

# Curriculum Vitae

## Dr. Mohammad Ghaffar Faraj



*Dr. Mohammad Ghaffar Faraj (M.G.Faraj)*

*PDF, PhD, MSc, BSc*

*Polymer Solar Cells/ Solar Energy/Physics*

*Associate Professor*

*Department of Physics, Faculty of Science and Health, Koya University*

Mohammad Ghaffar Faraj is Associate Professor at the Department of Physics, Koya University. He received his **B.Sc.** and **M.Sc. degrees** in physics, both from the University of Al-Mustansiryah, Iraq, in 2001 and 2004, respectively. He received his **Ph.D. degree** (solar energy) in 2012 from the School of Physics; University Sains Malaysia (USM), Malaysia. He completed **Post-doctorate Fellow (PDF)** Polymer Thin Film in **2017** from University of Santiago de Compostela (USC), Spain. He has been published **18** papers in the ISI journals and **11** papers in International journals. He participated in many international conferences (**7** papers) and workshops. His research interests include solar cells, thin films, nanotechnology, polymers, and photodetectors Heterojunction. He is also working as Section Editor with Electronics Science Technology and Application Journal.

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### **1. Personal Details:**

Name: Mohammad Ghaffar Faraj

Date of Birth: 10/3/1979

Gender: Male

Marital Status: Married and have three children

Academic Position: Associate Professor

Affiliation: Department of Physics, Faculty of Science and Health, Koya University, Koya, Kurdistan Region, Iraq.

## 2. Academic Qualifications

**PDF (Post Doctoral Fellowship)**, Polymer Thin Films- University of Santiago de Compostela (USC), Spain (2017).

**Ph.D. Physics (Solar Energy/ Polymer Solar Cells)** - Universiti Sains Malaysia, Malaysia (2012).  
Thesis title: "Fabrication and Characterization of Thin Film on Polyethylene Terephthalate Substrate for CIGS Solar cell".

**M.Sc. Physics** - University of Al-Mustansiryah, Iraq (2004), grade 80.11%. Thesis title: "Preparation of CdO/P-Si Heterojunction Detector by Chemical Spray Pyrolysis"

**B.Sc. (Hons) Physics** - University of Al-Mustansiryah, Iraq (2001), grade 78.46% (rank 5<sup>th</sup> in a class of 79 students).

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## 3. Research Experiences

**Postdoctoral researcher** (Polymer Thin Films) - University of Santiago de Compostela (USC), Spain (1/10/2016- 1/4/2017)

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## 4. Languages:

Language	Speaking	Reading	Writing	Listening
Kurdish (Mother Tongue)	Excellent	Excellent	Excellent	Excellent
English	Very good	Very good	Very good	Very good
Arabic	Excellent	Excellent	Excellent	Excellent
Bahasa Malaysia	Good	Good	Good	Good
Spanish	Good	Good	Good	Good

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## 5. Administrative:

### 5.1 Academic

1. Post-Doctorate Fellow, Condensed Matter Physics Department, Colloids and Polymers Physics Group, University of Santiago de Compostela (USC), Spain (2016-2017).
  2. Associate Professor, Department of Physic, Faculty of Science and Health, Koya University, Koya, Kurdistan Region (2016 - present).
  3. Lecturer, Koya University, Koya University, Koya, Kurdistan of Iraq (2012 -2016).
  4. Assistant Lecturer, Koya University, Koya, Kurdistan of Iraq (2004 - 2009).
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### 5.2 Administrative

1. Head of Physics Department, Faculty of Science& Health, Koya University (2016- 2017)
2. Head of Mathematics Department, Faculty of Science & Health, Koya University (2005- 2007)

3. Head of Scientific Committee, Physics Department, Koya University (2016- 2017)
  4. Director of the curriculum development of Physics Department, Koya University (2008-2009).
  5. Registrar, Faculty of Science, Koya University (2004-2005).
  6. A member of the Scientific Committee of the Department of Physics (2012- 2016).
  7. Head of Teaching Quality Assurance in the Faculty of Science and Health, University of Koya (2012-2013)
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## 6. **Teaching Experience:**

### **Subjects Taught:**

#### 1. **Postgraduates:**

2014-2015 (**Advanced Solid State Physics**) - Physics Department, Koya University.

2014-2015 (**Materials Characterization**) - Physics Department, Koya University.

#### 2. **Undergraduates:**

2012-2016 (**Solid State Physics & Practical Solid State Physics**) - Physics Department, Koya University.

2012-2014 (**Semiconductor Devices Physics**) - Physics Department, Koya University.

