Hazem K. M. Khanfar

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Education

- PhD in Electrical Engineering, University of New Orleans, New Orleans, Louisiana, USA, Jan, 2007- Dec,2009.
  PhD dissertation: *"Polarizing optical devices based on embedded one-dimensional subwavelength-structured photonic-crystal layers*".

- M.Sc. in Telecommunication and Electronics Engineering, Jordan University for Science & Technology, Irbid, Jordan, 2001-2003.
  Master thesis: "*Improvement of high-speed characteristics of InGaAs/GaAs quantum dot lasers*,"

- B.Sc. in Electronic Engineering, Al-Quds University, Jerusalem, Palestine, 1995-2000.

Professional Experience

- Dean of Faculty of Engineering, Arab American University, Jenin, Palestine, August 2021- Present.
- Chair, Telecommunication Engineering department, Faculty of Engineering, Arab American University, Jenin, Palestine. September 2023-Present.

- Acting Dean of Faculty of Information Technology, Arab American University, Jenin, Palestine, August 2021- July 2023.

- Dean of Admission & Registration, Arab American University, Jenin, Palestine. September 2015- July 2021.

- **Professor** in Electronics & Telecommunications Engineering, Telecommunication Engineering department, College of Engineering and IT, Arab American University, Jenin, Palestine. February /2020- present.

- Associate Professor (Electronics & Communications), Telecommunication Engineering department, College of Engineering and IT, Arab American University, Jenin, Palestine. January /2015- January/2020.

- Assistant to vice President for Academic Affairs, Arab American University, Jenin, Palestine. September /2014- August/2015.

- Acting Dean, College of Engineering and Information Technology, Arab American University, Jenin, Palestine. Summer semester/2014.

- Chair, Telecommunication Engineering department, College of Engineering and IT, Arab American University, Jenin, Palestine. September/2012- August/2014.

- Assistant Professor, Telecommunication Engineering department, College of Engineering and IT, Arab American University, Jenin, Palestine. February /2010- December /2014.

- Research Assistant, Department of Physics, University of New Orleans, New Orleans, Louisiana, USA, worked on: Project funded by **NASA**: **Automated Recognition and Tracking of Fish in Underwater Video**, August/2008- December/2009.

- Teaching Assistant, Electrical Engineering Department, University of New Orleans, New Orleans, Louisiana, USA, 2007-2008 (4 semesters).

- Instructor, Department of Physics and Applied Electronics, Palestine Polytechnic University, Hebron, Palestine, 2005-2006(3 semesters).

- Part-time (Full Load) instructor, Department of Electrical and Computer Engineering, Palestine Polytechnic University, Hebron, Palestine, 2004-2005 (2 semesters).

- Part-time instructor, Department of Computer Science, Hebron University, Hebron, Palestine, 2004- 2005 (2 semesters).

- Teaching Assistant, Department of Electrical Engineering, Jordan University for Science & Technology, Irbid, Jordan, 2002-2003.

- Teaching & Research Assistant, Department of Electronics, Al Quds University, Jerusalem, Palestine 2000-2001(3 semesters).

Taught Courses:

1. Electronics I
2. Electronics II
3. Introduction to Communication Systems
4. Digital Logic System
5. Microprocessor Interface (Intel 8085)
6. Digital Signal Processing.
7. Electrical Circuits I
8. C programming
9. Modeling and Simulation of Communication Systems
10. Microprocessors & Microcontrollers

Taught Labs:

1. Electrical Circuits Laboratory
2. Electronics Workshop I
3. Electronics I Laboratory
4. Electronics II Laboratory
5. Digital Logic Systems Laboratory
6. Digital Signal Processing Laboratory
7. Microprocessor Fundamentals Laboratory
8. Engineering Workshop II
9. Network Laboratory
10. Assembly Lab
11. Introduction to MATLAB Lab

Computer Skills

- Programming Languages:
  - C programming (instructor for 3 semesters),
  - Assembly language (using the mnemonic code),
  - MATLAB (excellent experience),
  - Microsoft Access (intermediate).
- Application Programs:
  Office (Word, Excel, Visio and PowerPoint), and Latex,
  AutoCAD, OrCAD, Multisim, and Electronics Workbench.
  Endnote (reference management software)

- (**SCPI**)Standard Commands for Programmable Instruments
  Familiar with interfacing and programming instruments using (SCPI), like:
  - Keysight Technologies(Agilent) instruments.
  - Keithley instruments.
  - Instek instruments.
  - Lakeshore instruments.

