

## Curriculum vitae

Karwan Wasman Qadir, **PhD - (Organic Electronics)**

**Current research interests are Dye Sensitized Photo sensor, organic device physics, semi-conducting polymers and organic materials. His research activities mainly involve in the fabrication and characterization of organic solar photovoltaic devices, Perovskite Solar Cells and humidity & organic sensors.**



Assistant Professor and researcher

Department of Physics, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq.

PhD degree earned at Low Dimensional Materials Research Centre (LDMRC), Department of Physics, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia.

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### **Education:**

- **2005** B.Sc. in Physics at Salahaddin University- Erbil, 44002 Erbil, Kurdistan Region-Iraq.
- **2010** M.Sc. in Solar radiation at Salahaddin University- Erbil, 44002 Erbil, Kurdistan Region-Iraq. with the thesis entitled: "Study and Analysis of Global Solar Radiation in Kurdistan Region-Iraq". Supervised by: Associate Prof. Dr. Mohammed Aziz Saeed.
- **2016** PhD in Experimental Physics (Physics)-Organic Electronics at University of Malaya, Kuala Lumpur, Malaysia. with the thesis entitled "Study of Organic Semiconductor Based Photovoltaic Devices: Light Sensors and Solar Cells". Supervised by: Associate Prof. Dr. Khaulah Sulaiman.
- **2018** Passed in a "**Research Methodology**" course, Lund University, Sweden (7.5 ECTS).
- **2020** Passed in all modules of the training "Implementing a new pedagogical Model – Professional development programme" at Häme University of Applied Sciences, Finland (30 ECTS).

### **Professional and Academic Positions Held:**

Professionally trained, licensed, and experienced in teaching and enhancing students' appreciation of physics, the science of matter and energy and their interactions.

**Published papers**

1. H. Y. Abdullah, I. Hossain, I. M. Ahmed, S. T. Ahmad, [W. Q. Karwan](#), M. K. Kasimin, J. C. Chong, K. K. Viswanathan, & N. Ibrahim. **International Journal of the Physical Sciences** Vol. 6(4), pp. 901-907, "Calculation of 8+ Isomers of even-even Nuclei 76Ni to 94Pd for N = 48 neutrons". **18 February, 2011**.  
<http://www.academicjournals.org/IJPS>. ISSN 1992 - 1950 ©2011 Academic Journals (Impact Factor: 0.54).
2. [Karwan wasman qadir](#), & Mohammed Aziz Saeed. **Conference Paper**: 3rd International Scientific Conference of Salahaddin University-Erbil, at Salahaddin University-Hawler, 44002 Erbil, Kurdistan Region-Iraq. No: S-165, "Study and Analysis of Global and Extraterrestrial Solar Radiation Over Kurdistan Region-Iraq" **Oct. 2011**.
3. [Karwan Wasman Qadir](#), Ahmad, Z., & Sulaiman, K. (2014). "Performance enhancement of NiTsPc based photo sensor using treated TiO<sub>2</sub> NPs film". **Journal of Nanoparticle Research**, 16(11), 1-8. doi:[10.1007/s11051-014-2705-7](https://doi.org/10.1007/s11051-014-2705-7), (Impact Factor: 2.184).
4. [Karwan Wasman Qadir](#), Ahmad, Z., & Sulaiman, K. (2015). Thermal Annealing Effect on the Optical, Electrical and Morphological Properties of the PBTTT-C<sub>12</sub>:PC<sub>71</sub>BM Blend Films. **Journal of Solar Energy Engineering**, 137(3), 034503-034503. doi:[10.1115/1.4029230](https://doi.org/10.1115/1.4029230), (Impact Factor: 1.61).
5. [Karwan Wasman Qadir](#), Zubair Ahmed, & Khaulah Sulaiman, **Synthetic Metals**, **2016**, (Impact Factor: 2.252).
6. [Karwan Wasman Qadir](#), Design thinking for a new generation of umbrella, (2016). Smart Hands Free Umbrella.  
[https://www.researchgate.net/publication/306255669\\_Smart\\_Hands\\_Free\\_Umbrella](https://www.researchgate.net/publication/306255669_Smart_Hands_Free_Umbrella)
7. Qayyum Zafar, Shahino Mah Abdullah, Mohamad Izzat Azmer, Mansoor Ani Najeeb, [Karwan Wasman Qadir](#), Khaulah Sulaiman (2017). Influence of relative humidity on the electrical response of PEDOT:PSS based organic field-effect transistor. **Sensors and Actuators B: Chemical**, (Impact Factor: 5.401).  
<https://doi.org/10.1016/j.snb.2017.09.076>
8. Wrya O. Karim, [Karwan Wasman Qadir](#), Shujahadeen B. Aziz, and Qayyum Zafar, "Proton Ion Conducting Solid Polymer Electrolytes Based on Chitosan Incorporated with Various Amounts of Barium Titanate (BaTiO<sub>3</sub>)". (May 2018). **International journal of electrochemical science**, (Impact Factor: 1.469). doi:  
[10.20964/2018.06.38](https://doi.org/10.20964/2018.06.38)
9. Mahdi Alizadeh, Goh Boon Tong, Muhammad Shahid Mehmood, [Karwan Wasman Qadir](#), Babak Shokri, "Band Engineered Al-rich InAlN Thin Films as a Promising Photoelectrode for Hydrogen Generation from Solar Water Splitting". (June 2018). **Solar Energy Materials and Solar Cells**, (Impact Factor: 5.018). DOI:  
[10.1016/j.solmat.2018.05.058](https://doi.org/10.1016/j.solmat.2018.05.058)
10. Mohamad Izzat Azmer, Qayyum Zafar, [Karwan Wasman Qadir](#), Khaulah Sulaiman, Tahani M. Bawazeer and Mohammad S. Alsoufi, "Organic humidity sensing film optimization by embedding inorganic nano-anatase TiO<sub>2</sub> powder". (June 2018) **Applied Physics A**, (Impact Factor: 1.604). [doi.org/10.1007/s0033](https://doi.org/10.1007/s0033)
11. Rupak Wasman Qadir and [Karwan Wasman Qadir](#), "Shape Effects on Light Absorption and Scattering for Nanoparticles in Thin Organic Films" Volume 4, Issue 3 (Special Issue on Nanotechnology); (Jan 2019) **Eurasian Journal of Science & Engineering (EAJSE)**. doi: [10.23918/eajse.v4i3sip49](https://doi.org/10.23918/eajse.v4i3sip49)
12. Mahdi Alizadeh, Boon Tong Goh, [Karwan Wasman Qadir](#), Hamid Yousefi, Muhammad Shahid Mehmood, and Reza Rasuli, "Improvement of polycrystalline InN thin films properties by localized ion source under low RF plasma ambient" (August

