

# Curriculum Vitae

**Fawzeia M. Khamis**

فوزية المبروك خميس

**Doctor of Solid State Physics**  
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## **Personal Details**

Sex: Female  
Nationality: Libyan  
Marital status: Single.

## **Academic Qualifications:**

1. Ph.D. degree in Physics/ Experimental Solid State Physics, 2014.  
The University of Jordan, Faculty of Graduate Studies, Amman, Jordan, Sep. 2009- May 2014.  
Dissertation Title: Synthesis, Characterization and Thermoluminescence Properties of as Prepared and Doped SiO<sub>2</sub>-Glass.  
Advisor: Prof. Dr. Dia-Eddin Arafah.
2. M.Sc., Experimental Solid State Physics, 2005, Mu'tah University, 2003-2005.  
Dissertation Title: Morphology and Melting Behavior of Poly (3,3-bis-chloromethyloxybutylene).  
Advisor: Prof. Dr. Ismail Gharaibeh.
3. B.Sc., Physics, University of Az Zawiyah, Libya, 1996-2000.

## **Academic and Teaching Experience:**

1. From 2001 to 2003: Demonstrator, Department of Physics - Faculty of Science - University of Jafara, Libya.
2. From 2005 to 2014: Assistant Lecturer, Department of Physics, Faculty of Science, University: of Tripoli, Tripoli, Libya.
3. From 2014 to 2016: Lecturer, Department of Physics, Faculty of Science, University: of Tripoli, Tripoli, Libya.
4. From 2017 to Present: Assistant Professor, Department of Physics, Faculty of Science, University: of Tripoli, Tripoli, Libya.
5. From 2009 to 2014 Study a PhD at Department of Physics, Faculty of Science, University of Jordan.
6. From 2006 to 2008 Assistant Lecturer, Physics Courses at University of Tripoli.
7. From 2003 to 2005 Study A MSc at Department of Physics, Faculty of Science, Mu'tah University, Jordan.
8. From 2000 to 2003: Physics Teacher, Al-Ma'Murah Secondary School, Al-Ma'murah, Libya.

## **Administrative Experience**

1. From 2015 to Present: Member of the Study and Examination Committee, Department of Physics.
2. From 12 Sep. 2020 to Present: Coordinator of the Quality Office, Department of Physics.

### **Research Experience:**

- 1) From 2012 to 2014 researcher at Atomic Physics Lab, Department of Physics, The University of Jordan under supervision of Dr. Dia-Eddian Arafah.
- 2) From Jun 2016 to Sep. 2016 work at Atomic Physics Lab, Department of Physics, The University of Jordan under supervision of Dr. Dia-Eddian Arafah.
- 3) From Sep. to Oct. 2019 work at Atomic Physics Lab, Department of Physics, The University of Jordan under supervision of Dr. Dia-Eddian Arafah.
- 4) A good practice in Jordan University of Van de Graff Accelerator JUVAC operation and vacuum technique.

### **Committees, Tasks and Volunteer Work**

- From Nov. to Present: Member of the Accreditation Committee for the Faculty of Science, University of Tripoli, Libya.

### **Scholarships:**

- Scientific Research Grant from The University of Jordan, Deanship of Academic Research for The best research 2013, Jordan.
- Nominated for the Ph.D. study in the Scientific Field, Department of Physics, University of Tripoli, 2008. Nominated for the Ph.D. Dissertation Award in the Scientific Field, Department of Physics, University of Tripoli, 2008.
- Nominated for the MSc study in the Scientific Field, Department of Physics, Higher Education, University of Jafara, 2002.

### **Publications:**

#### ***Journal Articles***

19. **F. Khamis**, and D.E. Arafah. ...(TL-White Rock).... **In Preparation**
18. **F. Khamis**, and D.E. Arafah. ...(TL-Rock Salt). **In Preparation**
17. **F. Khamis**, and D.E. Arafah. ...(TL-Dy, Mn and Dy/Mn-doped NaCl(M. S.)) **In preparation**
16. **F. Khamis**, and D.E. Arafah. ...(TL-Eu-doped NaCl(M. S.)).... **In Preparation**
15. **F. Khamis**, M. M. Deggeg and F. N. Zaggout. Effect of Doping with Cobalt on Structural and Optical Properties of Zinc Oxide Thin Films Prepared by Sol-Gel Method. **In Process**
14. **F. Khamis**, A. Kadari. Trapping parameters determination and modeling of the thermoluminescence process in  $\text{Li}_2\text{B}_4\text{O}_7$  doped with different activators. **In Process**
13. **F. Khamis**, M. M. Deggeg and F. N. Zaggout. Effect of Co-Doped Cu/Co on Structural and Optical Properties of Zinc Oxide Thin Films Prepared by Sol-Gel Method. **In Process**
12. **F. Khamis**, M. M. Deggeg and F. N. Zaggout. Structure properties of ZnO thin films prepared by sol-gel. **In Process**
11. **F. Khamis**, and D.E. Arafah. Dead Sea, DS-salt as a thermoluminescent phosphor for beta irradiation dosimetry. [Applied Physics A \(2021\) 127:539, DOI:10.1007/s00339-021-04463-3](https://doi.org/10.1007/s00339-021-04463-3).