Experimental Skills

- Hands-on experience on thin films deposition use PVD technique with Norm VCM 600 Standard Desk Top Thermal Evaporator.
- Hands-on experience on semiconductor-device characterization (IV, CV, frequency response measurement, etc).
- Hands-on experience on fabrication, characterization and evaluation of schottky diode, tunneling diode, photovoltaic, optical sensors, etc.
- Hands-on experience using the following instruments:
    - Lakeshore Cryogenic Temperature Controller(Model 335)
    - Closed cycle Cryostat (10 K-340 K) with He compressor, temperature controller and vacuum unit
    - Keithley 230 Digital voltage source 1mV -100 V with one microvolt resolution
    - Keithley 6485 Picoammeter can measure down to 10^{-14} A
    - Keithley 2400 Source Meter SMU
    - Keithley 6487 Picoammeter/ Voltage Source
    - 4291B RF Impedance/Material Analyzer (1 MHz-1.8 GHz)
    - 1k-1 M LCR measuring unit
    - Agilent N9310 A 9 K-3.0 GHz waveform generator
    - Instek 3.0 GHz spectrum analyzer
    - Thermo-scientific Evolution 300 UV-Visible spectrophotometer (190-1100 nm with 0.5 nm steps)
    - Norm 300 Physical vapor deposition system
    - MCLS1 - 4-Channel Laser Source with the wavelengths of 406 nm, 850 nm and 1550 nm
    - 630 nm laser source

Publications

I. Conferences

- **Hazem K. Khanfar**, Atef F. Qasrawi, "*Design, characterization and application of Ge/SeO2 heterojunctions*", 6th International Conference on

Sustainable Science and Technology (ICSuSaT-2023), Istanbul, Turkey, 14-16 July 2023
https://icsusat.net/icsusat-2023

- **Hazem K. Khanfar**, Shorooq Mihdawi, Muayad Abu Saa, Atef F. Qasrawi, "*Design and Characterization of Tungsten Trioxide Devices*", 5th International Conference on Sustainable Science and Technology (ICSuSaT-2022), Istanbul, Turkey, 01-03 July 2022
https://icsusat.net/icsusat-2022

- **Hazem K. Khanfar**, Masa J. Daraghmeh, Muayad Abu Saa and Atef F. Qasrawi "*Enhancement of Electrical performance of MoO3 films via Indium nanosandwiching*," International Conference on Life and Engineering Sciences (ICOLES 2019), Istanbul, Turkey, 27-29 June, 2019.
http://www.icoles.org/index.php

- Haifaa kmail , Muayad Abu saa, **H. K. Khanfar** and A. F. Qasrawi " *Effect of Transparent Indium on the Dielectric Properties of MoO3 Films,"* Sixth Palestinian Conference on Modern Trends In Mathematics and Physics, TulKarem, Palestine, 05-08 August, 2018
https://ptuk.edu.ps/ptuk_conferences/index.php?en=en&cf=6

- Masa J. Daragmeh , Muayad Abu saa, **H. K. Khanfar** and A. F. Qasrawi " *Analysis of the conductance and capacitance spectra in Au/MoO3/C devices,"* Sixth Palestinian Conference on Modern Trends In Mathematics and Physics, TulKarem, Palestine, 05-08 August, 2018
https://ptuk.edu.ps/ptuk_conferences/index.php?en=en&cf=6

- **H. K. Khnfar**, A. F. Qasrawi and Sufyan R. Shehada "*Mathematical Modeling of Negative Capacitance Observed in Ag/a-In_2Se_3/CdS/CdSe/C Dual Band Stop Filters*," in INTERNATIONAL CONFERENCE ON APPLIED ANALYSIS AND MATHEMATICAL MODELING (ICAAMM 2018), Istanbul, Turkey, 20-24 June, 2018.
http://www.ntmsci.com/Conferences/ICAAMM2018

- **H. K. Khanfar**, "*Performance of the Yb/La_2O_3/Yb varactor microwave resonators"* in 2nd International Conference on Pure & Applied Sciencec (ICPAS-2016), Jun 1-5, 2016, Istanbul, Turkey . http://icpam-04.naturalspublishing.com/Abstracts.asp

- Alaa A. Ikmail, M. Abu Saa and **H. K. Khanfar** , "*Au/InSe interface designed as resonators for optical communications,*" in Second Palestinian International Conference on Material Science and Nanotechnology (PICNM2016), An-Najah National University New Campus, Nablus, Palestine , 23-24/3/2016 https://www.najah.edu/media/cms_page_media/2016/3/21/Book_of_Abstracts.pdf

- Sundos K. M. Kabaha, M. Abu Saa and **H. K. Khanfar** , " *Temperature effects on the physical parameters of Yb/MgO/C MSM devices,*" in Second Palestinian International Conference on Material Science and Nanotechnology (PICNM2016), An-Najah National University New Campus, Nablus, Palestine , 23-24/3/2016 https://www.najah.edu/media/cms_page_media/2016/3/21/Book_of_Abstracts.pdf

- **H. K. Khnfar**, and A. F. Qasrawi, "*Design and Optoelectronic Modeling of Multifunctional Dielectric Thin Layers for Applications in Visible Light Communication Technology*," in INTERNATIONAL CONFERENCE ON APPLIED ANALYSIS AND MATHEMATICAL MODELING (ICAAMM 2015), Istanbul, Turkey, 8-12 June ,2015. http://www.ntmsci.com/Conferences/ICAAMM2015

- A. F. Qasrawi, and **H. K. Khanfar**, "*Characterization of the MgO/GaSe0.5S0.5 heterojunction designed for visible light communications*," in The Eighth Palestinian International Chemistry

Conference (PICC 2015) An-Najah National University New Campus, Nablus, Palestine. 21-22/April, 2015.
https://www.najah.edu/PICC2015

