF: 3.343) *Reviewer*.
<https://onlinelibrary.wiley.com/journal/1099114x>
- 5- International Journal of Energy Sector Management (Emerald, Q2) *Reviewer*.
<https://www.emerald.com/insight/publication/issn/1750-6220?>
- 6- International Scientific Journal (Journal of Environmental Science) *Associate Editor*.
<http://www.scientific-journal.com/editors.html>

International Publishing Websites

- 1- Web of Science ResearcherID [I-6427-2018](https://orcid.org/0000-0003-4799-6119)
- 2- ORCID [0000-0003-4799-6119](https://orcid.org/0000-0003-4799-6119) (<https://orcid.org/0000-0003-4799-6119>)
- 3- Scopus Author ID: [57201740873](https://orcid.org/0000-0003-4799-6119)

- 4- Google scholar (Mohamed Ramadan Gomaa Behiri) or
https://scholar.google.com/citations?user=MVs9G_IAAAAJ&hl=en&citsig=AMD79opJ58clbibZVhHD6c3-ka3rJ_aDHA)
- 5- Researchgate: (https://www.researchgate.net/profile/Mohamed_Behiri)
- 6- Mendeley: (<https://www.mendeley.com/profiles/mohamed-gomaa25/>)

Publications

1. **Mohamed R. Gomaa**, Ramadan J. Mustafa, Mujahed Al-Dhaifallah, Hegazy Rezk. A Low-Grade Heat Organic Rankine Cycle Driven by Hybrid Solar Collectors and a Waste Heat Recovery System. *Energy Reports* 2020. (under Review).
2. **Mohamed R. Gomaa**, Hegazy Rezk. Passive Cooling System for Enhancement the Energy Conversion Efficiency of Thermo-electric Generator. *Energy Reports* 2020. (under publication).
3. Ali Alahmer, **Mohamed R. Gomaa**. Productivity enhancement of the solar still by using water cooled finned condensing pipe". *Desalination and Water Treatment* 2020. (under publication).
4. Hegazy Rezk, Jouda Arfaoui, **Mohamed R. Gomaa**. Optimal Parameter Estimation of Solar PV Panel Based on Hybrid Particle Swarm and Grey Wolf Optimization Algorithms. *International Journal of Interactive Multimedia and Artificial Intelligence – IJIMAI* 2020. (under publication).
5. **Mohamed R. Gomaa**, Waleed Hammad, Mujahed Al-Dhaifallah, Hegazy Rezk. "Performance enhancement of grid-tied PV system through new design cooling techniques under dry desert condition: an experimental study and comparative analysis". *Solar Energy* 2020, 211, 1110–1127. <https://doi.org/10.1016/j.solener.2020.10.062>.
6. N. Kanagaraj, Hegazy Rezk, and Mohamed R. Gomaa. "A Variable Fractional Order Fuzzy Logic Control Based MPPT Technique for Improving Energy Conversion Efficiency of Thermoelectric Power Generator". *Energies* 2020, 13, 4531. [doi:10.3390/en13174531](https://doi.org/10.3390/en13174531).
7. **Mohamed R. Gomaa**, Ghayda' A. Matarneh, Mohammad Shalby, Hani A. AL-Rawashdeh. A State-of-the-art Review on a Thermochemical Conversion of Carbonaceous Materials: Production of Synthesis Gas by Co-gasification Process- Part I. *Current Alternative Energy* 2020, 4, 1. <https://doi.org/10.2174/2405463104999200904115100>
8. **Mohamed R. Gomaa**, Mujahed Al-Dhaifallah, Ali Alahmer, Hegazy Rezk. "Design, Modeling and Experimental Investigation of Active Water Cooling Concentrating Photovoltaic System". *Sustainability* 2020, 12(13), 5392. <https://doi.org/10.3390/su12135392>.
9. Ramadan J. Mustafa, Hani A. AL-Rawashdeh, Ahmad O. Hasan, **Mohamed R. Gomaa**. "Enhancement of a Hydrogen Engine Cavitation Utilizing Mixed Fuel: a Review and Experimental Case Study". *International Review of Mechanical Engineering (I.R.E.M.E.)* 2020, 14(1), p. 33-42. <https://doi.org/10.15866/ireme.v14i1.17311>.
10. Ramadan J. Mustafa, **Mohamed R. Gomaa**, Hegazy Rezk. "Environmental Impacts on the Performance of Solar Photovoltaic Systems". *Sustainability* 2020, 12 (2), 608. <https://doi.org/10.3390/su12020608>.
11. **Mohamed R. Gomaa**, Nesrien Al-Dmour, Hani A. AL-Rawashdeh, Mohammad Shalby. Theoretical model of a fluidized bed solar reactor design with the aid of MCRT method and synthesis gas production. *Renewable Energy* 148 (2020) 91-102. <https://doi.org/10.1016/j.renene.2019.12.010>.
12. **Mohamed R. Gomaa**, Ramadan J. Mustafa, Nesrien Al-Dmour. "Solar Thermochemical Conversion of Carbonaceous Materials into Syngas by Co-Gasification". *Journal of Cleaner Production* (2020), 248, 119185 <https://doi.org/10.1016/j.jclepro.2019.119185>