2012-2013 (**Optics and spectroscopy**) - Physics Department, Koya University.

2007-2009 (**Practical Optics and spectroscopy**) - Physics Department, Koya University.

2008-2009 (**Practical Solid State Physics**) - Physics Department, Koya University.

2004-2008 (**Practical Mechanics**) - Physics Department, Koya University.

2004-2007 (**Electricity and Mechanics**) - Physics Department, Koya University.

2005-2008 (**Practical Thermodynamics**) - Physics Department, Koya University .

2005-2006 (**Thermodynamics**) - Physics Department, Koya University

2004-2005 (**Practical General Physics**) - Geotechnical Department, Koya University.

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## 7. **Awards and Recognition**

PhD Scholarship of Ahmed Ismail Foundation in association with the Ministry of Higher Education of Kurdistan Region (2009).

Postdoctoral Fellowship (Erasmus Mundus-Marhaba Program) - University of Santiago de Compostela (USC), Spain.

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## 8. Certificates & Letters of appreciation

1. Presidency of Koya University, for publication in the impact factored journals (2017).
  2. Presidency of Koya University, for publication in the impact factored journals (2017).
  3. Presidency of Koya University, for working hard with university (2016).
  4. Presidency of Koya University, for publication in the impact factored journals (2015).
  5. Presidency of Koya University, for working hard with university (2015).
  6. Presidency of Koya University, for achieving outstanding point in the quality assurance assessment (2014).
  7. Presidency of Koya University (2014).
  8. The Ministry of Higher Education and Scientific Research of the Kurdistan Research Regional Government (KRG) (2014).
  9. Faculty of Science and Health (2015).
  10. Faculty of Science and Health (10-3-2013)
  11. Presidency of University of Koya (12-8-2012).
  12. Presidency of University of Koya (2006).
  13. Presidency of University of Koya (2005).
  14. Faculty of Science and Engineering, University of Koya (2011).
  15. Faculty of Science, University of Koya (2006).
  16. Faculty of Science, University of Koya (2005).
  17. A biographee in the 2012 Edition of Marquis Who's who in the World, 2011, for research publication in the reputed Journals.
  18. A biographee in the 2015 Edition of Marquis Who's who in the World
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## 9. Publications:

*Number of articles publications: 36*

### a. Papers in Journals with Impact Factor (ISI/Scopus):

**(24.712 Total Impact Points)**

1. **M. G. Faraj**, K. Ibrahim, M. H. Eisa, M. K. M. Ali and F. Azhari, “Investigation on Molybdenum thin films deposited by DC-sputtering on polyethylene terephthalate substrate”, International Journal of Polymeric Materials. 59 (8), (2010), p. 622-627. **(ISI - Cited Publication). (Impact Factor: 1.515).**
2. **M. G. Faraj**, K. Ibrahim, M. H. Eisa, M. K. M. Ali, M. Z. Pakhuruddin, “Comparison of Zinc Oxide thin films deposited on the glass and polyethylene terephthalate substrates by thermal evaporation technique for applications in solar cells”, Journal of Optoelectronics and Advanced Materials-Rapid Communications (OAM-RC). 4(10), (2010), p.1587-1590. **(ISI-Cited Publication). (Impact Factor: 0.470).**
3. **M. G. Faraj**, K. Ibrahim, A. Salhin, “Preparation and study of structural and optical characterization of Cu (In, Ga)Se<sub>2</sub> (CIGS) thin film on polyethylene terephthalate substrate by screen print technique”, Journal of Optoelectronics and Advanced Materials-Rapid Communications (OAM-RC). 4(12), (2010), p.2092-2096. **(ISI-Cited Publication). (Impact Factor: 0.470).**
4. **M. G. Faraj**, K. Ibrahim, M. H. Eisa, “Investigation of the optical and structural properties of thermally evaporated cadmium sulphide thin films on polyethylene terephthalate substrate”, Journal of Material Sciences in Semiconductor Processing. 14(2), (2011), p.146–150. **(ISI-Cited Publication). (Impact Factor: 2.359).**