- F. G. Al-Jammal, **H. K. Khanfar** and A. F. Qasrawi, "*Variable range hopping kinetics in CdSe optoelectronic switches under photonic excitations*," in The Eighth Palestinian International Chemistry Conference (PICC 2015) An-Najah National University New Campus, Nablus, Palestine. 21-22/April, 2015.
https://www.najah.edu/PICC2015

*II. **Journals***

- N. M. Khusayfan, **H. K. Khanfar**, and S. R. Alharbi, "*Formation, Enhanced Crystallization, Optical Absorption and Electrical Conduction in Copper Indium Selenide Thin Films Prepared via Pulse Laser Welding Technique*," Crystal Research and Technology, vol. 59, no. 2, pp. 2300272, **2024**.https://doi.org/10.1002/crat.202300272

- N. M. Khusayfan, A. F. Qasrawi, **H. K. Khanfar**, and S. R. Alharbi, "*Fast crystallization of InSe thin films via pulsed laser welding technique and effect of crystallinity on the optical and dielectric properties*," Physica Scripta, vol. 99, no. 2, pp. 025988, **2024**.
http://doi.org/10.1088/1402-4896/ad2040

- N. M. Khusayfan, **H. K. Khanfar**, and S. R. N. Alharbi, "*Fabrication and characterization of lead selenide thin film as X-ray sensors, photovoltaic devices and microwave resonators*," Applied Physics A, vol. 129, no. 9, pp. 639, **2023**.
http://dx.doi.org/10.1007/s00339-023-06909-2

- M. M. Alkhamisi, A. F. Qasrawi, and **H. K. Khanfar**, "*Growth and Characterization of Lanthanum Germanide Thin Films by the Thermal*

Evaporation Technique," Crystal Research and Technology, vol. n/a, no. n/a, pp. 2300049, **2023**. http://dx.doi.org/https://doi.org/10.1002/crat.202300049

- M. M. Alkhamisi, A. F. Qasrawi, and **H. K. Khanfar**, "La/Ge stacked nanosheets designed as optical resonators, microwave oscillators and 5 G/6 G gigahertz receivers," Optik, vol. 287, pp. 171105, **2023**. http://dx.doi.org/https://doi.org/10.1016/j.ijleo.2023.171105

- N. M. Khusayfan, A. F. Qasrawi, **H. K. Khanfar**, and S. R. Alharbi, "*Lead Selenide Thin Films Designed for Laser Sensing and Visible Light Communications*," Silicon, **2023**. http://dx.doi.org/10.1007/s12633-023-02554-9

- L. H. K. Alfhaid, A. F. Qasrawi, and **H. K. Khanfar**, "*Characterization of PbWO4 thin films formed by the pulsed laser welding technique*," Materials Today Communications, vol. 35, pp. 106157, **2023**. https://doi.org/10.1016/j.mtcomm.2023.106157

- M. M. Alkhamisi, A. F. Qasrawi, and **H. K. Khanfar**, "*Lead-tungsten oxide interfaces designed as gigahertz/terahertz filters*," Physica Scripta, **2023**. http://dx.doi.org/10.1088/1402-4896/acc31b

- A. F. Qasrawi and **H. K. Khanfar**, "*Voltage and frequency controlled Ge/SeO2 thin film transistors designed as rectifiers, negative capacitance and negative conductance sources*," Chalcogenide Letters, vol. 20, no. 3, pp. 177-186, **2023**. https://doi.org/10.15251/CL.2023.203.177

- M. M. Alkhamisi, A. F. Qasrawi, **H. K. Khanfar**, and S. E. Algarni, "*Pt/PbSe optoelectronic receivers designed for 6G and terahertz communication technologies*," *Optical and Quantum Electronics*, vol. 55, no. 2, pp. 156, **2023**. http://dx.doi.org/10.1007/s11082-022-04434-9

- M. M. Alkhamisi, **H. K. Khanfar**, and A. F. Qasrawi, "*Lead selenide microcrystals fabricated by the pulsed laser welding technique employed as 6G technology microwave resonators and as MOS capacitors*," *Physica B: Condensed Matter*, vol. 649, pp. 414512, **2023**. http://dx.doi.org/https://doi.org/10.1016/j.physb.2022.414512

- A. Qasrawi, and **H. K. Khanfar**, "*Effect of Ag 2 O nanosheets thickness on the performance of Al/GeO 2/Ag 2 O/GeO 2/C multifunctional electronic devices*," Journal of the Arab American University, vol. 9, no. 1, **2023**.

- M. M. Alkhamisi, **H. K. Khanfar**, A. F. Qasrawi, and S. E. Algarni, "*Growth and characterization of PbSe microcrystals via the pulsed laser welding technique*," *Applied Physics A*, vol. 128, no. 12, pp. 1106, **2022**. http://dx.doi.org/10.1007/s00339-022-06174-9

- N. M. Khusayfan, **H. K. Khanfar**, and S. R. Alharbi, "*Design and characterization of Ge/SeO2 heterojunctions as tunneling thin film transistors*," Optik, vol. 265, pp. 169520, **2022**. http://dx.doi.org/https://doi.org/10.1016/j.ijleo.2022.169520

- **H. K. Khanfar** and A. F. Qasrawi "*Preparation and Characterization of Orthorhombic AgMn Alloys by the Pulsed Laser Welding Technique*," Crystal Research and Technology, pp. 2200034, **2022**.
https://doi.org/10.1002/crat.202200034

