

## Curriculum Vitae for Mohammad M Abu-Samreh

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### Curriculum Vitae

(January 2017)

#### Personal Data

**Full Name:** Mohammad M. Abu-Samreh  
**Date of birth:** February 5, 1958.  
**Place of Birth:** Yatta-Hebron, West Bank, Palestine.  
**Nationality:** Jordanian  
**Marital Status:** Married, Six children (three boys and three girls).  
**Address:** Department of Physics, Faculty of Science and Technology,  
AL-Quds University, East Jerusalem, Abu-Deis, West Bank,  
Palestine. P. O. Box 20002  
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#### Education

**1991 Ph.D** Theoretical Nuclear Physics (Heavy-Ion Collisions)

The University of Arizona, Tucson, Arizona, 85721, USA.

**Dissertation Title:** "Thermalization Theory for Heavy-Ion Collisions by Non-Equilibrium Statistical Mechanics".

**1982 M.Sc.** Experimental Solid State Physics

The University of Jordan, Faculty of Science, Amman, Jordan.

**Thesis Title:** "Impedance and Dielectric Properties of PVC Ion-Selective Membrane Electrodes".

**1980 B.Sc** Physics

Yarmouk University, Faculty of Science, Irbid, Jordan.

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## **Academic and Professional Appointments: Work experience and employment since graduation**

### **Sept.2016-present**

Department of Physics, Faculty of Arts and Sciences, The Arab American University Jenin (AAUJ), Jenin, Palestine.

### **September 2015-September 2016**

**Dean, Faculty of Sciences, The Arab American University Jenin AAUJ), Jenin, Palestine.**

### **September 2014-September 2015**

**Dean, Faculty of Arts and Sciences, The Arab American University Jenin (AAUJ), Jenin, Palestine.**

### **September 2013-August 2014-(On Sabbatical leave)**

Department of Physics, Faculty of Arts and Sciences, The Arab American University Jenin (AAUJ), Jenin, Palestine.

### **September 2006-August 2013 Professor of Physics**

Department of Physics, Faculty of Science and Technology, Al-Quds University, Jerusalem, Abu-Deis P.O. Box 20002, Palestine.

### **September 2006-August 2008-(On sabbatical leave)**

Department of Physics and Electronics, Faculty of Applied Sciences, Palestine Polytechnic University, Wadi-Alharia, Hebron, Palestine.

### **January 2001 – September 2006 Associate Professor of Physics**

Department of Physics, Faculty of Science and Technology, Al-Quds University, Jerusalem, Abu-Deis P.O. Box 20002, Palestine

### **September 1991- January 2001, Assistant Professor of Physics**

Department of Physics, Faculty of Science and Technology, Al-Quds University, Jerusalem, Abu-Deis P.O. Box 20002, Palestine

### **August 21, 2004-April 4, 2005, Dean of Student Affairs**

### **September 1996–August 1998**

Chairman of Physics Department, Faculty of Science and Technology, Al-Quds University, Jerusalem, Abu-Deis P.O. Box 20002, Palestine

### **August 1986–May 1991, Teaching Assistant**

Department of Physics, Faculty of Science, The University of Arizona, Tucson, Arizona, 85721, USA.

### **September 1983–July 1985, Lecturer**

Department of Physics, College of Science and Technology, Jerusalem, Abu-Deis P.O. Box 20002, Palestine.

**August 1981–September 1983, Lecturer**

Department of Physics, AL-Quds College, Amman, Jordan.

**September 1980–June 1981, Teaching Assistant**

Department of Physics, Faculty of Science, The University of Jordan, Amman, Jordan.

**September 2-Oct 20 1994**

**Visiting Professor**, Center for theoretical physics, University of Heidelberg, Heidelberg, Germany.

**August 2-Sept 24 1998**

**Visiting Professor**, Center for theoretical physics, University of Heidelberg, Heidelberg, Germany.

**July 2-August 28 2006**

**Visiting Professor**, Superconductivity center, University of Bayreuth, Bayreuth, Germany.

**Committees (more than 200) (Department, Faculty, University, Community) (Selected)**

- Member, Department of physics council, 1983 – present.
- Departmental Seminar Organizer (1994)
- Chairman, Department of physics, 1996 -1998.
- Physics Graduate Studies Committee (1996-date)
- Member, Faculty of science council, 1996 – 2000
- Member, Academic council, 1996 – 2004.
- Chairman, Study planes and degree requirements of faculty of science, 2002 – 2003.
- Coordinator, Master of physics program, 1998-2000, 2010 – present.
- Graduate Studies Supervisor (2001-2003) and 2010-present
- Chairman, Student Discipline Committee, 2010-2012
- Member, Promotion Committee, 2012-2015 (Al-Quds University)
- Member in more than 50 committees at AAUJ

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**Awards, Grants, Honors and Fellowships:****February 18, 2014**

**Grant of 5000 JD for supporting the research entitled:” Electrical dependencies of ZnPa Thin films on thickness”.**

**July 1-August 28, 2006**

DAAD Summer Scholarship

Superconductivity Research Lab, Bayreuth University, Bayreuth, Germany.

**September 2004**

Center for Theoretical and Applied Physics (CTAPS) Fellow

Yarmouk University, Irbid, Jordan

**September 2003**

Center for Theoretical and Applied Physics (CTAPS) Fellow  
Yarmouk University, Irbid, Jordan

**September 2002**

Center for Theoretical and Applied Physics (CTAPS) Fellow  
Yarmouk University, Irbid, Jordan

**September 2001**

Center for Theoretical and Applied Physics (CTAPS) Fellow  
Yarmouk University, Irbid, Jordan.

**September 2000**

Center for Theoretical and Applied Physics (CTAPS) Fellow  
Yarmouk University, Irbid, Jordan.

**August 3-September 21 1998**

DAAD Summer Scholarship  
Center for Theoretical Physics, Heidelberg University, Heidelberg, Germany.

**July 1996**

British Council Fellow  
Department of Physics and Electrical Engineering, Keele University, UK.

**September-October 1994**

DAAD Summer Scholarship  
Center for Theoretical Physics, Heidelberg University, Heidelberg, Germany.

**August 1985-May 1990**

Amideast Scholarship  
The University of Arizona, Tucson, Arizona, 85721, USA.

**1988-1990**

Dean Honor list, The University of Arizona, twice

**1979-1980**

Dean Honor list, Yarmouk University, three times

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## **Membership of Professional Societies:**

### **Member of the following societies:**

- Membership of Palestinian Physics Society 1991- present.
- Membership of Jordanian Physics Society 1999- present.
- Union of Teachers and Employees of Universities and Private Institutions, Palestine, 1991-date.
- The Union of University Teachers, 2000-date.
- New York academy of sciences, 1998-2004.

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## Publications List

64+ papers in refereed journals, conference proceedings, and book chapters (list attached), and Conference presentations.

