

# Mr. Abdul Rehman

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## **Research Interests**

### **Computational Physics:**

- Computer simulations, based on quantum-mechanical interactions between electrons and nuclei using WIEN2k and QUANTUMESPRESSO DFT codes.
- Transport of light through tissues using Monte Carlo Method during M. Phil.

### **Experimental:**

I also studied

- Optical properties of various malignant tissues.
- Effect of temperature on optical properties of tissues using double integrating spheres. The work was published in a Journal of international repute.

### **Publication:**

**“Effects of varying local temperature on the optical properties of cells in-vitro” in Photo diagnostic and Photo Dynamic Therapy Journal (2015).**

### **Computing Skills**

- Applications: **Wien 2 k, Quantum Espresso**, Monte Carlo Multi layered (MCML), Inverse adding Doubling (IAD) for theoretical modeling.

### **Present work**

**Density Functional theory 2017 to date**

I co-supervised M. Phil. research students working on Stability Assessment of new Quaternary Zintl Phases by applying Density Functional Theory

## **Academic Record**

- 2011-13                    **Highest degree achieved.**  
**M.Phil Physics (18 year Education)**  
**Institute:** Pakistan Institute of Engineering and Applied Sciences (PIEAS)  
**Thesis title:** “In-Vitro Study of Optical Properties of Rhabdomyosarcoma (RD) Cell Line and Transport of Light by Monte Carlo Method.”
- 2007-11                    **BS (Hons.) Physics**  
G.C University Faisalabad