- A. F. Qasrawi , **H. K. Khanfar**, and S. R. Alyat, "*Design and Characterization of Yb/p-SiO_2/(Yb, In) Thin-film Transistors for 5G Resonators*," Brazilian Journal of Physics, vol. 52, no. 2, pp. 37, **2022**. http://dx.doi.org/10.1007/s13538-022-01058-y

- N. M. Khusayfan, **H. K. Khanfar**, and S. R. Alharbi, "*Design and Characterization of Au/CdSe/GeO 2/C MOSFET Devices*," Materials Research, vol. 24, **2021**.

https://doi.org/10.1590/1980-5373-MR-2021-0020

- N. M. Khusayfan, A. F. Qasrawi, S. R. Alharbi, **H. K. Khanfar**, and T. S. Kayed, "*Band offsets, dielectric dispersion and some applications of CdSe/GeO2 heterojunctions*," Optik, vol. 231, pp. 166506, 2021. http://dx.doi.org/https://doi.org/10.1016/j.ijleo.2021.166506

- N. Khusayfan, **H. K. Khanfar**, and S. E. AlGarni, "*Optical dynamics at the MoO3/ZnPc interfaces prepared for visible light communications*," Physica Scripta, vol. 95, no. 7, pp. 075503, 2020/06/03, 2020. http://dx.doi.org/10.1088/1402-4896/ab96df

- A. F. Qasrawi, and **H. K. Khanfar**, "*Al/MoO3/ZnPc/Al Broken Gap Tunneling Hybrid Devices Design for IR Laser Sensing and Microwave Filtering*," IEEE Sensors Journal, vol. 20, no. 24, pp. 14772-14779, 2020. http://dx.doi.org/10.1109/JSEN.2020.3009986

- N. M. Khusayfan, and **H. K. Khanfar**, "*Design and Characterization of MoO3/Mg/MoO3 Interfaces," IEEE Transactions on Electron Devices*, vol. 67, no. 10, pp. 4354-4359, 2020. http://dx.doi.org/10.1109/TED.2020.3015470

- M. Abu Saa, A. Qasrawi, **H. K. Khanfar**, and B. Maher, "*Role Of Au Nanosheets In Enhancing The Performance Of Yb/Zns/Cds/Au Tunneling Photosensors*," Chalcogenide Letters, vol. 17, no. 11, pp. 565-572, 2020. https://chalcogen.ro/565_AbusaaM.pdf

- A. A. Saleh, A. F. Qasrawi, H. Z. Hamamera, **H. K. Khanfar**, and G. Yumusak, "*Samarium and yttrium doping induced phase transitions and their effects on the structural, optical and electrical properties of Nd2Sn2O7 ceramics*," *Materials Research Express*, vol. 6, no. 12, pp. 125709, 2020. http://dx.doi.org/10.1088/2053-1591/ab67f7

- **H. K. Khanfar**, A. Qasrawi, M. Daraghmeh, and M. Abusaa, "*Structural and electrical characterizations of the as grown and annealed Au/MoO3/In/MoO3/C bandpass filters*," Microwave and Optical Technology Letters, vol. 61, no. 12, pp. 2866-2872, 2019. http://dx.doi.org/10.1002/mop.31978

- A. F. Qasrawi, H. K. Kmail, M. AbuSaa, and **H. K. Khanfar**, "*Post annealing effects on the structural and optical properties of MoO3 sandwiched with indium slabs*," Materials Research Express, vol. 6, no. 11, pp. 116453, 2019. http://dx.doi.org/10.1088/2053-1591/ab5266

- N. M. Khusayfan, A. F. Qasrawi, and **H. K. Khanfar**, "*Formation Mechanism, Structural and Optoelectronic Properties of As2Se3/CdS Heterojunctions Prepared by Physical Vapor Deposition Technique***,**" Journal of Electronics Materials, 2019. https://doi.org/10.1007/s11664-019-07222-6

- N. M. Khusayfan, A. F. Qasrawi, and **H. K. Khanfar**, "*Enhancement of the performance of the Cu_2Se band filters via Yb nanosandwiching*," Microwave and Optical Technology Letters, vol. 61, no. 6, pp. 1449-1455, 2019 https://doi.org/10.1002/mop.31770

- N. M. Khusayfan, and **H. K. Khanfar**, "*Structural and optical properties of Cu2Se/Yb/Cu2Se thin films*," Results in Physics, vol. 12, pp. 645-651, 1/3/2019. https://doi.org/10.1016/j.rinp.2018.11.099 .