### I. Publications Published in International Refereed Journals

- 1- **Abu-Samreh M.M.**, Hussein, A.A., Daraghmeh, (2017). Indoor Radon-222 Concentration Levels Measurements and Exhalation Rates Calculations in Some Dwellings of Tubas City of the Year 2016. J. Hebron. Univ. in progress.
- 2- **Abu-Samreh M.M.**, (2016). Magnetic field effects on the IV-characteristics of YBCO superconducting thin films, in AAUJ journal, in progress.
- 3- **Abu-Samreh M.M.**, Hussein, A.A., Daraghmeh, M.G., and Abulebdeh, A.M. (2016). Indoor Radon-222 Concentration Levels Measurements and Exhalation Rates Calculations in Some Offices and Rooms of AAUJ during the Winter and the Spring Seasons of the Year 2014. J. Arab. Amer. Univ. Vol.2 (1); pp:21-35.
- 4- Thabayneh, K.M., Mashall,L.A., Awawdeh, K. M., and **Abu-Samreh M.M.**(2016).Radionuclides measurements in some rock samples collected from environment of Hebron governorate-Palestine. Jordan Journal of Physics (JJP), Vol. 9(1), pp. 55-64.
- 5- Thabayneh, K.M., **Abu-Samreh, M.M.**, Mashall, L.A. (2015). Measurements of indoor radon levels inside schools in the north eastern region of Hebron, Province-Palestine: Case study in summer season. Environmental Science an Indian Journal (ESIJ), Vol.10 (7), pp:260-268.
- 6- **Abu-Samreh, M.M.**, Thabayneh, K.M., and Khrais, F.M. (2014). Measurement of activity concentration levels of radionuclides in soil samples collected from Bethlehem Provinve, West Bank, Palestine. Turkish Journal of Engineering and Environmental Sciences, Vol.38, pp:113-125.
- 7- Kitaneh, R.M-L. **Abu-Samreh, M.M.**, Musameh, S.M., Hraibat, S.M., Saleh, A.M. (2014). Dielectric characterization of semiconducting ZnPc films sandwiched between Gold or Aluminum electrodes. Applied Physics a Material Sciences and Processing, Vol.114, pp:1267-1275
- 8- Hraibat, S. M., Kitaneh, R. M-L., **Abu-Samreh, M. M.**, and Saleh, A. M. (2014) Ac-electronic and dielectric properties of semiconducting Phthalocyanine compounds: A comparative study. Journal of Semiconductors Vol. 34, No. 11, pp:1-6.
- 9- Abu-Taha, M. I., Halasa, M. A., **Abu-Samreh, M. M.**, (2013). On the usage of the Faraday Effect as an authentication technique for vegetable oils. Journal of Modern Physics (JMP), Vol. 4, No.2, pp:230-235.
- 10- Leghrouz, A.A., **Abu-Samreh, M. M.**, and Shehadeh, A. K., (2013), Measurements of Indoor Radon Concentration Levels in Dwellings in Bethlehem, Palestine. Health Physics Vol. 104, No. 2, pp 163–167.
- 11- Abu-Samreh, M.M., Thabayneh, K.M., and Elyan, M.M. (2012). Assessment of indoor radon levels in some dwellings of Bei Fajjar city, Palestine. Hebron University Research Journal (A), Vol. 6, pp:47-60.
- 12- Thabayneh, K.M., Abu-Samreh, M.M., Mashall, L.A., and Awawdeh, K.M. (2012) Determination of natural radioactivity concentrations in natural water resources of Hebron Province, Palestine. Hebron University Research Journal (A), Vol. 6, pp:19-33.
- 13- Saleh, A.M., Hraibat, S.M., Kitaneh,R. M-L., **Abu-Samreh, M.M.**, and Musameh,M.M., (2012), Dielectric response and electric properties of organic

- semiconducting phthalocyanine thin films. *Journal of Semiconductors*. Vol. 33, No. 8, pp: 082002-082007.
- 14- Leghrouz, A. A., **Abu-Samreh, M. M.**, Shehadeh. A. K., (2012), Seasonal variation of indoor radon-222 levels in dwellings in Ramallah Province and East Jerusalem suburbs, Palestine. *Radiation Protection Dosimetry* Vol. 148, No. 2, pp. 268–273.
  - 15- **Abu-Samreh, M. M.**, Saleh, A. M., Kitaneh, R. M-L, and Braun, H. F., (2008), On the Applicability of the Magnetic Susceptibility Models for the Magnetic Superconductor Ru-1212. *J Supercond Nov Magn.* 21: 57–63.
  - 16- Saleh, A. M. **Abu-Samreh, M.M.**, Kitaneh, R.M.-L., Braun, H.F., (2008), Dependencies of inter- and intragrain superconductive transitions in polycrystalline **RuGdSrCu<sub>2</sub>O<sub>8</sub>** superconductor on field and frequency. *Solid State Sciences*, 10:198-204.
  - 17- Saleh, A. M., **Abu-Samreh, M. M.**, Awaisah, Ghada M., and Kitaneh, R. M-L., (2008), Extraction of Critical Current Density and Flux Creep Exponents in the Magnet Superconductor RuGdSrCu<sub>2</sub>O<sub>8</sub> (Ru-1212) Using the ac Magnetic Susceptibility Measurements. *J Supercond Nov Magn.* J Supercond Nov Magn. 21(4), pp:229-235.
  - 18- Awaisah, G. M., Saleh, A. M., **Abu-Samreh, M. M.**, and Kitaneh, R. M-L., (2008), Critical State Models for Magnet RuGdSrCu<sub>2</sub>O<sub>8</sub> superconductor, accepted for publication in *International Journal of Modern Physics (IJMPB)*. 22 (13): 2083 – 2093.
  - 19- Manasra, G. F., and **Abu-Samreh, M. M.**, (2008), Thermal Effects of Radiofrequency Electromagnetic Fields on Human Body. *Journal of Mobile Communication* 2 (2): 39-45.
  - 20- Leghrouz, A. A., **Abu-Samreh, M. M.**, and Awawdeh, K. M., (2008), Indoor Radon-222 Concentration Measurements in Some Houses in Dura district During the Winter season of the Year 2000. *Abhath AL-Yarmouk*, 17(1), pp: 63-76.
  - 21- Ismail, A. M., and **Abu-Samreh, M. M.**, (2007), Seasonal Variation Measurements of the indoor Radon-222 in some Villages in East Al-Quds Province, Palestine. *Dirasat, Pure Sciences*, 34 (2): 255-263.
  - 22- Leghrouz, Amin A., **Abu-Samreh, M. M.**, and Awawdeh, Karam M. Saleh, A. M., Abu-Taha, M. I., Kitaneh, R. M-L, and Darwish, S. M., (2007), Indoor radon-222 concentration measurements in some houses in the winter season of year 2000 in some houses and school of Hebron Province, *Rad. Prot. Dos.* 123 (2): 226-233.
  - 23- **Abu-Samreh, M. M.**, (2006), Gamma Radiation Measurement and Dose Rates of Naturally Occurring Radioactive Samples from Hebron Province Geological Rocks. *Abhath AL-Yarmouk*, 15(2), pp: 1-9.
  - 24- **Abu-Samreh, M. M.**, (2005), Indoor Radon Concentration Measurements During Summer Season of Year 2000 in Some Houses and Schools of the Western Part of Yatta City, *The Arabian Journal of Science and Engineering (AJSE)*, 30(2A), pp:343-349.
  - 25- Nasser, I. A., A. M. Saleh, and M.M. Abu-Samreh, (2005), Influence of Growth Conditions and Weak Fields on the Electrical properties of the Vortex and Superconducting States of Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>x</sub> Thick Tapes. *Physics C* 425, pp: 121-129.
  - 26- EL-Saadawy, M., and Abu-Samreh, M. M., (2005), Measurements of the shear modulus and plastic flow of vortex lattice in YBCO Single Crystal. *Current Applied Physics* 5, pp:285-288.
  - 27- **Abu-Samreh, M. M.**, (2004), Measurements of Gamma Ray Environmental Dose Rates in some Houses located in the Western Zone of Yatta City During the year 2001. *Abhath AL-Yarmouk*, 13(2), pp: 209-216.