10. Abeer Z. Abraheem, **F. Khamis** and Youssef Abdulla. TL characteristics and dosimetric aspects of Mg-doped ZnO. [EJ-Physics. 2684-4451. Vol. 3\(1\), Jan. 2021/ DOI:10.24018/ejphysics.2021.3.1.37](#)
9. **F. Khamis**, and D.E. Arafah. Radiation induced defects and thermoluminescence characteristics in Eu, Dy and Eu/Dy doped-quartz sol-gel by 2 Gy beta and 2 MeV  $^4\text{He}^+$  irradiations. [EJ-Physics. 2684-4451. Vol. 2\(5\), Oct. 2020/ DOI:10.24018/ejphysics.2020.2.5.21](#)
8. **F. Khamis**, M. M. Deggeg and F. N. Zaggout. Effect of Doping with Copper on Optical Properties of Zinc Oxide Thin Films Prepared by Sol-Gel Method. [J. Al-Satit 14\(22\), March, 2020.](#)
7. M. M. Deggeg, **F. Khamis** and F. N. Zaggout. Study Optical Properties of Zinc Oxide Thin Films Prepared by Sol-Gel Method. [Special Issue for The 4<sup>th</sup> Annual Conference on Theories and Applications of Basic and Biosciences, Sep., 5<sup>th</sup>, 2020.](#)
6. **F. Khamis**, and D.E. Arafah. (2020). Improved Thermoluminescence Properties of Natural NaCl Salt Extracted From Mediterranean Sea Water Relevant to Radiation Dosimetry. [EJ-Physics. 2506-8016.Vol.2\(3\), May 2020. DOI :10.24018/ejphysics.2020.2.3.8](#)
5. A.M. Sadek, **F. Khamis**, Georgy S. Polymeris, E. Carinou, and G. Kitis. Similarities and differences between two different types of the thermoluminescence dosimeters belonging to the LiF family. [Phys. Status Solidi C 14, No. 1-2, 2017/DOI 2016.](#)
4. **F. Khamis**, and D.E. Arafah. Thermoluminescence Characteristics of Different Types of Natural Marble and the Effect of Annealing Temperatures. [AJOPACS, 2\(2\): 1-16, 2017.](#)
3. **F. Khamis**, and D.E. Arafah Effect of Storage on the TL Properties of Glow Curve of Synthesis: Dy, Tm and Dy/Tm Doped CaSO<sub>4</sub>. M. Dahab. [AJOPACS, 2\(2\): 1-16, 2017.](#)
2. **F. Khamis**, and D.-E. Arafah. Thermoluminescence Characteristics of Natural Quartz and Synthesized Silica Glass Prepared by Sol-Gel Technique. [AJOPACS, 3\(1\): 1-16, 2017.](#)
1. **F. Khamis**, and D.-E. Arafah. Synthesis, Characterization and Thermoluminescence Properties of Rare Earth Ions Doped Silica Glass Prepared by Sol-Gel Technique. [AJOPACS, 3\(2\): 1-12, 2017.](#)

### **RESEARCH INTERESTS**

- Synthesis and Characterization of Luminescent Materials, Thermoluminescence, Photoluminescence, Crystal Structure by different techniques including sol-gel method.
- Synthesis and Characterization of Thin films by different techniques including spin coating, spray pyrolysis, thermal evaporation, & electron beam..
- Synthesis and Characterization of Optical fibers by sol-gel method
- Thermoluminescent dosimeters (TLDs.) of material.
- Spintronic

### **Experimental Techniques Used**

- Harshaw TLD Reader.
- Toledo TLD Reader.
- Rutherford Backscattering Spectrometry (RBS) and Particle-Induced X-ray Emission (PIXE).

- Analysis of thermoluminescence and Photoluminescence properties.

### **Thesis/Dissertation Supervision**

1. Maghlih M. F. Daqiq, **M.Sc. Thesis** "Study of Doping Effects on Structural and Optical Properties of ZnO Thin Film Prepared by Sol-Gel Method", Misurata University, Libya. 2020/2021, (*Co- Supervisor*)

### **Computer Skills:**

Microsoft Office, Software-Win-REMS, WinGCF, OpenFilters, Adobe Photoshop, Mathematic, MatLab, Maple, Origin, Kmax, PeakFit, PIXE Analysis and CasaXPS.