- **H. K. Khanfar**, A. F. Qasrawi, and Sufyan . R. Shehada, "*Negative cpacitance effect in Ag/α-In_2Se_3/CdS/CdSe/C dual band stop filters*," Journal of Electronics Materials, 2018. http://dx.doi.org/10.1007/s11664-018-6700-0

- A. A. Saleh, H. Z. Hamamera, **H. K. Khanfar**, A. F. Qasrawi, and G. Yumusak, "*Gd and Tb doping effects on the physical properties of*

$Nd_2Sn_2O_7$," Materials Science in Semiconductor Processing, vol. 88, pp. 256-261, 2018.
http://dx.doi.org/https://doi.org/10.1016/j.mssp.2018.08.017

- N.M. Khosifan and **H. K. Khanfar,** "*Optoelectronic properties of the InSe/Ga_2S_3 interfaces",* Results in Physics, vol. 10, pp. 332-338, 2018
https://doi.org/10.1016/j.rinp.2018.06.018

- N.M. Khosifan and **H. K. Khanfar,** "*Impact of Mg layer thickness on the performance of the Mg/Bi2O3 plasmonic interfaces*," Thin solid films, vol. 651, pp. 71-76, 2018
https://doi.org/10.1016/j.tsf.2018.02.025

- N. M. Khusayfan, A. F. Qasrawi and **H. K. Khanfar,** "*Design and electrical performance of CdS/Sb2Te3 tunneling heterojunction devices",* Materials Research Express, vol. 5, no. 2, pp. 026303, 2018. https://doi.org/10.1088/2053-1591/aaadda

- N. M. Khusayfan, A. F. Qasrawi and **H. K. Khanfar,** "*Design and characterization of Au/In4Se3/Ga2S3/C field effect transistors*", Results in Physics, vol. 8, pp. 1239-1244, 3, 2018. https://doi.org/10.1016/j.rinp.2018.02.017

- N.M. Khosifan and **H. K. Khanfar, "***Characterization of CdS/Sb_2Te_3 micro/nano-interfaces,"*Optik - International Journal for Light and Electron Optics, vol. 158, pp. 1154-1159, **2018**. https://doi.org/10.1016/j.ijleo.2018.01.010

- **H. K. Khanfar**, A. F. Qasrawi, Y. A. Zakarneh, N. M. Gasanly, "*Design and Applications of Yb/Ga2Se3/C Schottky Barriers*," Sensors Journal, IEEE, 2017 . http://dx.doi.org/10.1109/JSEN.2017.2702710

- N. M. Khusayfan, A. F. Qasrawi and **H. K. Khanfar,** "Impact *of Yb, In, Ag and Au thin film substrates on the crystalline nature, Schottky barrier formation and microwave trapping properties of Bi2O3 films*, " Materials Science in Semiconductor Processing, vol. 64, pp. 63-70, 6/15/, **2017**. http://dx.doi.org/10.1016/j.mssp.2017.02.028

- **H. K. Khanfar**, A. F. Qasrawi, and Y. K. Ghannam, "*Microwave Impedance Spectroscopy and Temperature Effects on the Electrical Properties of Au/BN/C Interfaces*," Active and Passive Electronic Components, vol. 2017, pp. 8, **2017**. https://doi.org/10.1155/2017/4791347

- N. M. Khusayfan and **H. K. Khanfar**, "*Design and Performance of (Au,Yb)/ZnS/InSe/C Heterojunctions as Plasmon Resonators, Photodetectors and Microwave Cavities*," Journal of Electronic Materials, vol. 46, no. 3, pp. 1650-1657, , **2017**. http://dx.doi.org/10.1007/s11664-016-5208-8

- **H. K. Khanfar** and A. F. Qasrawi, "*Polarization sensitive reflection and dielectric spectra in GaSe thin films*," Advances in OptoElectronics,vol. 2016, 2016. http://dx.doi.org/10.1155/2016/7182303

- A. F. Qasrawi, **H. K. Khanfar**, and Renal R. N. Kmail, "*Optical Conduction in Amorphous GaSe Thin Films*," Optik - International Journal for Light and Electron Optics, vol. 127, no. 13, pp. 5193-5195, 7//, 2016. http://dx.doi.org/10.1016/j.ijleo.2016.03.021

- A. F. Qasrawi, **H. K. Khanfar**, and N. M. Gasanly,"*MgO/GaSe0.5S0.5 Heterojunction as Photodiodes and Microwave Resonators*," Sensors Journal, IEEE, vol. 16, no. 3, pp. 670-674, 2016. http://dx.doi.org/10.1109/JSEN.2015.2486000

- N.M. Khosifan and **H. K. Khanfar,** "*Properties of Hf-doped $Bi_{1.5}Zn_{0.92}Nb_{1.5}O_{6.92}$ (BZN) ceramic varicaps*," IEEE Transactions on Electron Devices, vol. 63, no. 1, pp. 471-475, 2016. http://dx.doi.org/10.1109/TED.2015.2503338

- A. F. Qasrawi and **H. K. Khanfar**, "*Design and Applications of Al/InSe/BN/Ag Hybrid Device*," Sensors Journal, IEEE, vol. 15, pp. 3603-3607, 2015 http://dx.doi.org/10.1109/JSEN.2015.2391202

- **H. K. Khanfar**, A. F. Qasrawi, and N. M. Gasanly, "*Analysis of the Junction Properties of $C/GaSe_{0.5}S_{0.5}/C$ Back-to-Back Schottky-Type Photodetectors*," Sensors Journal, IEEE, vol. 15, pp. 2269-2273, 2015. http://dx.doi.org/10.1109/JSEN.2014.2364825
- A . F. Qasrawi and **H. K. Khanfar**, "*Effect of Laser Excitation and Temperature s on The Ag/GaSe0.5S0.5/C Microwave Filters*", Journal of Electronic Materials ,vol. 43, Issue 9, pp 3121-3127 Sep.(2014) http://dx.doi.org/10.1007/s11664-014-3296-x