- 28- Saleh, A. M., **Abu-Samreh, M. M.**, Soliman, M., H., Leghrouz, A., A., Ketaneh, R., M-L., Darwish, S., and Abu-Taha, M., I., (2004), Scaling behavior near transition temperature in Al-doped YBCO superconducting thin films. *Thin Solid Films* 468, pp: 93-99.
- 29- Abu-Assab, N., **Abu-Samreh, M. M.**, Abu-Taha, M., I., Darwish, S., Kitaneh, R., M-L., Leghrouz, A., A., and Saleh, A., M., (2004), A theoretical investigation of electrostatic potential distribution in copper oxide ( $\text{Cu}_2\text{O}$ ) crystal. *Betehlehem University J.* 23, pp: 9-20.
- 30- **Abu-Samreh, M. M.**, and EL-Saadawy, M., (2004), Magnetic Relaxation in Al-doped YBCO Superconducting Thin Films. *Dirasat, Pure Science.* 31(2), pp:130-141.
- 31- Barghouthi, I. A., **Abu-Samreh, M. M.**, and Qumari, N., L., (2004), On the diffraction model approach to cluster stripping nuclear reactions. *Bulg. J. Phys.* 31, pp:170–196.
- 32- **Abu-Samreh, M. M.**, (2004), Thermal Diffusivity Measurements of Silicon by Photothermal Microscopy, *Dirasat, Pure Science* 31(1), pp:1-5.
- 33- **Abu-Samreh, M. M.**, EL-Saadawy, M., and Saleh, A. M., (2004), Pinning Energies and Thermal Relaxation Rates in Laser Ablated Al-doped YBCO Superconducting Thin Films. *Superconductivity: Incorporating Novel Magnetism* 17(3), pp: 389-395.
- 34- Gravano, S., Amer, E., Gould, R. D., and **Abu-Samreh, M. M.**, (2003), Monte Carlo Simulation of Current-Voltage Characteristics in Metal-Insulator-Metal Thin Film Structures. *Thin Solid Films* 433, pp:321-325.
- 35- **Abu-Samreh, M. M.**, and Saleh, A. M., (2003), Scaling Behavior and Estimation of activation Energy of polycrystalline  $\text{RuSr}_2\text{GdCu}_2\text{O}_8$  Superconductor from AC Susceptibility Measurements. *J. Superconductivity: Incorporating Novel Magnetism* 16(6), pp:925-930.
- 36- Saleh, A. M., **Abu-Samreh, M. M.**, and Leghrouz, A. A., (2003), Dependence of AC Susceptibility of Polycrystalline  $\text{RuSr}_2\text{GdCu}_2\text{O}_8$  Superconductor on Magnetic Field Amplitudes and Frequencies, *Physica C* 384, pp:383-390.
- 37- **Abu-Samreh, M. M.**, (2002), Relaxation Rates of Three Dimensional Fermi Gas in an Applied Magnetic Field. *Abhath Al-Yarmouk, "Basic Science and Engineering"*, 11(2B), pp:945-951.
- 38- **Abu-Samreh, M. M.**, (2002), Transport Model for Investigating electrical properties of MIM Electroformed Thin Films. *Dirasat, Pure Science*, 29 (1), pp : 63-69.
- 39- **Abu-Samreh, M. M.**, (2002), Non-Linear Temperature Variation of Shear Viscosity of High- $T_c$  Superconductors, *Physica B* 321, pp:348-352.
- 40- **Abu-Samreh, M. M.**, (2002), Viscous Flow in Al-doped YBCO Laser Ablated Superconducting Thin Films, *Physica B* 321, pp: 368-374.
- 41- **Abu-Samreh, M. M.**, (2001), Dynamic Viscosity of Fermi Liquids, *Abhath Al-Yarmouk, "Basic Science and Engineering"*, 10(2B) pp:9-21.
- 42- Saleh, A. M., Hamam, Y. S., Said, M. R., **Abu-Samreh, M. M.**, and Abu-Aljarayyesh, I. O., (2000), Scaling Behavior of Al-doped YBCO Laser Ablated Thin Films. *Supercond. Sci. Technol.* 13, pp: 1607-1611.
- 43- Qasim, A. M., and **Abu-Samreh, M. M.**, (1997), An Outlook to the Second Secondary School Physics Textbook. *Science Journal, AL-Mawrid*, 4, pp: 24-26.
- 44- Florkowski, W., and **Abu-Samreh, M. M.**, (1996), Pion Condensation During the Hadronization of Quark-Gluon Plasma in Ultra-Relativistic Heavy-Ion Collisions, *Z. Phys. C* 70, pp: 133-137.
- 45- **Abu-Samreh, M. M.**, and Khöler, S., (1993), Calculation of Relaxation Times in Nuclear Matter. *Nucl. Phys. A* 552, pp: 101-112.

- 46- **Abu-Samreh, M. M.**, Biter, R. A., and Zihlif, A. M., (1983), Aging Effect on Impedance Behavior of PVC Ion-Selective Membrane Electrodes, *Appl. Phys. Com.* 3 (3), pp: 225-234.