- 2019, Volume 30, Issue 16, pp 15534–15543) **Journal of Materials Science: Materials in Electronics**. <https://doi.org/10.1007/s10854-019-01930-9>
13. [Karwan Wasman Qadir](#), Qayyum Zafar, Nader Ale Ebrahim, Zubair Ahmad, Khaulah Sulaiman, Rizwan Akram and Mohammad Khaja Nazeeruddin, “**Methodical review of the literature referred to the dye-sensitized solar cells: Bibliometrics analysis and road mapping**”. (September 2019) **Chinese Physics B**, (Impact Factor: 1.469). <https://doi.org/10.1088/1674-1056/ab4577>
  14. Rupas Wasman Qadir, [Karwan Wasman Qadir](#) and Shujahadeen B. Aziz, “**Effect of Various Shapes of Silver Nanoparticles on The Performance of Plasmonic Solar Cells Active Layer**” Vol. 31, no. s4, Oct. 2019, pp. 44-48, **ZANCO Journal of Pure and Applied Sciences (ZJPAS)**, (DOAJ). DOI: <https://doi.org/10.21271/zjpas.31.s4.7>
  15. Shoaib Mallick, Zubair Ahmad, [Karwan Wasman Qadir](#), Abdul Rehman, R.A. Shakoor, Farid Touati, and S.A. Al-Muhtaseb, “**Effect of BaTiO<sub>3</sub> on the sensing properties of PVDF composite-based capacitive humidity sensors**”. (2 October 2019) **Ceramics International**, (Impact Factor: 3.450). <https://doi.org/10.1016/j.ceramint.2019.09.291>
  16. Mahdi Alizadeh Kouzeh Rash, Goh Boon Tong, [Karwan Wasman Qadir](#), Muhammad Shahid Mehmood and Reza Rasuli, “**Cu<sub>2</sub>O/InGaN heterojunction thin films with enhanced photoelectrochemical activity for solar water splitting**”. (24 April 2020) **RENEWABLE ENERGY**, (Impact Factor: 5.439). <https://doi.org/10.1016/j.renene.2020.04.107>
  17. S. M. Zafar Iqbal, [Karwan Wasman Qadir](#), Hewa Y Abdullah, Ali M Dastgheib, Muhammad Mehran Bashir, “**Characterization of Solar Absorber Coated by Reduced Graphene Oxide Polymer Composite on Metal Sheets**”. (18 Jan 2021) **International Journal of Thermophysics**, (Impact Factor: 0.794). <https://doi.org/10.1007/s10765-020-02785-7>
  18. [Karwan Wasman Qadir](#), “**A Simulation Study on The Effect of Size Gold Nanoparticles on Broadband Light Absorption in Dye-Sensitised Solar Cells**”. (4 May 2021) **REVISTA MEXICANA DE FÍSICA**, (Impact Factor: 0.527). <https://doi.org/10.31349/RevMexFis.67.509>
  19. Zahid Farooq, Muhammad Yaseen, Mariyam Zulfqar, Mian HR Mahmood, Rizwan Akram, [Karwan Wasman Qadir](#) and Qayyum Zafar, “**Investigation of the Relative Humidity-Sensing Performance of Capacitive and Resistive type Sensor based on TDTBPPNi Metalloporphyrin Dielectric Layer**”. (24 May 2021) **BULLETIN OF MATERIALS SCIENCE**, (Impact Factor: 1.392). <https://doi.org/10.1007/s12034-021-02443-0>
  20. Rupas Wasman Qadir, Nabaz Asaad, [Karwan Wasman Qadir](#), Saddon T Ahmad & Hewa y Abdullah, “**Relationship between radon concentration and physicochemical parameters in groundwater of Erbil city, Iraq**”. (1 Dec 2021) **Journal of Radiation Research and Applied Sciences**, (Impact Factor: 1.770). <https://doi.org/10.1080/16878507.2020.1856588>
  21. Rizwan Akram, Ziyad M Almohaimeed, Adeela Bashir, Muhammad Ikram, [Karwan Wasman Qadir](#), Qayyum Zafar, “**Synthesis and characterization of pristine and strontium-doped zinc oxide nanoparticles for methyl green photo-degradation application**”. (3 May 2022) **Nanotechnology**, (Impact Factor: 3.874). <https://doi.org/10.1088/1361-6528/ac6760>