- A . F. Qasrawi and **H. K. Khanfar**, "*Current transport mechanism in Au-p-MgO-Ni Schottky device designed for microwave sensing*", Journal of Optoelectronics and Advanced Materials , vol. 18, No. 7-8, p. 639 - 644 (2016). http://joam.inoe.ro/index.php?option=magazine&op=list&revid=97

- **H. K. Khanfar,** "*Fabrication and Characterization of Ag/BN/Ni Microwave Rejection-Band Filters*,", *IEEE Transactions on Electron Devices*, vol.61, no.6, pp.2154-2157, June (2014) http://dx.doi.org/10.1109/TED.2014.2318295

- **H. K. Khanfar** and A. F. Qasrawi, "*Performance of the Au/MgO/Ni photovoltaic devices*," *Materials Science in Semiconductor Processing*, vol. 29, pp. 183-187, 1// 2015.http://dx.doi.org/10.1016/j.mssp.2014.02.015

- A . F. Qasrawi and **H. K. Khanfar**, "*Investigations of a 2.9 GHz Resonant Microwave sensitive Ag/MgO/Ge/Ag Tunneling Diodes*", Journal of Electronic Materials , Vol 42, Issue 12, pp 3451-3457, Dec. (2013) http://dx.doi.org/10.1007/s11664-013-2740-7

- **H. K. Khanfar**, , "*Automatic Fish Counting in Underwater Video*," Proceedings of the 66th Gulf and Caribbean Fisheries Institute (GCFI). pp. 267-275, Corpus Christi, Texas, USA, 4-8 November, 2013. http://flseagrant.ifas.ufl.edu/GCFI/papers/068.pdf

- **H. K. Khanfar** and R. M. A. Azzam, "*Polarizing Beam Splitters for Lightwave Communication Wavelengths Using One-Dimensional GaAs Grating Layer Embedded in a GaP Cube*," High-Capacity Optical Networks and Enabling Technologies (HONET), 2009 6th International Symposium on , vol., no., pp.47,50, 28-30 Dec. 2009 http://dx.doi.org/10.1109/HONET.2009.5423054

- R. M. A. Azzam and **H. K. Khanfar**, "*Design principles for quarter-wave retarders that employ total internal reflection and light interference in a single-layer coating ,*" Jordan Journal of Physics December 2009. http://journals.yu.edu.jo/jjp/JJPIssues/Vol2No3Pdf2009/2-Design%20Principles%20for%20Quarter-Wave,%20Azzam%20and%20Khafar.pdf

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- R. M. A. Azzam and **H. K. Khanfar**, "*In-line broadband 270°* (*3λ/4*) *chevron four- reflection wave retarders*," Appl. Opt. 47, 4878-4883 (2008) http://www.opticsinfobase.org/ao/abstract.cfm?URI=ao-47-27-4878

- R. M. A. Azzam and **H. K. Khanfar**, "*Polarization properties of retroreflecting right-angle prisms*," Appl. Opt. 47, 359-364 (2008) http://www.opticsinfobase.org/ao/abstract.cfm?URI=ao-47-3-359

- O. Qasaimeh, and **H. Khanfar**, "*High-speed characteristics of tunneling injection and excited-state emitting InAs/GaAs quantum dot lasers," IEE Proceedings, Optoelectronics*, 151, 143-150, (2004). http://dx.doi.org/10.1049/ip-opt:20040392

Reviewer for cited International journals

- Alloys and Compounds
- Thin Solid Films
- Journal of Physics and Chemistry of Solids
- International Journal for Light and Electron Optics (Optik)
- Materials Research-Ibero-american Journal of Materials
- Physica E :low-dimensional systems and nanostructures
- Journal of Electronic Materials
- Microwave and Optical Technology Letters
- Applied Physics A

Sponsored projects

- **Co-PI** for "*Optoelectronic performance of the As_2Se_3/CdS heterojunction as solar energy convertors* ", King Abdulaziz University, Jeddah- Saudi Arabia. (**$5,000**) 25/12/2017. PI Dr. Najla M. Khosifan. Submitted

- **Co-PI** for "*Enhancement of the optoelectronic performance of copper selenide solar energy convertors via ytterbium nanosandwiching* ", King Abdulaziz University, Jeddah- Saudi Arabia. ((**$17,000**) 25/12/2017. PI Dr. Najla M. Khosifan. Submitted

- **PI** for "*Design and Optical Characterization of MoO_3/Mg/MoO_3 interface*" The Scientific Research Deanship at Arab American University-Jenin., (**$10,000**), 1/11/2017.

- **PI** for "*Growth and characterization of Sb_2Te_3 thin films onto Se substrates as photovoltaic interface*" The Scientific Research Deanship at Arab American University-Jenin., (**$10,000**), 1/12/2016.

- **Co-PI** for "*Growth and characterization of the InSe/Ga_2S_3 interfaces by physical vapor deposition technique*", King Abdulaziz University, Jeddah- Saudi Arabia. (**$14,000**) 1/11/2016. PI Dr. Najla M. Khosifan.

- **Co-PI** for "*Growth and characterization of Sb_2Te_3 thin films onto CdS substrates as photovoltaic solar energy converters*", King Abdulaziz University, Jeddah- Saudi Arabia. ((**$15,000**) 1/11/2016. PI Dr. Najla M. Khosifan.