## II. Conferences Proceedings

- 1- **Abu-Samreh, M. M.**, Modern Trends in Logical thinking, the 16<sup>th</sup> meeting of Al-Quds University Association of Councils, Adu-Deis, Jerusalem, Dec16-17, 2009.
- 2- **Abu-Samreh, M. M.**, Awawdeh, Karam M., and Leghrouz, Amin A. (2007). **Indoor Radon-222 concentration measurements during the summer season of year 2000 in AL-Ahli Hospital.** Proceeding of the International Conference on Energy and Environmental Protection in Sustainable Development (Palestine Polytechnic University, Hebron, West Bank, Palestine, May 8-9, 2007).
- 3- Kitaneh, Rushdi, Odeh, S., Abu Taha, M. I., Saleh, A.M., and **Abu-Samreh, M. M.**, (2007). **Analytical study of hazard elements causing air pollution in the area of Bethlehem and Hebron.** Proceeding of the International Conference on Energy and Environmental Protection in Sustainable Development (Palestine Polytechnic University, Hebron, West Bank, Palestine, May 8-9, 2007).
- 4- Manasra, Ghandi F., and **Abu-Samreh, M. M.**, (2007). **Potential Harmful Effects to Mobile Phone Users.** Proceeding of the International Conference on Energy and Environmental Protection in Sustainable Development (Palestine Polytechnic University, Hebron, West Bank, Palestine, May 8-9, 2007).
- 5- **Abu-Samreh, M. M.**, (2007). **Induction of graduate studies Facts and its rule in the sustainable developments,** Proceeding of the Universities Teachers and Employees Union Third Conference: Quality, Excellence, and Accreditation in Higher Education (AL-Quds University, East Jerusalem, Abu-Deis. P. O. Box 20002), pp:333-352.
- 6- **Abu-Samreh, M. M.**, (2003), **Universe Spherically in the Holy Quran among the Knowledge depth and the special scientific dimensionality.** The first science and religion Symposium Proceedings (AL-Quds University, East Jerusalem, Abu-Deis. P. O. Box 20002), pp:222-232.
- 7- **Abu-Samreh, M. M.**, (2003), **Repetition Pattern of number 7 in the holy Quran and tremendous indications against the similarity of God creatures.** The first science and religion Symposium Proceedings (AL-Quds University, East Jerusalem, Abu-Deis. P. O. Box 20002), pp.222-232.
- 8- **Abu-Samreh, M. M.**, (1995), **Physics and its Links to Individual and Community.** Proceeding of the first Palestinian Symposium on teaching physics (Birzeit University, Ramallah, West Bank, Palestine, 1995), pp:171-178.

## III. Books and Manuals

- 1- ابوسمرة، محمد، وأحمد ابولافي، أشرف أبو خيران، "أساسيات التفكير المنطقي" دار الفكر، ابوديس، القدس، 2007.
- 2- ابوسمرة، محمد، "نافذة على التفكير المنطقي" دار الفكر، ابوديس، القدس، 2001.



- 1- **Abu-Samreh, M. M., (2004). Critical Thinking, first Edition, Dar Al-Fikr Publi. Jerusalem, Palestine.**
- 2- **Abu-Samreh, M. M., and Abdulhakeem, A. E., (2000), An Introductory Course in an Applied Mathematics.** (AL-Quds University, East Jerusalem, Palestine), unpublished.
- 3- **Abu-Samreh, M. M., (1993), General Physics I Laboratory Manual: Classical Mechanics Experiments.** (AL-Quds University, Faculty of Science and Technology, Physics Department, East Jerusalem, West Bank).
- 4- Saleh, A. M., **Abu-Samreh, M. M.,** Abu-Samra, M. A., and Shehadah, Z. F., (1984), **Optics and Modern Physics Laboratory Manual.** (College of Science and Technology, Physics Department, East Jerusalem, West Bank).
- 5- **Arabic Manuals:**  
 هناك العديد من الدوسيهات تم إعدادها لطلبة كليات المجتمع (كلية مجتمع القدس)، ومنها:  
 1- ابوسمرة، محمد، (1981)، العلوم العامة لطلبة كليات المجتمع، كلية القدس، عمان.  
 2- ابوسمرة، محمد (1981)، الفيزياء العامة، لطلبة العلوم (1)، كلية القدس، عمان.  
 3- ابوسمرة، محمد، (1982)، الفيزياء لطلبة العلوم (2)، كلية القدس، عمان.  
 4- ابوسمرة، محمد، (1982)، الديناميكا الحرارية، كلية القدس، عمان.  
 5- ابوسمرة، محمد، (1982)، الفلك والأرصاد الجوية، كلية القدس، عمان.  
 6- ابوسمرة، محمد، (1982)، أساليب تدريس العلوم، كلية القدس، عمان.

#### IV. Conference Presentations:

- 1- **Mohammad M. Abusamreh, Murad M. Abusamra. On the Magnetic Resonance Imaging.** The First Palestinian International Conference on Peaceful uses of atomic Energy, 19-20/2/2017, Khadouri Technical University (KTU), Khadouri, Tulkarim, Palestine.
- 2- Murad M. Abusamra and **Mohammad M. Abusamreh.** Nuclear medicine, what should physicians know and what medical service is provided in Palestine? The First Palestinian International Conference on Peaceful uses of atomic Energy, 19-20/2/2017, Khadouri Technical University (KTU), Khadouri, Tulkarim, Palestine.
- 3- Murad M. Abusamra and **Mohammad M. Abusamreh.** Review of the common therapies in nuclear medicine and what is needed to initiate it in Palestine? The First Palestinian International Conference on Peaceful uses of atomic Energy, 19-20/2/2017, Khadouri Technical University (KTU), Khadouri, Tulkarim, Palestine.
- 4- Murad M. Abusamra and **Mohammad M. Abusamreh.** PET/CT examination and the urgent need to establish in the Palestinian health service. The First Palestinian International Conference on Peaceful uses of atomic Energy, 19-20/2/2017, Khadouri Technical University (KTU), Khadouri, Tulkarim, Palestine.
- 5- Ismail Hroub; Orwa Jaber Houshia; Mohammad M. Abu-Samreh. Assessment of Background Natural Radiation in the Southern of West Bank Province of Hebron Palestine. The First Palestinian International Conference on Peaceful uses of atomic Energy, 19-20/2/2017, Khadouri Technical University (KTU), Khadouri, Tulkarim, Palestine.
- 6- **Mohammad M. Abu-Samreh,** Anan A. Hussain, and Methqal Daraghmeh. Assessments of Indoor Radon-222 concentration levels in some dwellings in the Tubas city during the summer season of the year 2016. The First Palestinian International Conference on Peaceful uses of atomic Energy, 19-20/2/2017, Khadouri Technical University (KTU), Khadouri, Tulkarim, Palestine.

