## CURRICULUM VITAE


**NAME**
***Feroz Ahmad Mir***
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**POSITION TITLE**
Assistant Professor,
Department of Physics,
Baba Ghulam Shah Badshah University (BGSBU)
Rajouri
Jammu and Kashmir-185234,India


## EDUCATION/TRAINING

| INSTITUTION AND LOCATION | DEGREE | YEAR(s) | FIELD OF STUDY |
|---|---|---|---|
| University of Kashmir, Srinagar,India | BSc | 2000 | Chemistry/Physics/Math |
| University of Kashmir, Srinagar,India | MSc | 2003 | Physics (with Electronics) |
| National Institute of Technology, Srinagar,India<br>Ph.D thesis title *"Effect of SHI irradiation on electrical, magnetic and optical properties of $PrFe_{1-x}Ni_xO_3$ thin films"* | PhD | 2011 | Condense Matter Physics |
| S. N. Bose National Centre for Basic Sciences, Kolkatta, India | Research Associate | 2011(April-Nov) | Ultrafast nanomagnetism |
| University of Kashmir, Srinagar,India | Postdoc | 2011Dec-2013(Dec.) | Nanobiotechnology |
| SHER-I-KASHMIR INSTITUTE OF MEDICAL SCIENCES Srinagar, India | Scientist | 2013(Dec.) - 2016(Dec.) | Radiation Physics/ Nanobiotechnology |

### CAREER OBJECTIVES

To pursue research/teaching in frontier areas of applied science, where I can use my technical knowledge and strong interpersonal skills.
My prime research interest is to use the full multidisciplinary capacity of Physics.

### (A). Positions and Honors

**Positions and Employment**

2007-2009 **Junior research fellowship (JRF),** Department of Physics, NIT Srinagar J&K India

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2009-2011 **Senior research fellowship (SRF),** Department of Physics, NIT Srinagar J&K India.

2011April-2011Nov **Research Associate**, S.N.Bose National Centre for Basic Sciences,Kolkatta India. Project title *"Development of GHz frequency Filters and attenuators using Nanoscale Magnonic Crystals"*

2011Dec-2013Dec **UGC-Dr.D.S.Kothari Postdoctoral Fellowship,** University Science and Instrumentation Centre, University of Kashmir.
Project title *"Growth, Characterization of Some Magnetic-Fluorescence Nanocomposites for Biological Applications and Their Irradiation Study"*
2014 Jan-Dec 2016 **DST Fast Track Young Scientist**, Department of Nuclear Medicine, (SKIMS) SRINAGAR India.

Project title *"Isolation, Modification, Characterization Of Some Selected Plant Compounds: A Potential Radiochromic Thin Film Material".*

**(B). Other Experience and Professional Memberships**

| | |
|---|---|
| 2005-6 | Lecturer on contractual basis (Physics), J&K school educations, India. |
| 2008-present | Member, Nuclear Track Detector Society of India |
| 2010-present | Reviewer of many international journals |
| Jan2017 –August 2017 | Lecturer on contractual basis (Physics), Zakura campus Kashmir university Srinagar, |
| September,2017 to till date. | Assistant Professor, Department of Physics, Baba Ghulam Shah Badshah University (BGSBU) Rajouri Jammu and Kashmir-185234,India |

**Honors**

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|---|---|
| 2009 | **SRF** by CSIR India. |
| 2011 | **Dr. D. S. Kothari UGC-PDF** by University Grants Commission (UGC India). |
| 2013 | **DST Fast Track Young Scientist** (Physical Sciences) |

**RESEARCH INTERESTS**

- Strongly correlated systems.
- Transition metal Oxides
- Total Synthesis of Nanomaterials (2,1 & 0 Dimension) for different applications.
- Ultrafast laser spectroscopy (femto second spectroscopy)
- Organic electronics/Bio-organics (sensors).
- Photovoltaic devices
- Radiation dosimetry, Radiation protection, Acceleration based Research.

**(i) TECHNIQUES KNOWN/EXPERTISE**

Paper chromatography, thin layer chromatography, Ion chromatography, FT-IR (Fourier Transform Infrared Spectroscopy),UV-VIS spectrophotometer, AAS (Atomic Absorption Spectrophotometer), Raman spectroscopy, Photoluminescence, Thermo luminescence, Femto second laser spectroscopy (Pump

probe method),Transport properties (magnetic, electrical, thermal) of materials under different conditions, Magnetic properties using SQUID, PPMS, VSM, FMR, NMR, EPR, TRMOKE, Mössbaur spectroscopy, Microscopy like SEM, AFM/MFM, TEM and florescence microscopy, Electronic Structure (XAS,XPS,NEXAFS) by using synchrotron radiations, Crystal structure using X-ray diffractions.