- **PI** for "*Polarization sensitive reflection and dielectric spectra in GaSe thin films".* The Scientific Research Deanship at Arab American University-Jenin., (**$10,000**), 6/6/2015- 6/6/2016.

- **Co-PI** for "*Growth, characterization and technological applications of Bi_2O_3 thin films by physical vapor deposition technique*", King Abdulaziz University, Jeddah- Saudi Arabia. ((**$15,000**)1/2/2016- 1/11/2016. PI Dr. Najla M. Khosifan.

- **Co-PI** for "*Characterization of the MIS (Au, Yb)/ZnS/InSe heterojunction*", King Abdulaziz University, Jeddah- Saudi Arabia. ((**$15,000**)1/2/2016-1/11/2016. PI Dr. Najla M. Khosifan.

- **Co-PI** for "*Dielectric properties of Hafnium doped BZN ceramic varicaps*", King Abdulaziz University, Jeddah- Saudi Arabia. ((**$15,000**)1/2/2015- 1/2/2016. PI Dr. Najla M. Khosifan.

- **PI** for "*Fabrication and characterization of Ag/BN/Ni microwave sensor".* The scientific Research Deanship at Arab American University-Jenin., (**$10,000**), 1/4/2014- 1/4/2015.

- **Co-PI** for "*Design and Characterization of MgO/$GaSe_{0.5}S_{0.5}$ Multifunctional Resonant Microwave Optoelectronic Sensors*", the scientific research council at the ministry of higher education of the state of Palestine, (**$70,000**), 1/12/2013-1/3/2015. PI Prof. Atef Qasrawi, project coded 2/1/2013.

- **PI** for "*Performance Analysis of The Tapered Fiber".* The scientific Research Deanship at Arab American University-Jenin., (**$7,000**), 24/10/2011-1/9/2012.

Master Thesis Supervision

- Diaa Naser Abu Zaid, *" Impedance spectroscopy analyses of Ridge and Rib dielectric based waveguides* ", Supervisor: Dr. Muayad Abu Saa, **Co-supervisor: Dr. Hazem Khanfar**, 2019/2020, Arab American University, Palestine.

- Shorooq Sameer, "*Structural and Electrical characterization of WO_3/Li/WO_3*", Supervisor: Dr. Muayad Abu Saa, **Co-supervisor: Dr. Hazem Khanfar**, 2017/2018, Arab American University, Palestine.
- Zainab Najar, *"Titanium doping effects on the structural and electrical properties of $Nd_2Sn_2O_7$ pyrochlore ceramics*, Supervisor Dr. Adli Saleh, **Co-supervisor : Dr. Hazem Khanfar,** 2018/2019, Arab American University, Palestine
- Aalaa Abu Alrob, "*Computer Simulation of Slowly Varying Function Adapted to Physics Problems,"* Supervisor: Dr. Abdelhalim Ziqan, Co-supervisor: **Dr. Hazem Khanfar,** 2017/2018, Arab American University, Palestine.
- Istabraq Omarya, "*Solution and Simulation of Fredholm Integral Equation Treated by Triangular Functions Approach",* Supervisor: Dr. Abdelhalim Ziqan, Co-supervisor: **Dr. Hazem Khanfar,** 2017/2018, Arab American University, Palestine.
- Taqwa Ateeq, "*Analysis and simulation of nonlinear coupled plasmonic systems*", Supervisor: Dr. Iyad Suwan, **Co-supervisor: Dr. Hazem Khanfar**, 2017/2018, Arab American University, Palestine.
- Batool Asaad, "*Effect of Au nanolayer on the performance of ZnS/CdS heterojunctions*", Supervisor: Dr. Muayad Abu Saa, **Co-supervisor: Dr. Hazem Khanfar**, 2017/2018, Arab American University, Palestine.
- Haifa Kmail, "*Design and Optical Characterization of MoO_3/Mg/MoO_3 interface*", Supervisor: Dr. Muayad Abu Saa, **Co-supervisor: Dr. Hazem Khanfar,** 2017/2018, Arab American University, Palestine.

- Masah Dargmeh, "*Design and electrical Characterization of $MoO_3/Mg/MoO_3$ interface*", Supervisor: Dr. Muayad Abu Saa, **Co-supervisor: Dr. Hazem Khanfar,** 2017/2018, Arab American University, Palestine.
- Hanan Hamamera, "*Tb, Sm, Y and Gd Doping Effects on the Mechanical and Electrical Properties of $Nd_2Sn_2O_7$ Pyrochlore Ceramics*", Supervisor Dr. Adli Saleh, **Co-supervisor : Dr. Hazem Khanfar,** 2016/2017, Arab American University, Palestine.
- Sufyan Rateb Shehada, "*Fabrication and Characterization of Wide Band Photoconductor Array* ", Supervisor: Dr. Muayad Abu Saa, **Co-supervisor: Dr. Hazem Khanfar ,** 2016/2017, Arab American University, Palestine.

- Qotiabah A. A. Alkarem, "*Impedance Spectroscopy and Temperature Dependent Structural properties of La doped $Bi_{1.5}Zn_{0.92}Nb_{1.5}O_{6.92}$ pyrochlore ceramics*", Supervisor: Dr. Adli Saleh, **Co. Supervisor: Dr. Hazem Khanfar,** 2016/2017, Arab American University, Palestine.

