

## Rezek M. Mohammad Estaiteh, PhD

Associate Professor in  
Physics

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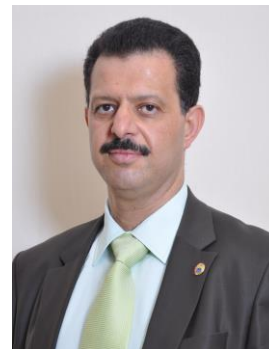
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Current Position: Instructor at Palestine Technical University-khadoorie  
Department of applied Physics  
P. O. Box 7  
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### Recent Research

Nano wire's calculations for new brand semiconductor materials using Full potential Density Functional Theory for binary, ternary and quaternary alloys. Studying the cohesive energy, elastic constants, phase transformation, effective mass and energy gap variation of semiconductor alloys in addition to magnetic properties and phase transition.

### EDUCATION

2001-2005 "Doctora in Physics" (PhD. in physics), thesis "THE ELECTRONIC BAND STRUCTURE OF III (In, Al, Ga)-V (N, As, Sb) COMPOUNDS AND TERNARY ALLOYS"  
Middle East Technical University, Turkey.

1996-1999 "Master of science" (M.Sc. in physics), thesis "Electronic calculation of some quaternary alloys by recursion method"  
Al- Najah University. Palestine.

1985-1989 "Bachelor of science" (B.Sc. in physics). Yarmouk University, Jordan.

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### PUBLICATIONS

#### Books:

- 1- Book in modern physics and nuclear physics (1993) taught in the college.
- 2- **laboratory** manual for general physics 101. (2008- until now).
- 3- **laboratory** manual for general physics 102.(2009-until now).

**Papers:**

- 1- Musa El-Hasan and **Rezek Mohammad**, "ENERGY GAP DEPENDENCE ON ANION CONCENTRATION FOR  $GaxIn_{1-x}AsyP_{1-y}$  QUATERNARY ALLOY BY RECURSION METHOD", Modern Physics Letters B, 18, 955 (2004).
- 2- **Rezek Mohammad** and Senay Katircioglu, "The electronic band structure of AlN, AlSb, AlAs and their ternary alloys with In" DOI: 10.1142/S0217979206035394, International Journal of Modern Physics B, Vol. 20 Issue 22, p3199-3221(2006).
- 3- **Rezek Mohammad** and Senay Katircioglu, "The Electronic Band Structure of GaN and GaAs for band gap bowing of  $In_xGa_{1-x}NyAs_{1-y}$  alloys". DOI: 10.1142/S0217979207037922, International Journal of Modern Physics B, Volume 21, Issue 25, pp. 4357-4375 (2007).
- 4- **Rezek Mohammad**, Senay Katircioglu and Musa El-Hasan, "The Electronic Band Structure of InN, InAs and InSb compounds". DoI:10.1007/s10853-007-1794-4. Journal of Materials Science, April 2008, Volume 43, Issue 8, pp 2935–2946.
5. **Rezek Mohammad** and Senay Katircioglu, "The Electronic Band Structure of  $InN_xAs_{1-x}$ ,  $InN_xSb_{1-x}$  and  $InAs_xSb_{1-x}$  alloys", Journal of Alloys and Compounds. 469 (2009) 504–511.
6. **Rezek Mohammad** and Senay Katircioglu "The Structural and Electronic properties of BN and BP compounds and  $BN_xP_{1-x}$  alloys" Journal of alloys and compounds 478 (2009) 531-537.
7. **Rezek Mohammad** and Senay Katircioglu "The Structural and Electronic properties of BAs and BP compounds and  $BA_sxP_{1-x}$  alloys". Journal of Alloys and Compounds Volume 485, Issues 1-2, 19 October 2009, Pages 687-694.
8. **Rezek Mohammad** and Senay Katircioglu, "A Comparative study for structural and electronic properties of ScN compound" Journal of 'Condensed Matter Physics' Vol.14, No. 2, 23701:1-13.(2011).
9. **Rezek Mohammad** and Senay Katircioglu, "The Structural and Electronic properties of BAs and BN compounds and  $BN_xAs_{1-x}$  alloys". Surface Review and Letters, Vol. 19, No. 5 (2012) 1250053.
10. **Rezek Mohammad** and Senay Katircioglu, "Structural properties of Aluminum nitride compound" Indian Journal of Physics, Vol. 88, Issue 10, pp 1021-1029 (2014).

