

CV
Dr Hafiz Muhammad Rafique

Address: Department of Physics, University of the Punjab Lahore

Current status: Assistant Professor
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Education

2006 to 2010	School of Physics and Astronomy, The University of Manchester, United Kingdom.
1992-1994	Centre of Excellence in Solid State Physics, University of the Punjab, Lahore (LHR), Pakistan (Pak).
1989-1990	Govt College of Education for Men Lahore (LHR), Pak.
1986-1988	University of the Punjab (PU), LHR, Pak.
1985-1985	Department of Mathematics, PU, LHR, Pak.
1985-1986	Govt Islamia College, Civil Lines LHR, Pak.
1983-1985	Govt Islamia College ,Civil Lines LHR, Pak.
1981-1983	Govt Islamia College, Railway Road LHR, Pak.
1971-1981	Govt Muslim League High School, LHR, Pak.

Qualifications

2010	PhD (Physics).
1994	M.Phil. Solid State Physics (First Div)
1990	Bachelor of Education (First Div) with majors Maths, Physics.
1988	M Sc Physics (First Div)
1986	BSc Statistics (Additional subject)
1985	Certificate in Computer Language BASIC

- 1985 **B Sc** (First Div) with majors Maths A & B, Physics
- 1983 **F Sc** (First Div) with majors Phy, Maths, Chem, Urdu, English.
- 1981 **Matric** (First Div) with majors Phy, Chem, Maths, Bio, Urdu, English.

Job Experience in the UK

- 2006 **The University of Manchester, UK, Part-time Teaching**
to 2010 **Assistant**

Assisted in conducting Physics and Computer Labs experiments for under graduate classes.

Job Experience in Pakistan

- 1995-2007 **University of the Punjab, LHR, Pak -Full time Lecturer**

I worked as a permanent lecturer in the Department of Physics, University of the Punjab. For this job, I developed curriculum of Mathematical Methods of Physics and taught it to B Sc (Hons) and M Sc classes.

- 1990-1995 **National Textile University (NTU), Faisalabad-Full time Lecturer**

I joined NTU (formerly National College of Textile Engineering) as a lecturer in Physics. Here, I taught Applied Physics and Electrical Engineering courses to B Sc Textile Engineers and conducted corresponding lab experiments.

Research Publications

- (1) Ishaq A. , Shahid Iqbal, G. Husnain, A. A. Khurram, A. U. Akrajas, C.F. Dee, Shahzad Naseem, H. M . Rafique, Yan Long' **keV ion beam induced damage and recrystallization of carbon nanostructures**, *New Carbon Materials*, (2012).Accepted
- (2) Jahanzeb Qureshi, Syed Amer Mahmood, Amjed S. Almas, Rauf Irshad and H.M. Rafique' **MONITORING SPATIOTEMPORAL AND MICRO-LEVEL CLIMATIC VARIATIONS IN LAHORE AND SUBRUBS USING SATELLITE IMAGERY AND MULTI-SOURCE DATA**, *Journal of Faculty of Engineering & Technology*, **19**,1 (2012).
- (3) A. Masood, S. R. Ahmad, S. A. Mahmood, J. Qureshi, H. M. Rafique and M.S. Khan, **SURFACE DEFORMATION THROUGH FRACTAL ANALYSIS OF DEM BASED SPATIAL DRAINAGE PATTERNS IN GILGIT BALTISTAN REGION (NORTHERN PAKISTAN)**, *Pakistan Journal of Science*, **64**, No. 2 (2012).
- (4) J. Qureshi, S. A. Mahmood, A. S. Almas, H. M. Rafique, S.R. Ahmad and A. Masood, **DEM BASED GEOMORPHIC ANALYSIS ALONG KALABAGH FAULT AND POTWAR PLATEAU TO CONSTRAIN SURFACE DEFORMATION: INFERENCES FROM REMOTE SENSING AND GIS**, *Pakistan Journal of Science*, **64**, No. 2 (2012).
- (5) M. Jamil, Ch. Uzma , K. Zubia , I. Zeba, H. M. Rafique and M. Salimullah, **Diamagnetic drift instabilities in collisional non-uniform quantum dusty magnetoplasmas**, *J. Plasma Physics*, ,1 (2012).
- (6) Arshad, M., Zia-Ur-Rehman, M., Khan, I., Mustafa, G., Shafiq, M., Rafique, H. M. and Holman, K., **Structural Studies of N-Alkyl Derivatives of Methyl 4-Hydroxy-2H-1,2-Benzothiazine-3-Carboxylate-1,1Dioxide**, *Walailak Journal of Science and Technology (WJST)*, North America, (2012).
- (7) G. Husnain, Yao Shu-De, Ishaq Ahmad and H.M. Rafique, **Suctural and magnetic impact of Cr⁺-implantation into GaN thin film**, *Solid State Sciences*, **14**,735 (2012).
- (8) G. Husnain, Ishaq Ahmad, Shu-De Yao, H. M. Rafique, Akrajas Ali Umar and Chang Fu Dee, **Depth-dependent Tetragonal Distortion Study of AlGaN Epilayer Thin Film Using RBS and Channelling Technique**, *Modern Physics Letter B*, **26**, 1250086 (2012).
- (9) I. Ahmad , Chang Fu Dee, G. Husnain, H.M. Rafique, Yan Long, and S. Naseem, **Use of high-intensity electron beam to form nanohole, induce**