Master Thesis Examiner

- Nancy Jaradat, "Characterization of Arsenic doped MOS2 powders", Supervisor Dr. Atef Qasrawi, 2022/2023, Arab American University, Jenin.
- Lamiaa Fashafsha, "Structural and electrical properties of CdBr2 films deposited on to Ge substrates", Supervisor Dr. Atef Qasrawi, 2022/2023, Arab American University, Jenin.

- Nadia Aswad, “Design and characterization of Bi2O3/ZnPc optical interfaces”, Supervisor Dr. Atef Qasrawi, 2021/2022, Arab American University, Jenin.
- Salsabeel Imair, “Optical dynamics at Se/CdBr2 interfaces”, Supervisor Dr. Atef Qasrawi, 2021/2022, Arab American University, Jenin.
- Suzan Sulaiman, “Design and characterization of ZnSe/SeO2 heterojunction devices”, Supervisor Dr. Atef Qasrawi, 2021/2022, Arab American University, Jenin.
- Mayamin Abu-Altayeb, “Preparation and Characterization of AgO-As2O3 Thin films”, Supervisor Dr. Atef Qasrawi, 2020/2021, Arab American University, Jenin.
- Areen Hamarsheh, “Effects of SiO2 nano layers on the performance of CdBr2/Ga2S3 heterojunctions.”, Supervisor Dr. Atef Qasrawi, 2020/2021, Arab American University, Jenin.
- Azhar Rabaya, “Effect of Au Nano sheet on the p[tical dynamics of MnO2 nano stacked layers”, Supervisor Dr. Atef Qasrawi, 2020/2021, Arab American University, Jenin.
- Wala Ghannam, “Design and characterization of CdSe/MoS2 heterojunction devices”, Supervisor Dr. Atef Qasrawi, 2020/2021, Arab American University, Jenin.
- Lara Abu Samen, “Formation and characterization of AlSb/CdS heterojunctions”, Supervisor Dr. Atef Qasrawi, 2020/2021, Arab American University, Jenin.
- Ahmed Toubasi, “Growth and characterization of iron selenide thin films containing aluminum nanosheets”, Supervisor Dr. Atef Qasrawi, 2020/2021, Arab American University, Jenin.
- Amaal Weshahe, “Post annealing effects and in situ monitoring of the phase transitions in CdBr2 powders.”, Supervisor Dr. Atef Qasrawi, 2019/2020, Arab American University, Jenin.

- Maryam Abu Arra, "Thermal annealing effects on the structural and electrical properties of Cupper doped InSe thin films", Supervisor Dr. Atef Qasrawi, 2019/2020, Arab American University, Jenin.
- Fatima Abu Alrub, "Copper doping effect on the optical properties of InSe thin films", Supervisor Dr. Atef Qasrawi, 2018/2019, Arab American University, Jenin.
- Rana Daragmeh, "*Design and characterization of Se/WO3 Thin film transistors"* , Supervisor Dr. Atef Qasrawi, 2020/2021, Arab American University, Jenin.
- Tahani Rshaid, "*Investigation of the Properties of Tl2InGaSe4 Single Crystals"*, Supervisor Dr. Atef Qasrawi, 2018/2019, Arab American University, Palestine.
- Ansam Al-Sabee, "Structural and *Optical properties of Al Doped and Al Sandwiched ZnSe Thin Films"*, Supervisor Dr. Atef Qasrawi, 2017/2018, Arab American University, Palestine.
- Maisam Abdalla, "*Optical and Electrical Dynamics in the ZnS/ge/Ga_2Se_3/C p+_n) thin films transistors*", Supervisor Dr. Atef Qasrawi, 2016/2017, Arab American University, Palestine.

Honors

- Golden Key International Honor Society

- German Academic Exchange Service Scholarship (**DAAD**) for studying M.Sc. in Telecommunication Engineering, Jordan University for Science & Technology, Irbid, Jordan, 2001-2003

- Dean's list (5 semesters) during B.Sc.

- Zuhair Alhijawi Award in Engineering Division, (supervisor) for the under graduate project " A Portable Heartbeat Tracking Device for Detecting Arrhythmia", July 2013.

- Best poster "Performance of the Yb/La_2O_3/Yb varactor microwave resonators*"* presented at 2nd International Conference on Pure & Applied Science, Istanbul, Turkey. Jun 1-5 2016,

- Zuhair Alhijawi Award in Engineering Division, (supervisor) for the under graduate project " Lung Cancer Detection Using Image Processing", July 2017.

Membership

- **OSA** - Optical Society of America
- **SPIE** - The International Society of Optical Engineering
- **IEEE,** Member, 2009-2017.
  Senior Member, 2017 - Present
- **Engineers Association,** Palestine

Research Interest

- Photonic Crystals
- Design of Polarizing Optics
- Optical Coatings Design
- Image/Signal Processing
- Quantum-Dot Lasers
- Design of Tunneling diodes
- Thin film solid states design and fabrication
- Characterization of devices (Electrical, Optical, Dielectric Properties)
- Mathematical Modeling of experiential data