5. **M.G. Faraj**, K. Ibrahim, A. Salhin, “Investigation of CIGS solar cells on Polyethylene Terephthalate Substrate”, *International Journal of Polymeric Materials*. 60 (10), (2011), p.817- 824. **(ISI- Cited Publication)**. **(Impact Factor: 1.515)**.
6. M. K. M. Ali, K. Ibrahim, Osama S. Hamad, M. H. Eisa, **M. G. Faraj**, F. Azhari, “Deposited Indium Tin Oxide (ITO) Thin Films by DC-Magnetron Sputtering on Polyethylene Terephthalate Substrate (PET)”, *Romanian Journal of Physics*. 56 (5-6), (2011), p.730-741. **(ISI-Cited Publication)**. **(Impact Factor: 1.758)**.
7. **M. G. Faraj**, K. Ibrahim, M. K. M. Ali, “PET as a plastic substrate for the flexible optoelectronic applications”, *Journal of Optoelectronics and Advanced Materials Rapid Communications (OAM-RC)*. 5 (8), (2011), p.879–882. **(ISI-Cited Publication)**. **(Impact Factor: 0.470)**.
8. **M. G. Faraj**, K. Ibrahim, Optical and structural properties of thermally evaporated zinc oxide thin films on polyethylene terephthalate substrates, *International Journal of Polymer Science*. 2011(2011), Article ID 302843, 4 pages. **(ISI-Cited Publication)**. **(Impact Factor: 1.077)**.
9. **M. G. Faraj**, K. Ibrahim, A.Salhin, Fabrication and characterization of thin-film Cu (In,Ga)Se<sub>2</sub> solar cells on a PET plastic substrate using screen printing, *Journal of Material Sciences in Semiconductor Processing*. 15 (2), (2012), p.165–173. **(ISI-Cited Publication)**. **(Impact Factor: 2.359)**.
10. **M. G. Faraj**, K. Ibrahim, Comparison of cadmium sulfide thin films deposited on glass and polyethylene terephthalate substrates with thermal evaporation for solar cell applications, *Journal of Materials Science: Materials in Electronics*. 23 (6), (2012), p. 1219 – 1223. **(ISI-Cited Publication)**. **(Impact Factor: 2.019)**.
11. **M.G. Faraj**, K. Ibrahim, A.Salhin, Effects of Ga concentration on structural and electrical properties of screen printed-CIGS absorber layers on polyethylene terephthalate , *Journal of Material Sciences in Semiconductor Processing*. 15 (2), (2012), p.206-213. **(ISI-Cited Publication)**. **(Impact Factor: 2.359)**.
12. Mohammed Khalil Mohammed Ali, K. Ibrahim, M.Z. Pakhuruddin, **M.G. Faraj**, Optical and Electrical Properties of Indium Tin Oxide (ITO) Thin Films Prepared by Thermal Evaporation Method on Polyethylene Terephthalate (PET) Substrate, *Advanced Materials Research (Volume 545)*, (2012),pp.393–298.**(ISI-Cited Publication)**.
13. **M.G. Faraj**, K. Ibrahim, M. H. Eisa, and M. A. Alrajhi, Comparison of Aluminium Thin Film deposited on different polymer substrates with thermal evaporation for Solar Cell Applications, *Journal of Ovonic Research*, Vol. 10, No. 6, November - December2014, p. 231 - 235. **(Impact Factor: 0.698)**.
14. **M.G.Faraj**, M. Z. Pakhuruddin, P. Taboada, Structural and optical properties of cadmium sulfide thin films on flexible polymer substrates by chemical spray pyrolysis technique, *Journal of Materials Science: Materials in Electronics*, Vol.28, No.9, 2017, 6628-6634. **(Impact Factor: 2.019)**
15. **M.G.Faraj**, P. Taboada, Comparative Studies of the Properties of ZnO Sprayed Thin Films on Different Polymer Substrates for Flexible Solar Cell Applications, *Journal of Inorganic and Organometallic Polymers and Materials*, Vol. 27, No.5, 2017, p.1405-1411. **(Impact Factor: 1.577)**
16. **M.G.Faraj**, F. A. I. Chaqmaqchee, H. D. Omar, Structural, morphological and electrical properties of Zn doped PbS thin films by chemical spray pyrolysis technique, *Journal of Optoelectronics and Advanced Materials* Vol.19, No.5-6, 2017, 412- 416.**(Impact Factor: 0.449)** .

17. **M.G.Faraj**, P. Taboada, Structural and optical properties of ZnO thin films prepared by spray pyrolysis on PI plastic substrates at various temperatures for integration in solar cell, Journal of Materials Science: Materials in Electronics, Vol.28, No.21, 2017, 16504-16508. (**Impact Factor: 2.019**).
18. **M.G.Faraj**, M. Z. Pakhuruddin, P. Taboada, Effects of Substrate Temperature on Structural and Optical Properties of Spray-Pyrolyzed Cu(Ga<sub>0.3</sub>In<sub>0.7</sub>)Se<sub>2</sub>Thin Films on Polyimide Plastic Substrate, Journal of Electronic Materials, Vol. 46, Issue 12, 2017, p.6745-6749. (**Impact Factor: 1.579**).