- 7- **Mohammad M Abu-Samreh** and Khalil M Thabayneh. An overview survey Study on the Assessments of environmental radioactivity levels in the West Bank. The First Palestinian International Conference on Peaceful uses of atomic Energy, 19-20/2/2017, Khadouri Technical University (KTU), Khadouri, Tulkarim, Palestine.
- 8- K. M. Thabayneh, L. A. Mashal, K. M. Awawdeh, and **M. M. Abu-Samreh**. Radionuclides Measurements in Some Rock Samples Collected from the Environment of Hebron Governorate. The First Palestinian International Conference on Peaceful uses of atomic Energy, 19-20/2/2017, Khadouri Technical University (KTU), Khadouri, Tulkarim, Palestine.
- 9- Fatima I. Khrase, and **M. M. Abu-Samreh**, and K. M. Thabayneh, Radionuclides Measurements in Some Soil Samples Collected from the Environment of Beithlehem Governorate. The First Palestinian International Conference on Peaceful uses of atomic Energy, 19-20/2/2017, Khadouri Technical University (KTU), Khadouri, Tulkarim, Palestine.
- 10- **Mohammad M. Abu-Samreh** and M. EL-Saadawy. **The diffusion coefficient of vacancies and jump length of electrons in Mg Fe<sub>2-x</sub> Cr<sub>x</sub> O<sub>4</sub> Ferrites**. The 5th Palestinian Conference Modern Trends in Mathematics and Physics (PCMTMP-V). July 31 to August 2. 2016, AAUJ, Jenin, Palestine.
- 11- Tamara Y. Y. Abed, **M. M. Abu Samreh**, Hazem K. Khanfar, A. F. Qasrawi. **Deposition and characterization of the organic ZnPc buffering substrates**. The 5th Palestinian Conference Modern Trends in Mathematics and Physics (PCMTMP-V) July 31. - August 2. 2016, AAUJ, Jenin, Palestine.
- 12- Mays Abdel Ghafor, Mohammad M. Abu-Samreh and Atef Quasrawi, Optical Properties of ZnPc Thin films. The 2ed International Palestinian Conference for Material Sciences and Nanotechnology (PICNM2016), An-Najah National University, Nablus, Palestine, March 23-24, 2016.
- 13- Mohammad M. Abu-Samreh. Colloid interactions and colloid stability for particles in water. The 5<sup>th</sup> International Palestinian Chemical Conference, An-Najah National University, Nablus, Palestine, June 1-2, 2011.
- 14- Abdelkarim M. Saleh, Safa M. Hribat, Rushdi M. Kitaneh, **Mohammad M Abu-Samreh**, and Sharif M Musameh. *Dielectric Response and Electric Properties of Organic Semiconducting Phthalocyanine Compound*. International Graduate Conference on Sciences, Humanities and Engineering, Organized by The Faculty of Graduate Studies, An-Najah University, Nablus Palestine, May 4-5, 2011.
- 15- Khitam M Al-Shawawra and **Mohammad M Abu-Samreh**. **Indoor Radon-222 Concentration Levels Measurements in the Offices and School Rooms in Bethlehem Province, West Bank, Palestine**. International Graduate Conference on Sciences, Humanities and Engineering, Organized by The Faculty of Graduate Studies, An-Najah University, Nablus Palestine, May 4-5, 2011.
- 16- Ghandi F Manasra, **Mohamad Abu-Samreh** and Nasser Hamad, **Assessment of Radio Frequency Power Intensities in Hebron City, The**

*first Palestinian Conference on Electromagnetic Radiation, Palestine, December 7 -2010*

- 17- Mohammad M Abu-Samreh, Nasser Hamad and Ghandi F Manasra, **On the safety of Electromagnetic Radiation Densities in Everyday Life: Technical Report**, *The first Palestinian Conference on Electromagnetic Radiation, Palestine, December 7 -2010.*
- 18- **Abu-Samreh, M. M.** "Radiation and Radioactive Material", Workshop on Radon Gas Assessment in Air, Soil and Water, organized by Environmental Department, supported by European Countries, through TEMPUS project, Al-Quds University, Oct 16, 2010.
- 19- **Abu-Samreh, M. M.**, "**Nonlinear Hall Effect**". **The 2ed** Palestine Conference on Modern Trends in Mathematics and Physics, An-Najah University, Nablus, Palestine, Aug 1-3, 2010.
- 20- **Abu-Samreh, M. M.**, Modern Trends in Logical thinking, the 16<sup>th</sup> meeting of Al-Quds University Association of Councils, Adu-Deis, Jerusalem, Dec16-17, 2009.
- 21- **Abu-Samreh, M. M.** Literature Review of the Effects of Nuclear Radiation and Temperature on the Physical properties of Radiated Materials. The 2ed international symposium on the usage of nuclear energy (ISNE-09), Al-Balqa'a University, Amman, Jordan, October 26-28, 2009.
- 22- El-Saadawy, M., Abu Safa, M., and **Abu-Samreh, M. M.**, Electrical Properties of  $\text{Co}_{2-x}\text{Zn}_x\text{Ba}_2\text{Fe}_{28}\text{O}_{46}$  Hexagonal Ferrite. Palestine Conference on Modern Trends in Mathematics and Physics, Birzeit University, Ramallah, Palestine, July 28-30, 2008.
- 23- Abu Safa, M., and **Abu-Samreh, M. M.**, Freidel Oscillations in Three-Dimensional Noninteracting Electron Gas. Palestine Conference on Modern Trends in Mathematics and Physics, Birzeit University, Ramallah, Palestine, July 28-30, 2008.
- 24- Abu-Samreh, M. M., Saleh, A. M., Kitaneh, R. M-L, and Braun, H. F. On the Applicability of the Magnetic Susceptibility Models for the Magnetic Superconductor Ru-1212. The third Physics Symposium Organized by the Physics Department, Al-Quds University, Jerusalem, Abu-Dis, Palestine, April 22-23, 2008.
- 25- Shehadah, A., Leghrouz, A. A., and **Abu-Samreh, M. M.**, Seasonal Variation Measurements of the indoor Radon-222 in some Villages in the Middle of Palestine. The third Physics Symposium Organized by the Physics Department, Al-Quds University, Jerusalem, Abu-Dis, Palestine, April 22-23, 2008.
- 26- **Abu-Samreh, M. M.**, Saleh, A. M., Kitaneh, R. M-L, and Braun, H. F. AC Susceptibility Measurements and Extraction of inter- and intra- Grain

Superconductive Transitions in Polycrystalline Ru-1212 Superconductor. Second Physics Conference Organized by The Physics Department, An Najah National University, Nablus, Palestine, May 7-8, 2007.

- 27- **Abu-Samreh, M. M.**, Biological Effect of Static Magnetic Field on Peripheral Blood Leukocytes. The Health Sciences Conference-2006 organized by the Faculty of Medicine and Health Sciences, Al-Quds University, Jerusalem, Abu-Deis, West Bank, Palestine, March 15-16, 2006.
- 28- **Abu-Samreh, M. M.**, Assessment of  $^{210}\text{P}$  and  $^{210}\text{Pb}$  Inhalation from Cigarettes Smoking in Palestine. The Health Sciences Conference-2006 organized by the Faculty of Medicine and Health Sciences, Al-Quds University, Jerusalem, Abu-Deis, West Bank, Palestine, March 15-16, 2006.
- 29- **Abu-Samreh, M. M.**, The impact of Electromagnetic radiation on human health and the strategic steps to reduce it. The fifth symposium on the use of nuclear techniques for environmental studies, organized by The Center for Theoretical and Applied Physics (CTAPS), Yarmouk University, Irbid, Jordan, September 12-15, 2005.
- 30- **Abu-Samreh, M. M.**, Gamma radiation measurements and dose rates of naturally occurring radioactive samples from Hebron province geological rocks. The fourth symposium on the use of nuclear techniques for environmental studies, organized by The Center for Theoretical and Applied Physics (CTAPS), Yarmouk University, Irbid, Jordan, September 13-16, 2004.
- 31- **Abu-Samreh, M. M.**, Exaggeration of having food against the illness and exhaustion. The science and religion second symposium, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, December 20, 2003.
- 32- **Abu-Samreh, M. M.**, and Leghrouz, A. A. Beyond the reasons of preventing moslems from eating ham. The science and religion second symposium, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, December 20, 2003.
- 33- **Abu-Samreh, M. M.**, The role of Honey in treating cancer disease. The science and religion second symposium, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, December 20, 2003.
- 34- **Abu-Samreh, M. M.**, Measurements of Gamma Ray Environmental Dose Rates in some Houses located in the Western Zone of Yatta City During the year 2001. The third symposium on the use of nuclear techniques for environmental studies, Yarmouk University, Irbid, Jordan, September 16-18, 2003.
- 35- **Abu-Samreh, M. M.**, and Saleh, A. M., Modeling of Gamma –Irradiation Effects on Critical Temperature and Electrical Characteristics in Polycrystalline YBCO Superconducting Thin Films. The third symposium on

the use of nuclear techniques for environmental studies, Yarmouk University, Irbid, Jordan, September 16-18, 2003.