13. Hegazy Rezk, Ziad M. Ali, Omer Abdalla, Obai Younis, **Mohamed R. Gomaa**, Mauia Hashim. "Hybrid moth-flame optimization algorithm and incremental conductance for tracking maximum power of solar PV/thermoelectric system under different conditions". *Mathematics* 2019, 7, 875; <https://doi.org/10.3390/math7100875>.
14. Hegazy Rezka, Mazen AL-Oran, **Mohamed R. Gomaa**, Mohamed A. Tolba, Ahmed Fathy, Mohammad Ali Abdelkareemh, A.G. Olabih, Abou Hashema M. El-Sayed. "A novel statistical performance evaluation of most modern optimization-based global MPPT techniques for partially shaded PV system". *Renewable and Sustainable Energy Reviews* 115 (2019) 109372. <https://doi.org/10.1016/j.rser.2019.109372>.
15. **Mohamed R. Gomaa**, Ramadan J. Mustafa, Hegazy Rezk. "An Experimental Implementation and Testing of a Concentrated Hybrid Photovoltaic/Thermal System with Monocrystalline Solar Cells Using Linear Fresnel Reflected Mirrors". *International Journal of Energy Research* 2019; 43: 8660–8673. <https://doi.org/10.1002/er.4862>
16. **Mohamed R. Gomaa**, Hegazy Rezk, Ramadan J. Mustafa, Mujahed Al-Dhaifallah. "Evaluating the Environmental Impacts and Energy Performance of a Wind Farm System Utilizing the Life-Cycle Assessment Method: A Practical Case Study". *Energies* 2019, 12 (17), 3263. <http://dx.doi.org/10.3390/en12173263>.
17. **Mohamed R. Gomaa**, Mohamed A. Mohamed, Hegazy Rezk, Mujahed Al-Dhaifallah, Mohammed J. Al shammri. "Energy Performance Analysis of On-Grid Solar Photovoltaic System- a Practical Case Study". *International Journal of Renewable Energy Research (IJRER)* 2019, 9(3), 1292-1301.
18. Hegazy Rezka, **Mohamed R. Gomaa**, Mohamed M. Marmoush, Nabila Shehata, Jean Henry. "Theoretical and experimental performance investigation of a newly combined TDD and SWH system". *Applied Thermal Engineering* 2019,161, 114156. <https://doi.org/10.1016/j.applthermaleng.2019.114156>.
19. Ahmed A. Al-shurman, **Mohamed R. Gomaa**. "The performance of water-cooled photovoltaic panel, under concentrating system". *Australian Journal of Basic and Applied Sciences* 2019, 13(7), PP: 12-22. DOI: 10.22587/ajbas.2019.13.7.3.
20. Hani A. AL-Rawashdeh, **Mohamed R. Gomaa**, Ramadan J. Mustafa, Ahmad O. Hasan. "Efficiency and Exergy Enhancement of ORC Powered by Recovering Flue Gases-Heat System in Cement Industrials: A Case Study". *International Review of Mechanical Engineering (I.R.E.M.E.)* 2019, 13(3), 185-197. <https://doi.org/10.15866/ireme.v13i3.16713>.
21. **Mohamed R. Gomaa**, Ramadan J. Mustafa, Hegazy Rezk, Mujahed Al-Dhaifallah, A. Al-Salaymeh. "Sizing Methodology of a Multi-Mirror Solar Concentrated Hybrid PV/thermal System". *Energies* 11(12), 2018, 3276. <https://doi.org/10.3390/en11123276>.
22. Mohamed M. Marmoush, Hegazy Rezk, Nabila Shehata, Jean Henry, **Mohamed R. Gomaa**. "A novel merging Tubular Daylight Device with Solar Water Heater-Experimental study". *Renewable Energy* 2018, 125, 947-961. <https://doi.org/10.1016/j.renene.2018.03.031>.
23. **Mohamed R. Gomaa**. "Water Cooling of Photovoltaic Panel under Concentrating System". Third International Conference on Advances in Mechanical, Industrial and Mechatronics Engineering (**ICAMIME 2019**), Tunis – Tunisia, 19-20 April 2019.
24. Nesrien Al-Dmour, **Mohamed R. Gomaa**. "Thermochemical conversion of carbonaceous materials: production of synthesis gas by solar energy". The Ninth Jordanian International Mechanical Engineering Conference (**JIMEC 2018**), Amman – Jordan 16-17 October 2018.
25. Ahmed A. Al-shurman, **Mohamed R. Gomaa**. "Water Cooling of Photovoltaic Panel under Concentrating System". The Ninth Jordanian International Mechanical Engineering Conference (**JIMEC 2018**), Amman – Jordan 16-17 October 2018.