Besides knowing these techniques, I have also worked for Low Energy Ion beam accelerators, various type of radiation detectors, high temperature set up for MOKE, Gamma Camera, Unsealed radio isotopes ($^{99}$Tc ,$^{131}$I and $^{123}$I) and can operate/handle $^{135}$Cs and $^{60}$Co radiation sources.

## (c).Research Support

**(1).** ***"Isolation, modification, characterization of some selected plant compounds: A potential radiochromic thin film material for radiation dosimetry applications"*** **DST India.**

**(2).** ***"Growth, Characterization of Some Magnetic-Fluorescence Nanocomposites for Biological Applications and Their Irradiation Study" UGC India.***

**(3).** ***"Effect of SHI irradiation on electrical and magnetic optical properties of*** $RFe_{1-x}Ni_xO_3$ ***(Pr,Nd, Sm & Gd) thin films" CSIR, New Delhi India.***

**(4).** ***"Controlled Ion implantation on some oxide based nanostructure for biological applications" IUAC New Delhi India.***

***(5)."*****Modification of structural and optical properties of some Coumarin based polymer composites for Radiochromatic applications after SHI irradiations"** ***IUAC New Delhi India.***

***(6). "Centre For Nano-Tech Research In Crop, Animal & Allied*** **Sciences** ***Of Temperate Region" D*****ST (as Co PI).**

**(7).** ***"Modulations of physical properties of some substrates of Microstrip antena's by SHI irradiations" IUAC New Delhi India.***

***(8). "Controlled doping of magnetic transition metal ions on some oxide based nanostructure for biological sensing application" UGC India.***

# (d). Publications

## Nanoscience, Nanotechnology and devices

(1). Preparation and ac electrical characterizations of Cd doped $SnO_2$ Nanoparticles **Feroz Ahmad Mir**, K.M.Batoo ,I.Chatterjee and G.M.Bhat *Journal of Materials Science :Electronic Mat*. 25:1564–1570 (2014)

(2). Extraordinary high dielectric constant, electrical and magnetic properties of ferrite nanoparticles at room temperature Khalid Mujasam Batoo , **Feroz Ahmad Mir** M.-S. Abd El-sadek ,Md. Shahabuddin ,Niyaz Ahmed *J Nanopart Res* (2013) 15:2067 DOI 10.1007/s11051-013-2067-6

(3).Preparation and characterizations of Cadmium sulfide Nanoparticles **Feroz A. Mir**, I. Chatterjee and G.M.Bhat *Optik* 126, 1240–1244 (2015).

(4). Hyperfine interaction and tuning of magnetic anisotropy of cu doped CoFe2O4 ferrite nanoparticles, Khalid Mujasam Batoo, **Feroz A. Mir**, Gagan Kumar, Mahavir Singh, *Journal of Magnetism and magnetic Materials*, 411 91–97(2016).

(5). Structural and optical properties of ZnS Nano crystals embedded in Polyacrylamide
**F.A.Mir** *Journal of Optoelectronics and Biomedical Materials* Vol. 2, Issue 2, June 2010, p. 79 – 84

(6). Effect of Ni and Au ion irradiations on structural and optical properties of nanocrystalline Sb doped $SnO_2$ thin films **Feroz A. Mir** and K.M.Batoo *Applied Physics A* 122:418 (2016).

(7). Optical, DC and AC electrical investigations of 4-hydroxy coumarin molecule as an organic Schottky diode **Feroz Ahmad Mir**, S.Rehman, K.Asoken and G.M.Bhat *Journal of Materials Science :Electronic Mat.* 25:1258–1263(2014).

(8). Exploring the structure, electrical and photovoltaic mechanism in PrFe0.5Ni0.5O3 /GaAs heterojunction **Feroz Ahmad Mir** *Materials Science in Semiconductor Processing* 29,206–212(2015).

(9). Structural and Dielectric Study of PrFe0.5Ni0.5O3 Thin Film Prepared By Pulse Laser Deposition **Feroz A Mir** *Microelectronics and Engineering* 122, 59–63,(2014).

(10). A Novel idea of Pseudo-code generator in quantum-dot cellular automata (QCA) F.Ahmad, N.A.Wani, M.Mustafa and **F.A.Mir** *International journal for design and simulations*, 5, A04 (2014). DOI: 10.1051/smdo/2013012

## Thin Films and Low dimensions

(11). