

IFTIKHAR AHMAD Ph.D. (USA)

*Chair, Department of Physics
University of Malakand
Chakdara, Pakistan*

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EDUCATION

Ph.D., Materials Science Engineering (2006): University of Idaho, USA
M.Phil., Solid State Physics (1997): University of the Punjab, Pakistan
M.Sc., Physics (1993): Peshawar University, Pakistan
B.Sc., Physics, Mathematics (1990): Jehan Zeb College, Swat, Pakistan
F.Sc., Science (1987): Govt. College Matta, Swat, Pakistan
S.S.C., Science (1985): Govt. High School Matta, Swat, Pakistan

TEACHING

Presently working as Professor of Physics at University of Malakand. Chakdara
Associate Professor, Department of Physics (2008-2011), Hazara University, Mansehra, Pakistan
Associate Professor of Physics (2010), University of Technology Malaysia, Malaysia
Visiting Professor, Islamia College University Peshawar for teaching Graduate Quantum Mechanics
Assistant Professor of Physics, University of Peshawar, 2007-2008
Faculty of Physics (2006-07): Louisiana State University, Louisiana, USA
Faculty of Physics (2004-06): Bay College, Michigan, USA
Teaching Assistant (2001-04): University of Idaho, Idaho, USA
Lecturer Physics (1997- 01): Islamia College Peshawar, Pakistan
Lecturer Physics (1995-97): Government College Booni, Chitral, Pakistan

AWARDS AND DISTINCTIONS

Teaching Excellence Award, University of Idaho, USA (2003).
Best University Teacher Award, Higher Education Commission of Pakistan (2010).
Gold Pin Award, Bay College, Michigan, USA (2006).
Letter from the Dean of Sciences, Louisiana State University, USA, The best instructor of Fall 2006.
Letter from the Dean of Sciences, Louisiana State University, USA, The best instructor of Fall 2007.

EXECUTIVE AND ADMINISTRATIVE EXPERIENCES

Chair, Department of Physics, University of Malakand (since Aug. 2011).
Chair, Department of Physics, Hazara University, Pakistan (2008-2011)
Head Physics and Engineering Programs, Bay College Michigan, USA (2004-2006)
Elected Member of the Syndicate, Hazara University, Pakistan (in 2010)
Senator, Hazara University, Pakistan (2008-2011)

Chairman, Board of Studies of Physics, Hazara University (2008-2011).
Senior Warden of Boys Hostels, Hazara University (2009-2011)
Member: Board of Faculty of Science, Hazara University, Pakistan (2008-2011)
Member: Board of Faculty of Physical Sciences, Islamia College Peshawar, (since 2010)
Member: Board of Studies of Physics, Islamia College University Peshawar (since 2010)
Member: Quality Assurance Committee, Hazara University (since 2009)
Supervisor: Physics Teaching Laboratories, Louisiana State University, USA (Summer 2007)
Coordinator: Physics Teaching Laboratories, Bay College, Michigan, USA (2004-06)

RESEARCH INTERESTS

Density functional theory, magnetism in condensed matter, dilute magnetic semiconductors, bandgap engineering of semiconducting compounds, spintronics, thin films, atomic and molecular physics, photodetachment of negative ions, quantum optics, physics education

EXPERTISE

Curriculum development, physics teachers training, counseling, program development

OUTSTANDING ACHIEVEMENTS

Revised and implemented, undergraduate and graduate physics curricula in Pakistan
Organized “international workshop on materials modeling and simulations 2011”
Started and established graduate program at Hazara University and made it one of the best in Pakistan
Started and established graduate program at University of Malakand
Introduced density functional theory (DFT) in Pakistan

STUDENTS SUPERVISION

Ph.D. Physics Project

	Name of student	Title of Dissertation	Status
1	<i>Mr. Bin Amin</i>	<i>Structural, electronic, optical and magnetic properties of metals doped III-V semiconductors</i>	<i>has finished his Ph.D. degree</i>
2	<i>Mr. Gulam Murtaza</i>	<i>First principle study of the optoelectronic properties of cubic perovskites</i>	<i>Thesis submitted</i>
3	<i>Mr. Aminur Rahman</i>	<i>Photodetachment of linear systems</i>	<i>Research completed</i>
4	<i>Mr. Muhammad Haneef</i>	<i>Photodetachment of negative ions near different surfaces</i>	<i>Research completed</i>
5	<i>Miss Suneela Arif</i>	<i>Robust Half-metallicity in Metals Doped III-V Semiconductors</i>	<i>Research completed</i>
6	<i>Mr. Bakht A. Bacha</i>	<i>Superluminality and Kerr nonlinearity in fast light</i>	<i>Research completed</i>

Ph.D. Physics Projects (about to complete)