### **Conferences Attend**

- ❖ The 3<sup>rd</sup> International Scientific Conference of Salahaddin University-Erbil, (18-20 Oct 2011), [www.su-erbil2011.org](http://www.su-erbil2011.org) or

<http://www.wikicfp.com/cfp/servlet/event.showcfp?eventid=15799&copyownerid=2372>

1. Paper no: S-165 Available at:

[https://www.researchgate.net/profile/Karwan\\_Qadir](https://www.researchgate.net/profile/Karwan_Qadir)

- ❖ The 3<sup>rd</sup> ISESCO International Workshop and Conference On Nanotechnology 2012 (**IWCN2012**), (6-7 December 2012). <http://www.ukm.my/iwcn2012/>.
- ❖ 4<sup>th</sup> International Conference on Functional Materials & Devices 2013 (**ICFMD**). (**8 - 11 April 2013**). PO43 (Investigation of new hydrazone dyes for dye-sensitized solar cells). <http://umconference.um.edu.my/ICFMD2013>
- ❖ 5<sup>th</sup> Molecular Materials Meeting (**M3**) in Singapore (03-05 August 2015) (Oral). <https://www.a-star.edu.sg/imre/Events/M3-Conference/5th-Molecular-Materials-Meeting.aspx>
- ❖ 6<sup>th</sup> International Conference and Workshop on Basic and Applied Sciences (**6<sup>th</sup> ICOWOBAS**) in Kurdistan-Iraq (18<sup>th</sup> and 19<sup>th</sup> March 2017). (attended as a committee member) <http://icowobas2017.su.edu.krd/>
- ❖ Applied Nanotechnology and Nanoscience International Conference – (**ANNIC 2017**) in Rome-Italy (18<sup>th</sup> to 20<sup>th</sup> Oct 2017). (attended) <http://premc.org/conferences/annic-nanotechnology-nanoscience/>
- ❖ 5<sup>th</sup> International Conference on Applied Science, Energy and Environment (**ICASEE2018**). Venue: Ishik University, 44001 Erbil, Iraq (April 7<sup>th</sup>-8<sup>th</sup>, 2018) (Oral: Effect of Silver Nanoshape's Shape on The Performance of Plasmonic Solar Cells Active Layer). <http://www.ishik.edu.iq/conf/icasee/>.
- ❖ International Conference on Simulation of Organic Electronics and Photovoltaics (**SimOEP 2020**). Venue: Online (Switzerland). (August 31 - September 2, 2020). (attended) <https://www.zhaw.ch/de/engineering/institute-zentren/icp/veranstaltungen/simoep/>.
- ❖ Participation as keynote speaker in the 1<sup>st</sup> International Conference of the Advanced Research in Pure and Applied Sciences (**ICARPAS 2021**). Venue: Online (Samawa-Iraq). College of Science /Al-Muthanna University for the period March 24<sup>th</sup>-25<sup>th</sup> 2021. <https://sci.mu.edu.iq/conference/>

### **Committees & Contribution**

1. Member of detecting fake Scientific and non-scientific Journals at Salahaddin University **2017 to Present**
2. Member of Higher Education Examinations committee at College of Education **2018 to Present**
3. Member of National University Ranking at Salahaddin University **2018 to 2020**
4. Reviewer of; [\(Springer\) Iranian Journal of Science and Technology, Transactions A: Science.](#) **2018 to Present**
5. Reviewer of; [ZANCO Journal of Pure and Applied Sciences, Ionics, Baghdad Science Journal, Journal of Zankoy Sulaimani](#) and [ARO](#) **2018 to Present**
6. Member of committee (Viva Voce), "Design and Sizing of Stand-Alone photovoltaic Electricity System for Rural Electrification at Ranyah", Faculty of Science and Health, Koya University, Iraq. **June 26<sup>th</sup> 2018**
7. Member of Health and Safety committee at College of Education **2019 to Present**

**Evaluation Activities**

- ✓ “Experimental Study of Two Different Types of Solar Dish Characteristics and its Efficiency Based on Iraqi Weather Conditions”, in the 6<sup>th</sup> Conference of College of Science, University of Karbala, Iraq.
- ✓ “Simulation and Improvement of FeSi<sub>2</sub>/Si Solar Cell By AFORS-HET Software”, in the 1<sup>st</sup> International Conference on Advanced Research in Pure and Applied Science (ICARPAS 2021), College of Science /Al-Muthanna University.

**Teaching:**

Undergraduate, Diploma, and MSc & PhD Teaching

- Teaching Physics Science at Secondary School from 2-6 secondary classes, at Badawa Private School, 44001 Erbil, Kurdistan Region-Iraq, (2004-2005).
- Graded quizzes, prepared lab materials and experiments, then assisted students in Properties of Matter Lab, Atomic Lab. and Electronic Lab at Department of Physics, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq, for (Year 1) and (Year 3) undergraduate (2005-2012).
- Graded quizzes, prepared lab materials and experiments, then assisted students in Nuclear Lab at Department of Physics, College of Science, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq, for (Year 4) undergraduate (2011-2012).
- Graded quizzes, prepared lab materials and experiments, then assisted students in Optics and Laser Lab at Department of Communication, Foundation of Technical Education-Hawler, 44001 Erbil, Kurdistan Region-Iraq, for (Year 2) (2010-2012).
- Lecturer of Geophysics course (Year 4) at department of physics, college of education, Salahaddin University-Erbil, 44002 Erbil, Iraq (2016-2017).
- Supervisor of atom lab. (Year 3) at Department of Physics, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. (2016-2017).
- Lecturer of Electronics course (Year 3), at physics department, faculty of education, Ishik University, Erbil 44001, Iraq (2016-2018).
- Lecturer of Electronics course (Year 3) at department of physics, college of education, Salahaddin University-Erbil, 44002 Erbil, Iraq (2017- 2018).
- Supervisor of electronics lab. (Year 3) at Department of Physics, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. (2016- 2018).
- Supervisor of electronics lab. (Year 3) at physics department, faculty of education, Ishik University, Erbil 44001, Iraq (2017-2018).
- Teaching **Pedagogy course; Information and communications technology (ICT) module** (MSc & PhD) at the Cultural Center, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. (2018- Present).
- Lecturer of Mathematics (Foundation Year) at Faculty of Engineering, Department of Petroleum, Palacký University-Erbil Campus, 44001 Erbil, Kurdistan Region-Iraq. (2019 to 2020).