- bending and fabricate nanocontact on a ZnO nanowire, *Micro & Nano Letters*, **7**, 122 (2012).
- (10) G. Husnain , Yao Shu-De , Ishaq Ahmad, **H. M. Rafique** and Arshad Mahmood, Characterization of n-GaN dilute magnetic semiconductors by cobalt ions implantation at high-fluence, *Journal of Magnetism and Magnetic Material*, **324**, 797 (2012).
- (11) M. N. Arshad, I. U. Khan, M. Zia-ur-Rehman, S. A. Ahmad & **H. M. Rafique**, Methyl 4-hydroxy-2-methoxycarbonylmethyl-1,1-dioxo-1,2-dihydro-1 λ ⁶,2-benzothiazine-3-carboxylate. *Acta Cryst. E*, **67**, o2527(2011).
- (12) Muhammad Nadeem Arshad, Islam Ullah Khan, K. Travis Holman, Abdullah M. Asiri and **H. M. Rafique** , **N-(2-Bromophenyl)-4-methyl-N-(4-methylphenylsulfonyl) benzenesulfonamide**, *Acta Cryst. E*, **67**, o2356 (2011).
- (13) Muhammad Nadeem Arshad, Islam Ullah Khan, Muhammad Zia-Ur-Rehman, **H M Rafique**, K Travis Holman, **Methyl 4-hydroxy-2-isopropyl-1,1-dioxo-2H-1,2-benzothiazine-3-carboxylate**, *Acta Cryst. E*, **67**, o1823-4 (2011).
- (14) M. N. Arshad, I. U. Khan, **H. M. Rafique**, A. M. Asiri and M. Shafiq, **2-Chloro-4-(2-iodo-benzene-sulfonamido)-benzoic acid**, *Acta Cryst. E*, **67**, o1327 (2011).
- (15) Muneeb Hayat Khan, Islam Ullah Khan , Muhammad Nadeem Arshad , **H. M. Rafique** and William T. A. Harrison, **Structures of Benzenesulfonylamino-3-(4- benzenesulfonyloxyphenyl)-propionic acid and 2-(toluene-4-sulfonylamino)-3-[4- (toluene-4-sulphonyl-oxy)-phenyl]-propionic acid: Variations in L-tyrosine Backbone Conformation, Intramolecular Aromatic π - π Stacking and Short C-H...O Interactions**, *Crystals*, **1**, 69 (2011).
- (16) **H. M. Rafique**, W.R. Flavell , A.G. Thomas, K.L. Syres, S.N. Barilo, S.V. Shiryaev, G.L. Bychkov, D.M.P. Holland, A.E.R. Malins, G. Miller and V.R. Dhanak, **Comparison of the electronic structure of LnBaCo₂O_{5+ δ} (Ln = Gd, Dy; Ln-112) and LnBaCo₄O₇(Ln = Yb; Ln-114) single-crystal surfaces using resonant photoemission**, *Journal of Electron Spectroscopy and Related Phenomena*, **184**, 227 (2011).