	Name of student	Title of Dissertation	Status
1	<i>Mr. Imad Khan</i>	<i>Band gap Engineering and Optical Properties of II-VI semiconductors</i>	<i>Research in Progress</i>
2	<i>Mr. Zahid Ali</i>	<i>Theoretical Investigation of Structural and Magnetic Properties of Cubic Perovskite</i>	<i>Research in Progress</i>
3	<i>Major Muhammad Sharif</i>	<i>Optoelectronic Properties of Heusler Alloys</i>	<i>Research in Progress</i>

Number of M.Phil. students supervised = 25

ARTICLES PUBLISHED IN PEERED REVIEW JOURNALS DURING THE LAST THREE YEARS

1. S. Arif, Iftikhar Ahmad, B. Amin, M. Maqbool, Study of Robust Half-Metallicity in AlCoN and AlNiN, International Journal of Quantum Chemistry, Accepted [ISI Impact factor **1.3**]
2. S. Arif, Iftikhar Ahmad, B. Amin, Theoretical Investigation of Half-Metallicity in Co/Ni Substituted AlN, International Journal of Quantum Chemistry, available online with DOI. 10.1002/qua. [ISI Impact factor **1.3**]
3. S. Arif, B. Amin, Iftikhar Ahmad, M. Maqbool, N. Ikram, Investigation of half metallicity in Fe doped CdSe and Co doped CdSe materials, Current Applied Physics 12, 184 (2012) [Elsevier Journal, ISI IF **1.72**].
4. M. Haneef, Iftikhar Ahmad, A. Afaq and A. Rahman, The investigation of spherical effects on the photodetached electron spectra, J. Phys. B: At. Mol. Opt. Phys. **44**, 195004 (2011) [IOP Journal, ISI IF **2.01**].
5. B. Amin, Iftikhar Ahmad, M. Maqbool, S. Goumri-Said and R. Ahmad, Ab initio study of the bandgap engineering of Al_{1-x}Ga_xN for optoelectronic applications, Journal of Applied Physics **109**, 023109 (2011). [ISI Impact factor **2.21**]
6. B. Amin, S. Arif, Iftikhar Ahmad, M. Maqbool, R. Ahmad, S. Goumri-Said, and K. Prsbrey, Cr-Doped III–V Nitrides: Potential Candidates for Spintronics, Journal of Electronic Materials **40**, 1428 (2011). [ISI Impact factor **1.4**]
7. A. Afaq, Iftikhar Ahmad, Classification of partially reflecting surfaces using photodetached electron spectrum, International Journal of Quantum Chemistry **111**, 4067 (2011) [ISI Impact factor **1.3**]
8. G. Murtza, B. Amin, A. Afaq, M. Maqbool, J. Maqssod, I. Khan, M. Zahid, Investigation of structural and optoelectronic properties of BaThO₃, Optical Materials, Optical Materials **33**, 553 (2011). [Elsevier Journal, ISI IF **1.72**]
9. S. Arif, Iftikhar Ahmad, B. Amin, H. A. Rahnamaye Aliabad, Robust Half-Metallicity in a Chromium-Substituted AlN, Chinese Physics Letters, **28**, 108501 (2011) [CPS Journal, ISI IF **1.08**]
10. G. Murtaza, G. Sadique, H.A. Rahnamaye Aliabad, M.N. Khalid, S. Naeem, A. Afaq, B. Amin, Iftikhar Ahmad, Physica B, First principle study of cubic Perovskites: AgTF₃ (T=Mg, Zn): Condensed Matter **406**, 4584 (2011) [Elsevier Journal, ISI IF **0.83**]
11. I. Khan, Iftikhar Ahmad, B. Amin, G. Murtaza, Z. Ali, Bandgap engineering of Cd_{1-x}Sr_xO, Physica B: Condensed Matter **406**, 083301 (2011). [Elsevier Journal, ISI IF **0.83**]
12. G. Murtaza, Iftikhar Ahmad, B. Amin, A. Afaq, F. Ghafoor, A. Benamarani, Linear and nonlinear optical response of Mg_xZn_{1-x}O: A density functional study, Physica B: Condensed Matter **406**, 2632 (2011). [Elsevier Journal, ISI IF **0.83**]
13. Z. Ali, Iftikhar Ahmad, B. Amin, M. Maqbool, G. Murtaza, I. Khan, Theoretical studies of structural and magnetic properties of cubic perovskites PrCoO₃ and NdCoO₃, Physica B: Condensed Matter **406**, 3600 (2011) [Elsevier Journal, ISI IF **0.83**]
14. G. Murtaza, Iftikhar Ahmad, First principle study of the structural and optoelectronic properties of cubic perovskites CsPbM₃ (M= Cl, Br, I), Physica B: Condensed Matter **406**, 3222 (2011). [Elsevier Journal, ISI IF **0.83**]

