

## Personal data

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**Links** [Researchgate](#), [Orcid](#), [LinkedIn](#), [Google Scholar](#), [Publon](#), [Scopus](#)



## Education

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- 2010–2014** **Doctorate (Ph.D.), Theoretical Physics, Cairo University, Egypt**  
**Title:** "[Calculations of the cross sections for stable and exotic light nuclei](#)". **Advisor:** Prof. M. Y. H. Farag. **Examiners:** Prof. Angela Bonaccorso, *INFN, Pisa, Italy* and Prof. V. K. Lukyanov, *JINR, Dubna, Russia*.
- 2006–2009** **Master (M.Sc.), Theoretical Physics, Cairo University, Egypt**  
**Title:** "[Scattering of halo nuclei](#)". **Advisor:** Prof. M. Y. M. Hassan. **Examiner:** Prof. Angela Bonaccorso, *INFN, Pisa, Italy*. Best master thesis award in Faculty of Science.  
**Grade of Preliminary courses (2006–2007):** Distinction with First Class Honors.
- 2000–2004** **Bachelor's degree (B.Sc.), Physics, Cairo University, Egypt**  
Distinction with First Class Honors.

## Work Experience

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- 2023– Now** **Research Fellow**, Department of Physics, University of Manchester, M13 9PL Manchester, United Kingdom (Cara fellowship).
- 2020– 2022** **Research Fellow**, Heavy ion Laboratory, University of Warsaw, 02-093, *Warsaw*, Poland (Ulam program fellowship from NAWA).
- 2018– 2020** **Visiting Assistant Professor**, Department of Alternative Energy Technology, Philadelphia University, *Amman*, Jordan (IIE-SRF fellowship).
- 2015– Now** **Assistant Professor**, Physics Department, Faculty of Applied Science, Taiz University, Yemen.
- 2015– 2017** **Assistant Professor** of Physics, Faculty of Engineering, Hodeidah University, Yemen.
- 2010– 2015** **Lecturer**, Department of Physics, Faculty of Applied Science, Taiz University, *Taiz*, Yemen.
- 2005–2009** **Laboratory Technician**, National Atomic Energy Commission, *Sana'a*, Yemen.

## Skills

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**Languages** English, Arabic (native).  
**Computer** ICDL, Windows, Linux, Ms Office, LaTeX, Mathematica, FORTRAN, OriginLab.

## Research Experience

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**A- Skills:** Calculations, programming, analyzing, writing, publishing, and refereeing at journals

**B- Research Interests:**

- Scattering and reactions of exotic nuclei, Coulomb dissociation, breakup of light nuclei, dynamical polarization potential, and dipole polarizability.
- Nuclear reaction theories and models: optical model, coupled channels, Glauber model, eikonal approximation, and Coulomb excitations.
- Developing of an energy-dependent microscopic optical potential.

## Publications

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### Papers in peer-reviewed journals

- 1- **H.M. Maridi**, K. Rusek, and N. Keeley, "Calculation of Coulomb breakup cross sections using a new Coulomb dynamical polarization potential", [Phys. Rev. C 106, 054613 \(2022\)](#).
- 2- A. T. Rudchik, ..., **H.M. Maridi**, ..., "Comparison of  $^{10}\text{B} + ^6\text{Li}$  and  $^{10}\text{B} + ^7\text{Li}$  elastic scattering: The role of ground state reorientation and breakup", [Phys. Rev. C 106, 014615 \(2022\)](#).