**Management:**

1995-2005, Working as a welder and plumber

2005-2008, Assistant Physicist

2006-2012, Managing Director in Kurdistan Physicists' Syndicate

2008-2010, Physicist

2010-2012, Assistant Lecturer

2012- Present, Lecturer & Researcher

**Supervising of Undergraduate project:**

- **Applications of Solar Radiation**, Undergraduate final project at Department of Physics, College of Education, University of Salahaddin-Hawler, 44002 Erbil, Kurdistan Region-Iraq, (2010-2011).
- **Bluetooth and its effect on the human's body**, Undergraduate final project at Department of Physics, College of Education, University of Salahaddin-Hawler, 44002 Erbil, Kurdistan Region-Iraq, (2011-2012).
- **Effect of metallic nano-structure shapes on the performance of plasmonic solar cell**, Undergraduate final project at Department of Physics, College of Education, University of Salahaddin-Hawler, 44002 Erbil, Kurdistan Region-Iraq, (2017-2018).
- **Perspective in flexible solar cells**, Undergraduate final project at Department of Physics, College of Education, University of Salahaddin-Hawler, 44002 Erbil, Kurdistan Region-Iraq, (2017-2018).
- **Review of recent progress in stability of perovskite solar cells**, Undergraduate final project at Department of Physics, College of Education, University of Salahaddin-Hawler, 44002 Erbil, Kurdistan Region-Iraq, (2017-2018).
- **Related Humidity and temperature measurement using environmental quality meter and Arduino-UNO +DHT11: a comparison study**, Undergraduate final project at Department of Physics, College of Education, University of Salahaddin-Erbil, 44002 Erbil, Kurdistan Region-Iraq, (2019-2020).
- **Determinate and study of light intensity: a case study of the Classrooms in Department of Physics, College of Education, Salahaddin University-Erbil in 2020-2021**, Undergraduate final project at Department of Physics, College of Education, University of Salahaddin-Erbil, 44002 Erbil, Kurdistan Region-Iraq, (2020-2021).
- **Determinate and study of light intensity: a case study of the laboratories in Department of Physics, College of Education, Salahaddin University-Erbil in 2020-2021**, Undergraduate final project at Department of Physics, College of Education, University of Salahaddin-Erbil, 44002 Erbil, Kurdistan Region-Iraq, (2020-2021).
- **Measuring Light Penetration Through Different Types of Smoke**, Undergraduate final project at Department of Physics, College of Education, University of Salahaddin-Erbil, 44002 Erbil, Kurdistan Region-Iraq, (2021-2022).

**Summary of qualifications:**

1. Professional in Windows and Microsoft Office	2004
2. MapInfo Program	2010
3. Teaching Method	2010
4. Civil Defense	2011
5. e-learning	2011
6. MATLAB Program	2011
7. EndNote (software)	2012
8. Origin (software)	2013
9. Turnitin (Anti Plagiarism Software)	2017
10. Research Methodology	2018

**Some Training:**

- Workshop on “**Dye-sensitized Solar Cells: Theory and Laboratory Practical**”, Centre for Ionics, Department of Physics, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia. 20<sup>th</sup> & 21<sup>st</sup> August, 2013.
- Workshop on “**Conducting a Literature Search & Writing Review Paper**”, Centre for Research Services, University of Malaya, 50603 Kuala Lumpur, Malaysia. 4<sup>th</sup> & 5<sup>th</sup> Nov, 2015.
- Workshop on “**How to Publish in High Quality ISI-Indexed Journal**”, Faculty of Computer Science and Information Technology, University of Malaya, 50603 Kuala Lumpur, Malaysia. November 17<sup>th</sup> & 18<sup>th</sup>, 2015.
- Workshop on “**Impedance Spectroscopy: Theory, Applications and Laboratory Instruction**” Centre for Ionics, Department of Physics, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia. April 12<sup>th</sup> to 14<sup>th</sup>, 2016.
- As an organizing committee member for “**Workshop on Nano-Materials for Energy and Environment**”, Department of Physics, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia. April 21<sup>st</sup>, 2016.
- “**IELTS Preparation Course**”, Britannia Educational Services, Cambridge College, 44001 Erbil, Kurdistan Region-Iraq. September 18<sup>th</sup> to 28<sup>th</sup> 2016.
- Workshop on “**Online Databases and their Role in Advancing Scientific Research in Higher Education**”, College of Science, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. May 17<sup>th</sup> & 18<sup>th</sup> 2017.
- “**Training Workshop on the use of Turnitin (Anti Plagiarism Software)**”, College of Science, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. December 2<sup>nd</sup> to 4<sup>th</sup> 2017.
- “**Learning Management System (LMS) Training Workshop**”, Research Center, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. April 16<sup>th</sup> 2018.
- “**Pedagogical Training for Professional Teacher Development**” 12 ECTS, Häme University of Applied Sciences (HAMK), Hämeenlinna, Finland. 1<sup>st</sup> Nov to 15<sup>th</sup> Dec 2018.
- As an organizing committee member in “**Academic Research Stratagems Workshop**”, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. 20<sup>th</sup> and 21<sup>th</sup> Jan 2019.
- As an organizing committee member for “**MATLAB for Primary and Medium Level Workshop**”, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. 26<sup>th</sup> and 27<sup>th</sup> Mar 2019.
- “**Advanced Marketing and Sales Course**” by View Enterprise in Erbil, Iraq. 30<sup>th</sup> Oct to 3<sup>rd</sup> Nov 2019.
- As a trainer of “Zoom & Edmodo in Online teaching Workshop” for Teachers at Dilman Language Center in Erbil”
- As an organizing committee member in “**Student Centered Learning**” workshop, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. 24<sup>th</sup> April 2021.

