

# Prof. Adnan K. Jaradat

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**Assistant Professor of Medical Physics**  
**Department of Physics**  
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**Research Gate:** [https://www.researchgate.net/profile/Adnan\\_Jaradat](https://www.researchgate.net/profile/Adnan_Jaradat)

**Education:** Ph.D in Medical Physics University of Massachusetts, USA  
1999-2006  
Advisor Prof. Clayton French & Peter Biggs.  
Thesis Title.  
**“Measurement of Photon and Neutron Leakage From  
Medical Linear Accelerators and Monte Carlo Simulation  
of Tenth Value Layers of Concrete Used for Intensity  
Modulated Radiation Therapy Treatment”**

**Lowell, Massachusetts.**

Master Degree in Medical Physics University of  
Massachusetts 1991-2003.  
Lowell, Massachusetts.

Master Degree in Physics Yarmouk University 1993-1996.  
Advisor Prof. Nabil Ayoub.  
Thesis Title  
**“Some Physical properties of Fe<sub>3</sub>O<sub>4</sub> and Ba-Fe Fine  
Particle System”**  
Ibid, Jordan.

B.Sc Physics Yarmouk University 1988-1992.  
Irbid, Jordan.

**Research Interest:** Medical Physics and Applied Physics

**Experince:**

Start working at Physics Dept. at Jordan university of Science and Technology 2006 up to day.

### **Teaching:**

- **General Physics 1 and 2 for science and engineers. Physics 101, & 102.**
- **General physics for Medical school. Physics 103.**
- **Geometrical Optics for Applied medical sciences school. Optics 104.**
- **Visual Optics for Applied medical sciences school. Optics 215.**
- **Radiology for Applied medical sciences school.**
- **Medical Physics Albalqa university.**
- **Optics for physics students. Physics 281.**
- **Material properties and heat. Physics 211**
- **Mathematical Physics. I Physics 200 & 201.**
- **Mathematical Physics. II Physics 301.**
- **ElectroMagnetic Theory I Physics 331.**
- **ElectroMagnetic Theory II Physics 332.**
- **Mathematical Physics (Master) Physics 701.**
- **Supervisor for Physics book 11<sup>th</sup> grade at ministry of education. Year 2015-2016.**
- **Physics Labs Supervisor University of Massachusetts 2000-2004.**
- **Former Teaching Assistant at Jordan University of Science & Tech. 1997-1999.**

### **Conference Contributions:**

-APS March Meeting 2017, New Orleans, LA, USA, ‘The Effect of the Size and the Type (Dimensionality) of Carbon Nano-Fillers on the Optical Properties of Polystyrene Composites ‘ March, 2017.

-APS April Meeting 2015, Baltimore, MD, USA, ‘Adomian Decomposition Approach to Solve the Simple Quantum Harmonic Oscillator ‘ April 2015.

### **Committees:**

Aug.2010-Aug.2011 Department representative in faculty of science and arts counsel

## Publications:

- *Measurement Of The Leakage Radiation From Linear Accelerators in The Backward Direction For 4, 6, 10, 15, And 18 MV X-Ray Energy.* April 2007 Health Physics 92(4):387-95
- *Tenth Value Layers For 60Co Gamma Rays And For 4, 6, 10, 15, And 18 MV X Rays In Concrete For Beams Of Cone Angles Between 0 Degrees And 14 Degrees Calculated By Monte Carlo Simulation.* Health Phys. 2007 May;92(5):456-63.
- *Measurement of The Neutron Leakage From a Dedicated Intraoperative Radiation Therapy electron Linear Accelerator And a Conventional Linear Accelerator for 9, 12, 15(16), and 18(20) MeV Electron Energies.* Med Phys. 2008 May;35(5):1711-7.
- *Artificial semi-rigid tissue sensitized with natural pigments: Effect of photon radiations.* Journal of Pharmacy and Bioallied Sciences, Vol 3/ Issue 2/ April-June 2011
- *Introducing Cichorium Pumilum as a Potential Therapeutical Agent Against Drug-Induced Benign Breast Tumor in Rats.* July 2012 Electromagnetic Biology and Medicine 31(4) 299-309
- *Simple Harmonic Oscillator with Fractional Electric Potential* published online: Revista Mexicana de Fisica (2017).
- *Evolution Of Bound And Scattering States In Fractional Heaviside Step-Dirac Delta Function Potentials.* published online: UNIVERSITY POLITEHNICA OF BUCHAREST SCIENTIFIC BULLETIN-SERIES A-APPLIED MATHEMATICS AND PHYSICS (2017).
- *Adomian Decomposition Approach to Solve the Simple Harmonic Quantum Oscillator.* International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 2 (2018) pp. 1056-1059
- *Solving Inhomogeneous Nonlinear Differential Equations in Terms of Orthogonal Functions Using the Adomian Decomposition Functions.* Applied Mathematical Sciences (2017).
- *Effect of cutoff radius, long range interaction and temperature controller on thermodynamic properties of fluids: Methanol as an example* Accepted: Physica A 10.1016/j.physa.2018.01.001 (2018).
- *Evolution of Thermal Expansion due to Anharmonic Potential.* International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 12 (2018) pp.

10372-10375

- *Optimizing Windowpane Performance in Terms of Solar Radiation and Thermal Conductivity for Balancing Lighting and Thermal Models in Architectural Spaces.* International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 14 (2018) pp. 11369-11378
- *Sensitive detection schemes for small variations in the damping coefficient based on the Duffing-Holmes oscillator with a potential application in magnetic sensing.* AIP Advances ISSN 21583226