15. S. S. Hayat, Iftikhar Ahmad, M. A. Choudry, Diffusion of six-atoms Cu island on Cu(111) and Ag(111), *Chin. Phys. Lett.* **28**, 053601 (2011). [CPS Journal, ISI IF **1.08**]
16. A. Rahman, Iftikhar Ahmad, A. Afaq, M. Haneef, Interferences in Photodetached Electron Spectra from a Linear Tetra-Atomic Negative Ion, *Chin. Phys. Lett.* **28**, 063301 (2011). [CPS Journal, ISI IF **1.08**]
17. A. Rahman, Iftikhar Ahmad, A. Afaq, M. Haneef, H.J. Zhao, Investigation of a linear tetra atomic negative ion by photo-detached electron spectra , *Chin. Phys. Lett.* **28**, 063301 (2011). [CPS Journal, ISI IF **1.08**]
18. B. Amin, Iftikhar Ahmad, M. Maqbool, Conversion of direct to indirect bandgap and optical response of B substituted InN for novel optical devices applications, *Journal of Lightwave Technology* Vol.28, Issue 2, pp. 223-227 (2010). [IEEE Journal, ISI IF **2.736**]
19. M. Maqbool, E. Wilson, J. Clark, Iftikhar Ahmad, A. Kayani, Luminescence from Cr⁺³-doped AlN films deposited on optical fiber and silicon substrates for use as waveguides and laser cavities, *Applied Optics* 49(4) pp. 653-657 (2010). [OSA Journal, ISI IF **1.7**]
20. M. Maqbool, Ghafar Ali, S. O. Cho, Iftikhar Ahmad, M. Mehmood and M. E. Kordesch, Nanocrystals formation and intense green emission in thermally annealed AlN:Ho films for microlaser cavities and photonic applications: *J. of Applied Physics* 108, pp. 043528-5 (2010). [ISI Impact factor **2.21**]
21. B. Amin, Iftikhar Ahmad, M. Maqbool, N. Ikram, Y. Saeed, A. Ahmad, S. Arif, Generalized gradient calculations of structural, electronic and optical properties of Mg_xCd_{1-x}O oxides, *Journal of Alloys and Compounds* 493, pp. 212-218 (2010). [Elsevier Journal, ISI IF **1.5**]
22. Comparison of Heavy Metals Burden in Two Freshwater Fishes Wallago attu and Labeo dyocheilus With Regard to Their Feeding Habits in Natural Ecosystem, *Pakistan Journal of Zoology* 42, pp. 537-544 (2010) [ISI Impact **0.2**]
23. A. Afaq, Iftikhar Ahmad, M. A. Ahmad, A. Rashid, B. A. Tahir and M. T. Hussain: Interferences in photodetachment of a triatomic negative ion: *Applied Physics Letters* 94, 041125 (2009). [AIP Journal, ISI IF **3.726**]
24. B. Amin and Iftikhar Ahmad, Theoretical investigation of half metallicity in Fe/Co/Ni doped ZnSe materials systems: *J. Applied Physics* 106, 093710 (2009). [AIP Journal, ISI IF **2.21**]
25. M. Maqbool, B. Amin and Iftikhar Ahmad, Bandgap investigations and the effect of the In and Al concentration on the optical properties of In_xAl_{1-x}N: *Journal of Optical Society of America B* 26, Issue 11, pp.2181-2184 (2009). [OSA Journal, ISI IF **2.181**]
26. M. Maqbool, M. E. Kordesch and Iftikhar Ahmad: Electron penetration depth in amorphous AlN exploiting the luminescence of AlN:Tm/AlN:Ho bilayers: *Current Applied Physics* 9, Issue 2, pp. 417-421 (2009). [Elsevier Journal, ISI IF **1.526**]
27. M. Maqbool and Iftikhar Ahmad, Ultraviolet spectroscopy of Pr⁺³ and its use in making ultraviolet filters: *Current Applied Physics* 9, Issue 1, pp. 234-237 (2009). [Elsevier Journal, ISI IF **1.526**]
28. S.S. Hayat, M.A. Choudhry, A. Hussain, S. Alam, S.A. Ahmad, Iftikhar Ahmad, Nanoscale relaxation near twin-interfaces of Palladium and Platinum, *Indian J. of Pure and Applied Physics* 47(10), pp.730-736 (2009). [ISI IF **0.34**]

29. W. Rehman, A. Badshah, S. Khan, Iftikhar Ahmad, Synthesis, Structural Investigations and Biological Screening of Diorganotin(IV)Complexes Derived from 5,5-Diethyl Sodium Barbitol, Chinese Journal of Structural Chemistry 28(4) pp. 419-424(2009). [ISI IF **0.729**]
30. B. Amin, S. Nazir, N. Ikram, Iftikhar Ahmad, Y. Saeed, S. Arif, Theoretical calculations of structural, electronic and optical properties of $\text{Ca}_x\text{Zn}_{1-x}\text{S}$ alloys, Materials Science an Indian Journal 5(2) 2009.

PAPERS UNDER REVIEW

Presently 14 papers are under review in different peered review journals