- 36- **Abu-Samreh, M. M.**, The Indoor Radon Concentration Measurements in Some Houses in the southwestern zone of Hebron city during the year 1999. The second symposium on the use of nuclear techniques for environmental studies, organized by the Center for Theoretical and Applied Physics (CTAPS), Yarmouk University, Irbid, Jordan, September 23-25, 2002.
- 37- **Abu-Samreh, M. M.**, Repetition Pattern of Number 7 in the Holy Quran and the tremendous indication against the Similarities of God Creator properties. The science and religion first symposium, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, July 21, 2002.
- 38- **Abu-Samreh, M. M.**, Universe Spherical in the Holy Quran among the Comprehensive Deep knowledge and the Special Scientific Dimension. The science and religion first symposium, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, July 21, 2002.
- 39- **Abu-Samreh, M. M.**, Relaxation rates of two-dimensional Fermi gas systems in an applied magnetic field. The fourth symposium on magnetism, Yarmouk University, Irbid, Jordan, November 6-8, 2000.
- 40- **Abu-Samreh, M. M.**, Transport model for electrical conduction in MIM thin films. The seventh international Petra school meetings, The University of Jordan, Amman, Jordan, September 17-22, 2000.
- 41- **Abu-Samreh, M. M.**, Indications of physical sciences in the holy Quran. The third conference on scientific miracles in the holy Quran, College of education, Gaza, Palestine, May 15-17, 2000.
- 42- **Abu-Samreh, M. M.**, Dynamic transport coefficients in Fermi liquids. The Palestinian physics conference. Physics Department, An-Najah National University, Nablus, West Bank, Palestine, May 3-4, 2000.
- 43- **Abu-Samreh, M. M.**, Two-photon interference from separate pulses. The second Palestinian symposium on physics. Physics Department, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, April 11-12, 2000.
- 44- **Abu-Samreh, M. M.**, Dilemmas of scientific research in Palestinian universities. The first symposium on scientific research in Palestinian universities organized by The Union of University Teachers and held at AL-Azhar University, Gaza, Palestine, February 20-22, 2000.
- 45- **Abu-Samreh, M. M.**, Graduate studies in Palestinian universities among reality and challenge. The first symposium on scientific research in Palestinian universities organized by The Union of University Teachers and held at AL-Azhar University, Gaza, Palestine, February 20-22, 2000.

- 46- **Abu-Samreh, M. M.**, Suggestions for the development of teacher skills. The scientific day on preparing and developing teacher skills. Organized by AL-Mawrid, Ramallah, West Bank, Palestine, March 19, 1999.
- 47- **Abu-Samreh, M. M.**, A Future horizon to high school textbook theme. Workshop on information technology. Ramallah, West Bank, Palestine, February 25, 1999.
- 48- **Abu-Samreh, M. M.**, Relaxation time approximation for studying heavy-ion collisions. The first Palestinian symposium on physics. Physics Department, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, March 12, 1998.
- 49- Amer, E., **Abu-Samreh, M.M.**, and Gravano, S., Theoretical investigations of current-voltage characteristics for metal-insulator-metal electroformed thin films using a Monte Carlo Simulation method. The first Palestinian symposium on physics. Physics Department, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, March 12, 1998.
- 50- **Abu-Samreh, M. M.**, Transport model for heavy-ion collisions. The third symposium on computational condensed matter physics, organized by the center for theoretical and applied physics (CTAPS), Yarmouk University, Irbid, Jordan, November 3-5, 1997.
- 51- **Abu-Samreh, M. M.**, Physics and its links to individuals and community. The first Palestinian symposium on teaching physics. Physics Department, Bir Zeit University, Ramallah, West Bank, Palestine, November 5-6, 1995.
- 52- **Abu-Samreh, M. M.**, Thermalization in Hadronic Matter. A workshop on ultra-relativistic heavy-ion collisions, organized by the center for theoretical physics, Heidelberg, Germany, October 12, 1994.

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## V. Selected Invited Talks

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### Attended Conferences and Workshops:

- 1- The first Palestinian Conference on Electromagnetic Radiation, Al-Quds University, Jerusalem, Abu-Deis, Palestine, Dec. 7, 2010.
- 2- Workshop on Teaching programs in Al-Quds University, Jericho, Palestine, 16/11/2010.
- 3- The first Yarmouk School for Computational Condensed Matter and Nano Technology, Yarmouk University, Oct 31-Nov 4, 2010.
- 4- Modernity Thinking in Palestinian, organized by Al-Quds University, with the cooperation of center for Democracy and Community Development, Ramallah, Palestine, Oct 28, 2010.
- 5- The Workshop on Radon Measurements in Air, Water, and Soil. Al-Quds University, sponsored by TEMPUS, Oct 16, 2010.