### **Languages:**

Arabic: Mother tongue

English: Excellent, written and good spoken

### **Teaching:**

In addition to the previous activities, I have frequently taught the following courses:

### **B.Sc. Programs:**

<b><u>Subject</u></b>	<b><u>Course No.</u></b>
Physics-I[Science]	PH111
Physics-II[Science]	PH112
Physics-II[Engineering]	GS112
Lab-Physics-II[Engineering]	GS112L
Electricity & Magnetism	PH213
Mechanics 2	PH311
Modern Phys[Science]	PH317
Modern Phys[Nuclear Engineering]	PH317
Quantum Mech. –I	PH312
Nuclear-I	PH413
Quantum Mech. –II	PH411
General physics[Pharmacy]	P122T

## Papers Reviewer

1- Synthesis and thermoluminescence characterization of self-agglomerating  $\text{CaSO}_4$  exposed to beta radiation. Ms. Ref. No.: **ARI\_2018\_1062** has been submitted to the Applied Radiation and Isotopes journal (**Impact factor 1.343**) **Published by Elsevier (2019)**.



- 2- Nanoshaped  $\text{CeO}_2$  and  $\text{SiO}_2$  Supported Ru Catalyst for Plasma Catalysis Chemical Looping Reactions. Ms. Ref. No.: **10.5923/j.ijee.20201003.01** has been submitted to International Journal of Energy Engineering (**ICV 84.2**) **Published by SAP (2020)**.
- 3- Theoretical Study for Some Physical Concepts. Ms. Ref. No.: **JNPP-102900204**. Journal of Nuclear and Particle Physics. **SAP (2020)**.
- 4- The Process of Magnetic Flux Penetration into Superconductors. Ms. Ref. No.: **AJCMP-1023010526**. American Journal of Condensed Matter Physics (**Impact factor 1.057**) **SAP(2020)**.
- 5- First Principles Studies of  $\text{Ca}_x\text{Sr}_{1-x}\text{F}_2$  Ternary Alloys. Ms. Ref. No.: **10.5923/j.ajcmp.20201002.01**. American Journal of Condensed Matter Physics (**Impact factor 1.057**) **Published by SAP(2020)**.
- 6- Application of The Transmission Line Method to Calculate The Energy Bands for An Electron in One Dimensional Lattice. The Libyan Journal of Science, **LJS. (2020)!!**.
- 7- Frequency and temperature dependence of ethanol using the Cole-Cole Relaxation Model. Ms. Ref. No.: **10.5923/j.ajcmp.20201002.03**. American Journal of Condensed Matter Physics (**Impact factor 1.057**) **Published by SAP (2020)**.
- 8- The Role of Symmetry in Obtaining Lower Excited States of Some Potentials in Two Dimensions Using the Diffusion Method, **LJS. (2021)!!**.
- 9- Septal Destruction enhances Chaotic Mixing and Increases Cellular Doses of Nanoparticles in Emphysematous Acinus. Ms. Ref. No.: **NANOX-100335**. Nano Express. **IOPJ(2021)**.
- 10- Dynamics of A Coherently Driven Degenerate Three-Level Atom In A Closed Cavity. **OPTICS-107800138. International Journal of Optics and Applications, 2021**

## Participation in Conferences, Workshops, and Meetings

- 1- An introductory seminar at the International Center for the Use of Synchrotron Rays in the Field of Experimental Sciences and Their Applications in the Middle East (SESAME), and how to write a research project to obtain approval, accreditation and funding. Association of Arab Universities. By Zoom Application **18 Oct. 2020 @ 01:00p.m.**



2- Research activities and innovation technology transfer workshop. “Network for the Modernization of the Higher Education Sector In Libya” **22 Oct. 2020.**



3- Principles of administrative organization and strategic planning workshop. Research, Consulting and Training Center, University of Tripoli. **18-19 Oct. 2020.**



4- Mohammed Bin Rashid Al Maktoum Knowledge Foundation. حضور حلقة نقاش الكترونية عن "أهمية نشر العلوم باللغة العربية" **2021/6/16.**



**References:**

1. **Dr. Dia-Eddin Arafah**  
Professor of Experimental Solid State Physics.  
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2. **Dr. Jamil Khalifeh**  
Professor of Theoretical Solid State Physics.  
University of Jordan, Amman, Jordan.  
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3. **Dr. Sami H. Mahmood**  
Professor in Experimental Condensed Matter Physics.  
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4. **Dr. Mohamed Mansor**  
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5. **Dr. AbdUlhamid A. Sghayer**  
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