11. **Rezek Mohammad**, Areej Jabir and Rashid Jayousi, “Optimum Execution For Wien2k using Parallel Programming Models (Comparison Study) “ Frontiers in Information Technology By the MASAUM Network Journals chapter nine, page 68, 2012, ISBN 978-969-9742-00-2.
12. **Rezek Mohammad** and Senay Kartircioglu, “The structural and electronic properties of  $\text{Sc}_x\text{Al}_{1-x}\text{N}$  alloys” International Journal of Modern Physics C, Vol. 24, No. 10 (2013) 1350074.
13. Hadi Khalilieh, Nidal Kafri and **Rezek Mohammad**. “Performance Evaluation of Message Passing vs. Multithreading Parallel Programming Paradigms on Multi-core Systems” International Journal of New Computer Architectures and their Applications (IJNCAA) 4(2): 108-116, The Society of Digital Information and Wireless Communications, 2014 (ISSN: 2220-9085).
14. **Rezek Mohammad** and Senay Kartircioglu, “Structural and Electronic properties of GaP Nanowires”, <http://dx.doi.org/10.1016/j.physe.2015.06.002>, Physica E: Low-dimensional Systems and Nanostructures, Vol. 73, September 2015, Pages 213–219.
15. **Rezek Mohammad** and Senay Kartircioglu, “FIRST-PRINCIPLES CALCULATIONS FOR THE STRUCTURAL AND ELECTRONIC PROPERTIES OF  $\text{GaAs}_{1-x}\text{P}_x$  NANOWIRES”, DOI: 10.1142/S0129183116500352, International Journal of Modern Physics C, Vol. 27, No. 3 (2016) 1650035.
16. **Rezek Mohammad** and Senay Kartircioglu, “A comparative study for the electronic properties of Aluminum Nitride compound”, **Turk J Phys**, DOI: 10.3906/fiz-1511-13, Available online: 15.03.2016.
17. **Rezek Mohammad** and Senay Kartircioglu, “First-Principles calculations for mechanical and electronic features of strained GaP nanowires”, Int. J. Mod. Phys. C 28, 1750039 (2017).
18. **Rezek Mohammad** and Senay Kartircioglu, “Structural stability and electronic properties of different cross sectional unstrained and

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rectangular cross sectional strained GaP nanowires”, submitted to international journal of modern physics C.

### **Graduates Students:**

1. Supervising Baseemeh Daas Fareed Zpeedeh a Master student in Physics at An-Najah University, Title:” First Principle Electronic Structure Calculations of Ternary alloys.  $\text{BN}_x\text{P}_{1-x}$ ,  $\text{Ga}_x\text{B}_{1-x}\text{N}$  and  $\text{B}_x\text{In}_{1-x}\text{N}$ , in Zinc blend structure”.2008.
2. supervising Frah Ali Deeb Saleh, a Master student in Physics Department At Najah University, Diluted Magnetic  $\text{Ga}_x\text{Mn}_{1-x}\text{N}$ , First Principle study.2008.
3. Supervising Areej Mostafa Jabir a master student in Computer Science at Al Quds University, Title “Optimum Execution for Wien2k using Parallel models (comparison study).
4. I have two more master students.

### **TEACHING/ADMINISTRATION EXPERIENCE**

1990-1991	National Bank of Kuwait. VIP accounts sector.
1991-Until now	Palestine Technical University- khadoorie. During that, I taught almost all courses in Physics, applied mathematics and computational physics.
2006- 2009	Part time Instructor at An Najah national university, Undergraduate and Graduate courses.
2009- 2013	Dean of Arts and Sciences Faculty in Palestine Technical University-khadoorie. (In 2009 we had one department, right now we have 6 departments),
2011-2012	Member in the Council of Scientific Research and Graduate Studies in the university.
2012-2013	Head of the Council of Scientific Research and Graduate Studies in the university.
2013-2014	Member in the promotion committee for PTUK university.
2015-2016	Sabbatical year at Meddle East Technical University, Research in the area of 3-5 Nano wires.

### **TECHNICAL SKILLS**

Competent user of Microsoft Word, Excel, Power Point  
Efficient user in World Wide Web, internet and intranet  
Knowledge in writing C++ programs, qbasic, Visual basic, Fortran, mat lab ,Mathcad, and others.

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I have an excellent knowledge in Linux and running programs on Linux.  
Building clusters for parallel calculation.  
Giving my courses using e-classes, and blogs.