- 6- The Workshop on Psychology Health Situation in Palestine, Al-Quds University with the cooperation of Abu-Rayya Center for Re-inhabitation of Torture Victims, Oct 10, 2010.
- 7- The Second Palestinian Conference on Modern Trends in Mathematics and Physics, An-Najah University, Nablus, Palestine, Aug 1-3, 2010.
- 8- Academic Colloquium 2010, Building Partnership in Teaching Excellence, Palestinian Faculty Development Program (PFDP), organized by Amideast, Ramallah, July 31-August 1, 2010.
- 9- The Workshop "to support the Excellency in our life and future generation life, organized by Al-Quds University with the cooperation of department of scales and JAWWAL, July 19, 2010.
- 10- The second international conference on the energy and environmental in sustainable developments, Palestine Polytechnic University, Hebron, Palestine, November 10-12, 2009.
- 11- The second international symposium on the usage of nuclear energy, Al-Balqa'a University, Amman, Jordan, October 26-28, 2009.
- 12- The First Palestinian Conference on Modern Trends in Mathematics and Physics, Birzeit University, Ramallah, Palestine, July 28-30, 2008.
- 13- The 2<sup>nd</sup> Palestinian International Conference on Computer and Information Technology, Palestine Polytechnic University, Sept 1-3, 2007.
- 14- Second Physics Conference (The Physics Department, An-Najah University, Nablus, Palestine) 2007.
- 15- The International Conference on Energy and Environmental Protection (ICEEP) in Sustainable Development (Palestine Polytechnic University, Hebron, West Bank, Palestine, May 8-9, 2007).
- 16- Union Conferences 2007
- 17- Sixth conference on Nuclear instrumentation Sep 2006
- 18- Health Sciences Conference-2006 organized by the Faculty of Medicine and Health Sciences, Al-Quds University, Jerusalem, Abu-Deis, West Bank, Palestine, March 15-16, 2006.
- 19- The Self Evaluation of Higher Education Programs workshop organized by the Faculty of Higher education, Al-Quds University, Jerusalem, Abu-Deis, West Bank, Palestine, December 16, 2005.
- 20- The Faculty Member Research Interest workshop organized by the Physics Department, Al-Quds University, Jerusalem, Abu-Deis, West Bank, Palestine, November 20, 2005.
- 21- The reality of higher studies conference organized by the Federation of Unions of Palestinian Universities Professors and Employees, held at The Arab American University, Jenin, West Bank, November 27-29, 2005.
- 22- The reality of higher studies symposium organized by AL-Quds Open University, and held at Best Eastern Hotel, Rammallah, West Bank, Palestine, October 2, 2005.
- 23- The fifth symposium on the use of nuclear techniques for environmental studies. The center for theoretical and applied physics (CTAPS), Yarmouk University, Irbid, Jordan, September 12-15, 2005.
- 24- The fourth symposium on the use of nuclear techniques for environmental studies. The center for theoretical and applied physics (CTAPS), Yarmouk University, Irbid, Jordan, September 13-16, 2004.
- 25- The science and religion second symposium. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, December 20, 2003.
- 26- The third symposium on the use of nuclear techniques for environmental studies. The center for theoretical and applied physics (CTAPS), Yarmouk University, Irbid, Jordan, September 16-18, 2003.
- 27- AL-Quds Dentistry scientific day. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, June 12, 2003.

- 28- Workshop about Writing Proposals. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, April 25, 2003.
- 29- Workshop about AL-Quds Educational System. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, January 13, 2003.
- 30- Workshop about Time Management. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, December 28, 2002.
- 31- Workshop on civilizations and culture: Cross Viewpoints. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, October 26, 2002.
- 32- The second symposium on the use of nuclear techniques for environmental studies. The center for theoretical and applied physics (CTAPS), Yarmouk University, Irbid, Jordan, September 23-25, 2002.
- 33- The science and religion first symposium. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, July 21, 2002.
- 34- Workshop on Psychological effects of Entifadah and some Scenes of Israeli Aggression. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, October 29, 2001.
- 35- The first symposium on the use of nuclear techniques for environmental studies. The center for theoretical and applied physics (CTAPS), Yarmouk University, Irbid, Jordan, September 24-26, 2001.
- 36- The second International conference on magnetic and superconducting materials. Yarmouk University, Irbid, Jordan, September 9-13, 2001.
- 37- The workshop on new techniques in food industry. Food Industry Department, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, May 30, 2001.
- 38- The fourth symposium on magnetism and magnetic material. The center for theoretical and applied physics (CTAPS), Yarmouk University, Irbid, Jordan, November 6-8, 2000.
- 39- The seventh international Petra school meetings. Physics Department, The University of Jordan, Amman, Jordan, September 17-22, 2000.
- 40- The third conference on scientific miracles in the holy Quran. College of education, Gaza, Palestine, May 15-17, 2000.
- 41- The Palestinian physics conference. Physics Department, An-Najah National University, Nablus, West Bank, Palestine, May 3-4, 2000.
- 42- The second Palestinian symposium on physics. Physics Department, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, April 11-12, 2000.
- 43- The first conference on scientific research in Palestinian universities organized by The Union of University Teachers and held at AL-Azhar University, Gaza, Palestine, February 20-22, 2000.
- 44- Energy projects in Palestine among reality and theory. Renewable energy workshop. An-Najah National University, Nablus, West Bank, Palestine, April 29, 1999.
- 45- The scientific day on preparing and developing teacher's skills. AL-Mawrid, Ramallah, West Bank, Palestine, March 19, 1999.
- 46- Workshop on information technology. Ramallah, West Bank, Palestine. A Future horizon to high school textbook theme, February 25, 1999.
- 47- The third symposium on magnetism and magnetic materials. The center for theoretical and applied physics (CTAPS), Yarmouk University, Irbid, Jordan, November 2-4, 1998.
- 48- Workshop on computer and multimedia technology in teaching. Computer Sciences Department, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, May 17, 1998.
- 49- Workshop on the profile of Palestinian food industry. Food industry Department, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, April 20, 1998.



- 50- The first Palestinian symposium on physics. Physics Department, AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, March 12, 1998.
- 51- Scientific research at Palestine Universities: Development perspective. Ministry of planning and international cooperation. Ramallah, West Bank, Palestine, December 19, 1997.
- 52- The second Palestinian symposium on teaching physics. Physics Department, Bir Zeit University, Ramallah, West Bank, Palestine, November 30 and December 1, 1997.
- 53- The third symposium on computational condensed matter physics. The center for theoretical and applied physics (CTAPS), Yarmouk University, Irbid, Jordan, November 3-5, 1997.
- 54- The second workshop on the development of AL-Quds University programs. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, September 19, 1997.
- 55- The workshop on PV water pumping technologies in Palestine. Nablus, West Bank, Palestine, June 7, 1997.
- 56- The first workshop on the development of AL-Quds University Programs: A new outlook. AL-Quds University, East Jerusalem, Abu-Deis, West Bank, Palestine, May 5, 1997.
- 57- The first Palestinian symposium on teaching physics. Physics Department, Bir Zeit University, Ramallah, West Bank, Palestine, November 5-6, 1995.
- 58- A workshop on ultra-relativistic heavy-ion collisions. The Center for Theoretical Physics, Heidelberg, Germany, October 12, 1994.

## Research Interests

I'm a general theoretical and applied nuclear physicist. I am interested in many kinds of mathematical modeling. Eight topics of research interests are: theoretical nuclear physics; Experimental nuclear physics; IV Scaling laws in superconductors; quantum transport in semiconductors; Renewable energy; Electromagnetic Radiation; physics education research; improving science teacher education.

My primarily research focuses on modeling Nucleon-Nucleon correlations in heavy-ion collisions and properties of nuclear matter. A computer program has been developed and is applied to heavy ion collisions as well as to transport in semiconductors. I have worked for more than a decade in the field of superconductors and several scaling laws have been derived for several high temperature superconductors as YBCO and BSCCO.

The current research concerns:

1. Experimental nuclear physics that concerns basically with the radiation measurements. This includes **Nuclear Techniques, Radon Measurements, and XRF. Application of Nuclear Techniques in Radon Gas Measurements** both indoor and outdoor radon concentration levels measurements as well as radionuclides concentration levels for soil, rock, water, samples collected from Palestinian territories.
2. A separable Nucleon-Nucleon force derived from experimental data.
3. Screening, electric field and phonons in semi-conductors are among the topics presently investigated.

4. Physics education research focused on student learning in physics-majors courses, initial science teacher preparation, professional development of physics and physical science teachers.