- (17) M. A. Sohl, A. Mehmood, M. H. Mazher, Najam, U. Saeed and **H. M. Rafique**, **Temporal Mapping and Prediction of Coastal Biomass for Keti Bunder**, *The Pacific Journal of Science and Technology*, **11**, 1 (2010).
- (18) S. N. Barilo, S. V. Shiryaev, G. L. Bychkov, A. S. Shestak, W. R. Flavell, A. G. Thomas, **Hafiz M. Rafique**, Y. P. Chernenkov, V. P. Plakhty, E. Pomjakushina, K. Conder and P. Allenspach, **Large single crystals of LnBaCo₂O_{5.5}: Initial nucleation, growth and study**, *J. Crystal Growth*, **310**,1867 (2008).
- (19) **Hafiz M Rafique**, Syed Amir Mahmood and S Rafique, **Appraisal of Landuse/Landcover of Faisalabad City Using SPOT Digital Imagery**, *Sci. Int.(Lahore)*, **172**,117 (2005).

Conferences attended /Poster presented/Talks delivered

- **Hafiz M. Rafique**, W. R. Flavell, S.N. Barilo, A.G. Thomas, K.L. Syres and S. Shiryaev, Comparison of the valence band electronic structure of the LnBaCo₂O_{5+δ} and LnBaCo₄O₇ cobaltites, Graduate Research Conference, School of Physics and Astronomy and Photon Science Institute, The University of Manchester, UK, September 2008 (Oral).
- W. R. Flavell¹, S.N. Barilo, A.G. Thomas, **Hafiz M. Rafique**, K. L. Syres, S. Shiryaev, C. Chatwin and S. Rayner, High resolution photoemission of double perovskite GaBaCo₂O_{5.5}, Graduate Research Conference, School of Physics and Astronomy and Photon Science Institute, The University of Manchester, UK, 12 June 2007 (Poster).

Other Written Work

- **M Phil Thesis** with the title “Data Acquisition and Controller Design based on Solid State Devices”
- A **Book** titled “Mathematics Worked Solutions (yearly) for A level” (2005)

ISBN:

Research Interests

- Surface Science/Photon Physics
- Mathematical and Computational Physics
- Solid State Physics
- Satellite Remote Sensing

Award and Scholarship

- President Talent Scholarship 1986-1988, awarded by the Government of Pakistan.

Memberships

- Life member Pakistan Institute of Physics (PIP), Pakistan.

Training courses attended /Certificates

- Summer School on Synchrotron Radiation Techniques in “Earth and Environmental Science” held in Oxford and the Diamond Light Source, UK from 12-08-08 to 15-09-08.
- UK Surface Analysis Forum (UKSAF) winter meeting held on “Advances in Materials and Methods”, The University of Manchester, Manchester UK, 09-01-08.
- Summer School on Synchrotron Radiation held at Chester University Campus and Daresbury Laboratory UK from 29-08-06 to 08-09-06.
- Growing single crystals of rare-earth cobaltites at the Institute of Solid State and Semiconductor Physics Minsk, Belarus from 24-09-06 to 08-10-06 and 19-09-07 to 23-09-07.
- Teacher-training workshop on Mathematics for A level conducted by the University of Cambridge in British Council Lahore, April 2004.
- Certificate in BASIC computer language from the Department of Mathematics, University of the Punjab Lahore, Pakistan (1985).

Bench Marks

- I had always been given the highest evaluation as a teacher in the Department of Physics, University of the Punjab. In the last evaluation too, I was rated the best scoring 3.9/4.0.
- I am reliable, efficient, punctual and experienced.

Interests

- Reading literature and poetry.
- Playing Chess

References

- 1) **Prof Mujahid Kamran**
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- 1) **Prof Wendy R Flavell**
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