26. **Mohamed R. Gomaa**, W. Abdelaziz, Hegazy Rezk. "Enhancement of Energy Saving and CO₂ Emissions Reducing through PV Systems". (3rd International Conference on Environment and Renewable Energy (**ICERE**) 2016, 25-27 May, Munich-Germany) *International Scientific Journal* (Journal of Environmental Science), Vol. 5, No. 1, 2016, pp. 23-27.
27. **Mohamed R. Gomaa**, R. Vardanyan, "Linear Fresnel Reflector Solar Concentrator Structure Simulation", *Engineering Academy of Armenia*, Vol. 8, No. 4, 2011.
28. **Mohamed R. Gomaa**, "Thermal Performance of a Linear Fresnel Reflector Solar Concentrator PV/T Energy Systems", 6th International Green Energy Conference – VI (**IGEC-VI**), Eskisehir, Turkey, 5-10 June, 2011, P. 12 – 21.
29. **Mohamed R. Gomaa**, R. Vardanyan, V. Dallakyan, "Analysis of Properties of linear Focus Fresnel Reflecting Concentrator", *Bulletin of State Engineering University of Armenia (Polytechnic)*, part 3 (No.1), Yerevan 2011, P. 360–366.
30. **Mohamed R. Gomaa**, Norsoyan A.A., Vardanyan R., "Solar Photovoltaic and Thermal Hybrid Systems", *Bulletin of State Engineering University of Armenia (Polytechnic)*, Part 2 (No.2), Yerevan 2010, P. 360–364.
31. Magdy A. Bassily Hanna, A. M. EL-Kersh, Ramadan Bassiouny, **Mohamed R. Gomaa** "Air Flow Characteristics in an Asymmetric Plane Diffuser under Different Inlet Conditions", *Minia Journal of Engineering and Technology*, July 2008.

Books

- 1- **Mohamed Ramadan Gomaa Behiri, Ruben Vardanyan** (2016-06-21), "Multi-Mirror Solar Energy Concentrating PV/T System Design", LAP LAMBERT Academic Publishing. ISBN: 978-3-659-89741-2. Reproduced from PhD Thesis. (DOI: 10.13140/RG.2.1.1014.5529)
<https://www.lap-publishing.com/catalog/details/store/tr/book/978-3-659-89741-2/multi-mirror-solar-energy-concentrating-pv-t-system-design?search=Multi-Mirror%20Solar%20Energy%20Concentrating%20PV/T%20System%20Design>
- 2- **Mohamed Ramadan Gomaa Behiri, Magdy Bassily, Ramadan Bassiouny** (2016-08-24), "Investigation of Flow through Asymmetric Plane Diffusers", LAP LAMBERT Academic Publishing. ISBN: ISBN-13: 978-3-659-93604-3, ISBN-10: 3659936049, EAN: 9783659936043. Reproduced from MSc. Thesis. (<https://www.morebooks.de/search/gb/extendedsearch>) or
<https://www.morebooks.de/store/gb/book/investigation-of-flow-through-an-asymmetric-plane-diffusers/isbn/978-3-659-93604-3>

References

1. Prof. Dr. Sameh A. Nada

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2. Prof., Dr. Hesham Mohamed El-Batsh

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3. Prof., Dr. Hegazy Rezk

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- E-mail: hegazy.hussien@mu.edu.eg, hr.hussien@psau.edu.sa

4. Mujahed Al-Dhaifallah

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