**Participations**

1. “**PhD GOT IT PROGRAMME**”, Institute of Graduate Students, University of Malaya, Malaysia, May 28<sup>th</sup> & 29<sup>th</sup>, 2014.
2. University of Malaya Three Minute Thesis Competition 2016, Faculty level, (**UM3MT 2016**), March 23<sup>rd</sup>, 2016.

3. **"1<sup>st</sup> National Nanotechnology Workshop NW-1 2017"** Ishik University, 44001 Erbil, Kurdistan Region-Iraq. 24<sup>th</sup> Dec 2017.
4. Participated and presented a seminar in the **"2<sup>nd</sup> National Nanotechnology Workshop (NW-2 2018)"** Ishik University, 44001 Erbil, Kurdistan Region-Iraq. 23<sup>rd</sup> & 24<sup>th</sup> Dec 2018.
5. **"Training Workshop on Bologna Process"** College of Engineering, Salahaddin University-Erbil, November 3 & 4 2019.
6. Participated in the **"4<sup>th</sup> International Nanotechnology Workshop -ONLINE- (NW-4 2020)"** Tishk International University, 44001 Erbil, Kurdistan Region-Iraq, December 28, 2020.
7. Participated in the workshop on **"Health Safety & Environment management System (HSE-MS)"** Salahaddin University-Erbil, Feb 7<sup>th</sup> 2021.

### Seminars

1. **"Performance enhancement of NiTsPc based photo sensor using treated TiO<sub>2</sub> NPs film"**, King Faisal Convention Center, King AbdulAziz University, Jeddah, Saudi Arabia, December 4<sup>th</sup>, 2014.
2. **"Research Tool-dtSearch Desktop"**, Department of Physics, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. April 11<sup>th</sup> 2017.
3. **"Research Tool-dtSearch Desktop"**, Department of Physics, College of Science, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. December 12<sup>th</sup> 2017.
4. **"A brief tour of Anti-Plagiarism by Turnitin (Solutions for a new era in education)"**, Department of Physics, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. Feb 5<sup>th</sup> 2018.
5. **"Organic Semiconductor Devices"**, Department of Physics, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. Feb 6<sup>th</sup> 2018.
6. **"A brief tour of Anti-Plagiarism by Turnitin (Solutions for a new era in education)"**, College of Education-Shaqlawa, Salahaddin University-Erbil, Shaqlawa, Kurdistan Region-Iraq. Feb 19<sup>th</sup> 2018.
7. **"Environmental Health and Safety in University"** Department of Physics, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. Nov 18<sup>th</sup> 2019.
8. Online Seminar **"ICT Teacher Education Module Introduction"** May 7<sup>th</sup> 2020.
9. Online Seminar **"Methodical review of the literature referred to the dye-sensitized solar cells: Bibliometrics analysis and road mapping"** Mar 2<sup>nd</sup> 2021.
10. Online talk on **"Organic Semiconductor Devices: Materials, Fundamentals, Technologies and Applications"** College of Science /Al-Muthanna University. March 24<sup>th</sup> 2021.
11. **"Organic Semiconductors: Technologies and Applications"** Department of Physics, College of Education, Salahaddin University-Erbil, 44002 Erbil, Kurdistan Region-Iraq. Nov 23<sup>th</sup> 2021.

### Languages:

Kurdish (native), English, Arabic