***b. Papers in Journals without IF:***

1. **M.G. Faraj**, K. Ibrahim, M. H. Eisa, F. Azhari, and M. A. Alrajhi , Aluminum Deposition on Polymer Substrate by DC Sputtering and Evaporation Methods, Journal of Mechatronics Journal of Mechatronics, 1 September 2014, vol. 2, no. 3, pp. 223- 225(3).
2. **M.G. Faraj**, Effect of Thickness on the Structural and Electrical Properties of Spray Pyrolysed Lead Sulfide Thin Films, American Journal of Condensed Matter Physics 2015, 5(2): 51-55.
3. **M.G. Faraj**, Effect of Aqueous Solution Molarity on the Structural and Electrical Properties of Spray Pyrolysed Lead Sulfide (PbS) Thin Films, International Letters of Chemistry, Physics and Astronomy 2015, 57:122-125.
4. **M.G.Faraj**, M.Z.Pakhuruddin, Deposited Lead Sulfide Thin Films on Different Substrates with Chemical Spray Pyrolysis Technique, International Journal of Thin Films Science and Technology 2015, 4(3)215-217.
5. **M.G.Faraj**, Effect of Nano Surface Topography on Electrical Properties of Lead Sulfide (PbS) Films Deposited on Polymer Substrate, Journal of Technology Innovations in Renewable Energy 2016, 5, 18-20.
6. Haval M. Abdulla , Fahmi F. Muhammad , M. G. Faraj, The Impact of Sunlight Intensity and Outdoor Temperature on the Performance of Inorganic Solar Panels, International Letters of Chemistry, Physics and Astronomy 2016, 67: 58-64
7. **M. G. Faraj**, Sabah M. Abu-Khumra, Dual Variable DC Power Supply, Journal of College of Education, AL-Mustansiriyah University, No.3, p.513-531, 2009.
8. **M. G. Faraj**, Raid A. Ismail, Study of optical and Electrical Properties of CdO Prepared by Chemical Spray Pyrolysis, Journal of College of Education, AL-Mustansiriyah University, No.3, pp.532-539, 2009.
9. **M. G. Faraj**, Study of optical and Electrical Properties of Silver doped-CdS (CdS :Ag) Prepared by Chemical Spray Pyrolysis, Journal of College of Education, AL-Mustansiriyah University, No.2, 2011
10. **Mohammad Ghaffar Faraj**, K.Ibrahim (The Effect of Nano Surface Topography on Electrical Properties of Aluminium Films Deposited on Plastic Substrate by Different Technique), Journal of University of Zakho 1(2) (2013) 498-502.

11. **Mohammad G. Faraj**, Halo D.Omar (The Effect of Substrate Temperature on the Structural Properties of Spray Pyrolysed Lead Sulphide (PbS) Thin Films), ARO - The Scientific Journal of Koya University 2(2) (2014)11-14.

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### **C. Conference Papers:**

1. R.A.Ismail, S.K.Al-Ani, **M.G.Faraj**, Optoelectronic characteristics of n-CdO/p-Si Heterojunction prepared by spray pyrolysis, Proceedings of the World Renewable Energy Congress (Wrec 2005) , Aberdeen Exhibition and Conference Center, Scotland, UK, May 22-27, 2005, p. 125 (1).
2. F. Azhari, K. Ibrahim, M.H. Eisa, M.K.M. Ali, M. H. Khalid, **M. G. Faraj**, Liu Chao Zhuo, "Characterization of Aluminium Deposited on PET Substrate by DC Sputtering and Evaporation Methods", The 7<sup>th</sup> Asia Pacific Conference on Sustainable Energy and Environmental Technologies, China Academy of Science, Qingdao, China, 15-17 October (2009).
3. M. K. M. Ali, K. Ibrahim, M. H .Eisa, **M. G. Faraj**, Osama S. Hamad and F.Azhari, "Characterization of Polyethylene terephthalate (PET) substrate for Optoelectronic Applications", The First International Conference on Engineering, Environment, Economic, Safety & Health, CONVEESH'09, and 10<sup>th</sup> Senvar International Seminar on Environment and Architecture Science & Engineering, Manado, Indonesia 26-27 October (2009).
4. M.K.M.Ali, K.Ibrahim, M.H.Eisa, **M.G.Faraj**, Osama S.Hamad and F.Azhari, "Characterization of Indium Tin Oxide Thin Films Deposited by DC-Magnetron Sputtering on Polyethylene terephthalate (PET) substrate", The First International Conference on Engineering, Environment, Economic, Safety & Health, CONVEESH'09, and 10<sup>th</sup> Senvar International Seminar on Environment and Architecture Science & Engineering, Manado, Indonesia 26-27 October (2009).
5. **M.G. Faraj**, K.Ibrahim, M.H.Eisa, M.K.M.Ali and F.Azhari, "Comparative studies of the Properties of Molybdenum Thin Films Deposited on Different Substrates by DC Sputtering". The 2<sup>nd</sup> ISESCO International Workshop and Conference on Nanotechnology 2010 (IWCN2010), Kuala Lumpur, Malaysia 25<sup>th</sup>-27<sup>th</sup> January (2010).
6. M.K.M.Ali, K.Ibrahim, M.H.Eisa, M. Z. Pakhuruddin and **M.G. Faraj**, "Optical and Electrical Properties of Indium Tin Oxide (ITO) Thin Films Prepared by Thermal Evaporation Method on Polyethylene Terephthalate (PET) Substrate", The 1<sup>st</sup> International Conference on Advancement of Materials and Nanotechnology (ICAMN II), Kuala Lumpur, Malaysia 29 November-1December (2010).
7. **M.G.Faraj** , K. Ibrahim , "(The Effect of Nano Surface Topography on Electrical Properties of Aluminium Films Deposited on plastic substrate by different techniques), First International Scientific Conference of University of Zakho (2013)- Zakho, Kurdistan of Iraq