### **Detail of courses I had taught.**

GENERAL PHYSICS (1,2,3). MODERN PHYSICS,  
ELECTROMAGNETIC THEORY, MATHEMATICAL PHYSICS,  
LINEAR ALGIBRA, ORDINARY DIFFERETIAL EQUATION,  
PROGRAMING IN PHYSICS, CLASICAL PHYSICS I, QUANTUM  
PHYSICS (1,2) . SOLID STATE PHYSICS, STATISTICAL  
PHYSICS.(GRADUATE STUDENTS), OPTICS. GENERAL LABS (   
MECHANICS AND ELECTRICITY), APPLIED ELECTRONICS AND  
LABLATORY

### **A statement of teaching philosophy**

I am a firm believer that teaching is as an interaction between an instructor and a student, It is a lifelong learning process. Learning is an active process that students have to participate and to engage in. A positive, trusting, and encouraging learning environment is the key to ensure effective interaction

### **Courses and Conferences Attended**

1. "Accounting For Public Companies". Kuwait University, Kuwait.(02/1989-05/1989).
2. Intense courses in administration, finance, economics, method of investments and stock markets for three months, by Citibank in the national bank of Kuwait.
3. Training of trainers in Vocational Education, by ILO, from 5-31 July 1997. And curriculum development to meet market oriented.
4. Communication and interpersonal skills, workshop for 3 days at Amideast Center, Ramallah, Palestine.
5. Professional skills, Enhancement Effective Presentations, Workshop for 3 days at Amideast Center, Ramallah, Patestine
6. Workshop, Project Pedagogy Approach of Microcontroller. By the French group, Palestine technical college. 23-27/4/2006.

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7. Conference; First Anatolian School on Catalysis (ASC-1), 25/9/2006-6/10/2006, Ankara Turkey.
8. 15<sup>th</sup> Wien Workshop-LAPW+Lo calculation with wien2k code. March 25- 29, 2008 Vienna, Austria.
9. The Second Physics Conference, 7-8 May, 2007. An Najah National University, West bank, Palestine.
10. Novel Materials and superconductivity conference 21-28. Feb. 2009, Planneralm, Vienna, Austria.
11. 6<sup>th</sup> Nanoscience and Nanotechnology Conference- participated with a paper, 15-18/6/2010, Izmir, Turkey.
12. Novel Materials and superconductivity conference 12-19. Feb. 2011, Planneralm, Vienna, Austria.
13. The 5<sup>th</sup> International Conference on Information Technology, ICIT 2011, 11-13 May 2011. Jordan. Application of parallel computing.
14. Institute of theoretical and applied physics, turunc, marmaris, turkey. 4-14 July, 2011.
15. Training program on using ICT in Education by experts from Oslo. “Learning and Teaching in digital world”, from 15/9-25/11/2011.
16. Workshop on “Principles and Methods of Project Evaluation”  
By Amideast, October 22 -23, 2011, Palestine.
17. The First International Palestinian Conference on Nanotechnology in Advanced Materials and Devices. (held in coordination between Illinois State university, An-Najah University and Palestine Technical University-khadoorie) I was in the Scientific committee, March, 26-28/2012.
18. Head of Scientific committee for the first conference of Math's in Palestine. 16/5/2012.
19. Organizing Committee for Solar energy conference and exhibition, held on 7-9/11/2012, Antalya –Turkey.
20. President for Second conference for teaching and learning Mathematics held on 28/4/2013 in Palestine Technical University-Khadoorie.
21. Workshop, February 9 - 14, 2014 on Novel Materials and superconductors-Focus: topological insulators. Vienna University of Technology. A poster.
22. Head of scientific committee for mathematics learning and teaching day, held in PTUK on 4/5/2014.
23. Workshop, February 9 - 14, 2015 on Novel Materials and superconductors-Focus: topological insulators. Vienna University of Technology. A paper.

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**Languages:**

	Speaking	Writing	Reading
1. <b>Arabic:</b>	(Native Language)		
2. <b>English:</b>	Excellent	Excellent	Excellent
3. <b>Turkish:</b>	Very good	Very good	Very good

**References :**

1. Dr. Musa El Hasan. An-Najah National University. West bank , Palestine. Phone Number (office +970 9 2381114/5/6/7  
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e-mail: [melhasan@najah.edu](mailto:melhasan@najah.edu).
- 2- Dr. Subhi Kamel. An-Najah National University, West Bank, Palestine.  
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**e.mail.** [subhisalih@najah.edu](mailto:subhisalih@najah.edu).
2. Prof. Dr. Şenay KATIRCIOĞLU. Middle East Technical university, Physics Department, 06531 Ankara Turkey.  
e-mail: [senay@metu.edu.tr](mailto:senay@metu.edu.tr)
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