- 3- **H.M. Maridi**, K. Rusek, and N. Keeley, “Comparison of Coulomb breakup effects on the elastic scattering of  ${}^6\text{He}$  and  ${}^8\text{He}$  using a Coulomb dipole polarization potential”, [Eur. Phys. J. A 58, 49 \(2022\)](#).
- 4- **H.M. Maridi**, K. Rusek, N. Keeley, “Coulomb dynamical polarization potential and the electric dipole polarizability for weakly-bound and neutron rich light nuclei”, [Phys. Rev. C 104, 024614 \(2021\)](#).
- 5- **H.M. Maridi**, A. Pakou, and K. Rusek, “The  $p+{}^9\text{Be}$  elastic scattering below 30 MeV: optical model analysis and data normalization”, [Int. J. Mod. Phys. E 30, 2150024 \(2021\)](#).
- 6- A. T. Rudchik, ..., **H.M. Maridi**, ..., “ ${}^6\text{Li}+{}^{15}\text{N}$  interaction at  $E_{c.m.} = 23.1$  MeV; validation of the  $\alpha + d$  cluster model of  ${}^6\text{Li}$ ”, [Phys. Rev. C 103, 044614 \(2021\)](#).
- 7- **H.M. Maridi**, “Energy dependence and surface contribution of the nucleon-nucleus optical potential”, [Bull. Russ. Acad. Sci. Phys. 84, 473 \(2020\)](#).
- 8- **H.M. Maridi**, “Energy dependence and surface contribution of the optical potential for nucleon-nucleus scattering at energies up to 1 GeV”, [Phys. Rev. C 100, 014613 \(2019\)](#).
- 9- **H.M. Maridi**, “Proton scattering of helium isotopes using an energy-dependent folded potential”, [AIP Conf. Proc. 1976, 020004 \(2018\)](#).
- 10- **H.M. Maridi**, M.Y.H. Farag, and E.H. Esmael, “Energy-dependent microscopic optical potential for  $p+{}^9\text{Be}$  elastic scattering”, [AIP Conf. Proc. 1742, 030011 \(2016\)](#).
- 11- **H.M. Maridi**, M.Y.H. Farag, and E.H. Esmael, “Analysis of proton scattering of stable and exotic light nuclei using an energy-dependent microscopic optical potential”, [Eur. Phys. J. WoC 107, 08007 \(2016\)](#).
- 12- M.Y.H. Farag, E.H. Esmael, and **H.M. Maridi**, “Analysis of proton- ${}^9,{}^{10},{}^{11},{}^{12}\text{Be}$  scattering using an energy-, density-, and isospin-dependent microscopic optical potential”, [Phys. Rev. C 90, 034615 \(2014\)](#).
- 13- M.Y.H. Farag, E.H. Esmael, and **H.M. Maridi**, “Energy-dependent microscopic optical potential for scattering of nucleons on light nuclei”, [Eur. Phys. J. A 50, 106 \(2014\)](#).
- 14- M.Y.H. Farag, E.H. Esmael, and **H.M. Maridi**, “Microscopic study on proton elastic scattering of helium and lithium isotopes at energy range up to 160 MeV/nucleon”, [Eur. Phys. J. WoC 66, 03025 \(2014\)](#).
- 15- M.Y.H. Farag, E.H. Esmael, and **H.M. Maridi**, “Elastic interaction of protons with stable and exotic light nuclei”, [Phys. Rev. C 88, 064602 \(2013\)](#).
- 16- M.Y.H. Farag, E.H. Esmael, and **H.M. Maridi**, “Elastic Microscopic study on proton elastic scattering of light exotic nuclei at energies below than 100 MeV/nucleon”, [Eur. Phys. J. A 48, 154 \(2012\)](#).
- 17- M.Y.M. Hassan, M.Y.H. Farag, E.H. Esmael, and **H.M. Maridi**, “Elastic scattering and breakup effect analysis of  ${}^{11}\text{Be}+{}^{12}\text{C}$  at 38.4 MeV/nucleon”, [Phys. Rev. C 79, 064608 \(2009\)](#).
- 18- M.Y.M. Hassan, M.Y.H. Farag, E.H. Esmael, and **H.M. Maridi**, “Microscopic model analysis of  ${}^{11}\text{Li} + p$  elastic scattering at 62, 68.4, and 75 MeV/nucleon”, [Phys. Rev. C 79, 014612 \(2009\)](#).

#### Books:

**H. M. Maridi**, “Scattering of halo nuclei”, LAP Lambert Academic Publishing, 2013. [ISBN:9783659421112](#)

### **Talks, Workshops, and Conferences**

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#### A- Talks:

- 1- “Coulomb dissociation of the exotic nuclei using Coulomb dynamical polarization potential”, the Direct Reactions with Exotic Beams conference ([DREB2022](#)) in Santiago de Compostela, Spain, 29 Jun 2022.
- 2- “Coulomb breakup of exotic nuclei studied by means of Coulomb dynamical polarization potential”, for Heavy Ion Laboratory, *University of Warsaw, Poland*, 18 May 2022.
- 3- “Data normalization of  $p+{}^9\text{Be}$  elastic scattering below 30MeV: statistical study”, for Information and Statistics in Nuclear Experiment and Theory ([ISNET 8](#)) online conference, *FRIB, Michigan State University (MSU), USA*, 13-16 Dec 2021.
- 4- “Proton elastic scattering from light nuclei using microscopic optical model and the eikonal approximation”, for Faculty of Physics, *University of Warsaw, Poland*, 18 Mar 2021.
- 5- “Energy dependence and surface contribution of the nucleon-nucleus optical potential” for [Nucleus-2019](#) conference", *Dubna, Russia*, 1-5 July 2019.
- 6- “Using LATEX for writing the scientific publications”, *Philadelphia University, Jordan*, 18 Feb 2019.

## **B- Conferences with talks and/or publications:**

[ISNET 8-2021](#), MSU, USA, 13-16 Dec 2021; [Nucleus-2019](#), Dubna, Russia, 1-5 July 2019;  
[SIMFP2018](#), Saudi Arabia, 27 Feb-1 Mar 2018; [SIMFP2016](#), Saudi Arabia, 16-18 Feb 2016;  
[NSRT 2015](#), Dubna, Russia, 14-18 July 2015; [INPC13](#), Firenze, Italy, 2-7 June 2013.