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### **10. Membership**

1. Colloids and Polymers Physics Group (gfCP Lab) of the Faculty of Physics (USC)
  2. International Association of Advanced Materials- IAAM
  3. Kurdistan Physicists Syndicate
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## **11 .Academic Activities**

### **11.1 Editorial and Reviewing/Assessment activities**

#### **a. Editorial**

**Section Editor Electronics Science Technology and Application Journal**

#### **b. Being Reviewer for the ISI Journals**

1. Journal of Thin Solid Films (Elsevier)
2. Journal of Material Sciences in Semiconductor Processing (Elsevier)
3. Journal of Applied Surface Science (Elsevier)
4. Journal of Materials Science: Materials in Electronics {Springer}
5. Journal of Optoelectronics and Advanced Materials –Rapid Communications

#### **11.2. I supervised on the Solid State Physics laboratory Instruments**

- a. High resolution X-Rays Diffractometer System (Model: Panalytical Empyrean)
  - b. Scanning Tunnelling Microscopy (Model: NT-MDT Solver Nano)
  - c. Hall Measurements
  - d. Ultraviolet-Visible-Near Infrared (UV-Vis-NIR) Spectrophotometer
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## **12. Workshops/Courses**

1. Dealing with teaching duties, Koya University, 27 October 2014 (attended & certificate awarded).
  2. Occupational safety & health course, Koya University, 1-2 October 2014 (attended & certificate awarded).
  3. Developing the curriculum of Physics Department, Koya University, 16 September 2014 (attended & certificate awarded).
  4. Professional staff development training for Koya University, Koya University, 19-21 May 2014 (attended & certificate awarded)
  5. Teaching duties, Koya University, 19 February 2014 (attended & certificate awarded).
  6. Two days workshop on utilizing STM and XRD machine for materials characterization, Department of Physics, Koya University, 18 & 22 December 2013 (attended & certificate awarded).
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## **13. Projects & Theses supervision**

### **M.Sc. Projects**

- Haval Muhammed Abdullah, Design and sizing of stand-alone PV system at Koya city (2015-ongoing).

### **B.Sc. Projects**

- 2016 (4 projects- completed).
- 2015 (4 projects- completed).
- 2014 (3 projects- completed).
- 2013 (2 project- completed).
- 2012 (2 project- completed).



- 2008 (1 project- completed).
  - 2007(1 project- completed).
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#### **14. Website**

1. <https://sites.google.com/a/koyauniversity.org/mohammad-ghaffar>
  2. <https://scholar.google.com/citations?user=-Gtp2hoAAAAJ&hl=en>
  3. [https://www.researchgate.net/profile/Mohammad\\_Faraj\\_mgfaraj](https://www.researchgate.net/profile/Mohammad_Faraj_mgfaraj)
  4. <http://orcid.org/0000-0001-9921-0208>
  5. <http://www.researcherid.com/rid/P-3630-2016>
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#### **15. Contact**

**Address:** Department of Physics, Faculty of Science and Health, Koya University ,University Park,  
Danielle Mitterrand Boulevard , Koya KOY45,Kurdistan Region-F.R.Iraq

**Phone:** 00964 7701993794

**Email:** mohammad.ghaffar@koyauniversity.org ,  
mohphysics\_79@yahoo.com