## **Teaching Experience and Courses Taught: Undergraduate Teaching Experience**

While a post-graduate student at The University of Jordan and The University of Arizona, I gave tutorials to undergraduates in applied mathematics and theoretical physics. I also work as a teaching assistant student. While at AL-Quds College, I taught optics and both introductory two years' physics courses, Astronomy, Methods of teaching science, General Science and Renewable energy. After being a faculty member at the physics department at AL-Quds University, several courses had been taught. Among the **Undergraduate Courses**:

- **General Physics courses I and II: Introductory Classical Mechanics and Electricity and Magnetism (Halliday, Resnick) and (Serway), 2004, 2006, 2007, 2008, 2002, 1998, 1995, 1994, 1993, 1992.**
- **General Physics I and II Laboratory: Mechanics and Electricity and Magnetism, 1995, 1998, 2000, 2002, 2003, 2006.**
- **Optics and Modern Physics Advanced Laboratory, 1991, 1992, 1993, 1994**
- **Optics, 1995**
- **Thermodynamics (Sears and Salinger's), 1992**
- **Modern Physics (Anderson), (Beiser), 1997, 1998, 2008.**
- **Mathematical Physics I (Mary L. Boas) 1983, 1999, 2000, 2001, 2002, 2004, 2008, 2010.**
- **Advanced Laboratory I, 1996, 1998.**
- **Special Relativity (French), 1991, 1995, 2009.**
- **Statistical Physics (Reif) 1992, 1996, 2003**
- **Classical mechanics I and II (Symon) and (Fowles), 1990, 1991, 1992, 1993, 1996, 1997, 2000, 2001, 2004, 2008, 2011.**  
**Classical mechanics I**  
**Classical mechanics II**
- **Electricity and Magnetism I and II (Corrson and Lorrin) and (Griffiths), 1992, 1998, 2000, 2004, 2007, 2010, 2011.**  
 Electromagnetism I,  
 Electromagnetism II,
- **Quantum Mechanics I and II (Griffiths), (Eisberg & Resnick, Hodgson *et al.*), 1991, 1992, 1993, 1994, 1995, 1997, 1999, 2000, 2002, 2004, 2008, 2010**  
 Introductory Quantum Mechanics I, 1991, 1992, 1993, 1994, 1995, 1999, 2004, 2008, 2010  
 Quantum Mechanics II, 1992, 1994, 1995, 2002
- **Advanced Laboratory II, 1994, 1997**
- **Atomic Physics, 1998, 2000, 2002, 2003**
- **Nuclear Physics (Krane) and (Meyrhoff), 1991, 1992, 1993, 1994, 1996, 2000, 2009**
- **Solid State Physics I and II (Kittel, Ashcroft & Mermin), 1991, 1992, 1993, 1994, 1998, 2000, 2003, 2007, 2008.**
- **Introduction to Astronomy 2003**

## **Physics Courses Taught for Minor Engineering Physics:**

- **Thermal physics, 1999**
- **Properties of Matter I and II, 2001, 2002**
- **Ceramics, 2001, 2002**
- **Electronics I.** 2000, 2004
- **Electronics II.** 2003

## **Service Courses:**

### **Service Courses Taught for Medicine and Engineering Students:**

- Physics for Medicine. Introductory Physics I & II (Cutnell & Johnson), Physics I & II (Halliday, Resnick), 1995, 1996.
- Physics for Medicine. College Physics (Serway and Faughn), Physics 2009.
- Physics for Health Professionals, Bard College. College Physics (Serway and Faughn), Physics 2011.

### **Service Courses Taught as University Requirements:**

- **Critical Thinking, 1999, 2000, 2001, 2002, 2003 ,2004, 2005, 2007, 2008, 2009, 2010.**

## **Graduate Teaching Experience**

### **Graduate Courses Given:**

- Mathematical Physics (G. Arfken), 1998, 2004.
- Advanced Classical Mechanics (Goldstein, Landau & Livshits), 1998, 2001, 2009, 2010
- Advanced Quantum Mechanics I and II (Merzbacher and Cohen Tanuji), 2002
- Electromagnetic Theory (Jackson) 2003
- Solid State Physics I and II (Ashcroft and Mermin) 2004.

### ***Potential and ability to teach the following courses:***

Advanced Atomic Physics, Nuclear Heavy-Ion Collisions, Elementary Particle Physics, Relativistic Quantum Mechanics, Computational Physics, Group theory, Quantum field Theory, Advanced Transport Theory

### **Graduate Activities**

I have examined many graduate students.

### **Supervision of graduate students: M.Sc. Thesis:**

- Eyas Amer. Electronic Structure of Diamond Surfaces (111) and (100). Defended, SDSM&T, 1996, M.S. degree granted.
- Amani Darabih.
- Murad Mosa
- Mahmoud Sulaiman (Co-advisor)
- Mahmoud Ellayan
- Hussain Sammamreh
- Mohammad Hallaseh (Co-advisor)
- Azzam Abu Sabhah (Co-advisor)
- Inas Nasser (Co-advisor)

- Ayeh Shehadeh (Co-advisor)
- Sa'na A abu-fara
- Khitam Shawamreh

## **Teaching Innovation**

In 1981 I was responsible for a group of two-year college teachers under a special arrangement (AL-Quds College). This involved coordinating various aspects of their scientific and linguistic education, teaching introductory science course designed to improve their scientific skills.

In more formal aspects of teaching, I wrote the laboratory manual for physics 103, and developed the course so that it made some reference to physics. The manual has been used since 1991-date.

In 2000 I was involved in the writing of a critical thinking text, and the planning of a Nuclear Physics M.Sc. course. The book had not been published because of the deterioration of the University economy.

With Dr. Abdulhakeem Eideh, a course on Applied Mathematics, (originally introduced by Abdelhakeem) was developed from scratch.

General survey to all courses given in physics are of a very traditional form, consisting of lectures where the material is factual and imparted in a very linear fashion, and include almost nothing of the culture and history of physics. I have recently taken this course over again, and developed a multimedia presentation for it. This integrates graphic material with animations of various kinds into an "electronic blackboard" presentation, which is now available to students outside of the lectures.

Finally I was asked to suggest and design new major programs for new tracks in physics. The new physics major uses some areas of physics as a model for the study of science as a whole. In particular it looks at controversial ideas, with the intention of opening new fields for students.

## **Evaluation of Academic Programs and Foundations**

Upon the request of Palestinian Ministry of Higher Education, I had evaluated the following programs:

- 1- Al-Noor Applied Academy, Hebron, Oct 3, 2007.

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## **Language**

- Arabic
- English

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## **Special Skills**

Computer programming courses in Fortran with programming experience on theoretical research in nuclear physics and solid state physics which involves computer programming.

As a faculty member at the physics department I was involved several times in writing course description and evaluating course outlines. Accordingly, I have developed outlines of several courses. Besides, an evaluation to the second

preparatory physics text book has been made with Dr. A. Qassim in 1996. Furthermore, I have a good experience in proposal writing.

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## References

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