## **C- Attending other workshops and conferences:**

- 1- International Meeting on Energy Security in the Middle East, *Amman, Jordan*, 20 Jun 2019.
- 2- The [6th MEDENER](#) International Conference on Energy Transition, *Amman, Jordan*, 04 Oct 2018.
- 3- "Medical Physics and Radiation Protection", *Cairo University*, 11-13 Jan 2011.
- 4- "Reform of Graduate Studies in Nuclear Sciences", *Cairo University*, 17-19 Mar 2009.

## **Teaching Experience**

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**A- Skills:** Quality assurance management, writing course descriptions, supervising and evaluating graduation projects, taking many training courses on teaching skills of new educational philosophy.

## **B- Courses:**

**Physics** General Physics I, General Physics II, Applied Physics, Medical Physics.  
**Mechanics** Quantum Mechanics, Fluid Mechanics, Thermodynamics, Engineering Mechanics.  
**Energy** Energy Conversion, Renewable Energy, Environmental Impacts of Energy.  
**Others** Nuclear Chemistry, Research Methods, Statistics

## **C- Lecture notes**

- 1- "General Physics 1 (Heat and Mechanics)", [3<sup>rd</sup> edition](#), 2020.
- 2- "General Physics 2 (Electricity, Magnetism, Optics, and Modern Physics)", [3<sup>rd</sup> edition](#), 2020.
- 3- "Medical Physics (Lectures in general physics for medical sciences students)", [3<sup>rd</sup> edition](#), 2020.
- 4- "General Physics for Sciences and Engineering Faculties", [3<sup>rd</sup> edition](#), 2020.
- 5- "Environmental Impacts of Energy", [1<sup>st</sup> edition](#), 2019.
- 6- "Energy Conversion and Efficiency", [1<sup>st</sup> edition](#), 2019.
- 7- "Lecture notes on Thermodynamics", [1<sup>st</sup> edition](#), 2018.
- 8- "General Physics for Sciences and Engineering Faculties", [2<sup>nd</sup> edition](#), 2017, in Arabic.
- 9- "Nuclear and Radiation Chemistry", [1<sup>st</sup> edition](#), 2017, in Arabic.
- 10- "General Physics 2 (Electricity and Magnetism)", [1<sup>st</sup> edition](#), 2016, in Arabic.

## **D- Student workshops under my organization and supervision:**

- 1- "[Brochures on Situation and Future of Energy in Jordan](#)", *Philadelphia University, Jordan*, 16 Jan 2020.
- 2- "[Workshop on Environmental Impacts of Energy](#)", *Philadelphia University, Jordan*, 10-17 Apr 2019.
- 3- "[Energy Resources, Descriptive Studies](#)", *Philadelphia University, Jordan*, 2-19 Dec 2018.
- 4- "[Applications of Physics in Engineering](#)", *British University in Yemen, Sana'a, Yemen*, 3-19 Feb 2018.
- 5- "[Applications of Physics in Medical Sciences](#)", *Al-Nasser University, Sana'a, Yemen*, 10-21 Dec 2017.
- 6- "[Applications of Nuclear and Solar Energy](#)", *Hodeidah University, Hodeidah, Yemen*, 22-24 Apr 2017.
- 7- "[Applications of Physics in Architecture](#)", *University of Science & Tech., Hodeidah, Yemen*, 3 Jan 2017.

## **Training**

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1. Teaching Skills Course (FT1901: Effective lesson planning, virtual education, blended learning), **21 hours**, the academic training center, *Philadelphia University, Jordan*, Feb 2019.
2. Nuclear Reactor Physics Basics, 16 hours, *MEPhI University & Coursera*, 23 Dec 2018.
3. Teaching Skills Course (FT1801: Building websites, Effective learning, Electronic systems, Google Forms, Google Drive), **18 hours**, the academic training center, *Philadelphia University, Jordan*, Sep 2018.
4. ICDL, Center for Foreign Languages and Translation, *Cairo University, Egypt*, 17 Feb-26 Mar 2013
5. NSPA Workshop on Radiation Protection, **72 hours**, *Cairo University, Egypt*, 15 Jan-18 Feb 2012.

## **Awards and Honors**

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- Cara fellowship, hosted by University of Manchester, UK for two years (2023-2025).
- TWAS Young Affiliateship of IsDB-TWAS Scientists programme for 5 years (2021-2025).
- NAWA Scholarship grant, Heavy ion Laboratory, University of Warsaw, *Warsaw, Poland*, 2020.
- IIE-SRF Fellowship award (*The Institute of International Education-Scholar Rescue Fund*), 2018.
- Best master thesis award in Faculty of Science, Cairo University for the year 2009.
- Distinction with First Class Honors for preliminary courses of master 2007.
- Faculty of science award for the best bachelor student in the faculty, Cairo University, 2004
- Prof. Mahmoud Mokhtar medal for the best student in the physics department, Cairo University, 2004.
- Schlumberger Limited Company award for the best students in Faculty of Science, Cairo University, 2003
- Financial support from Ministry of Higher Education (in Yemen) for my higher education, 2000-2014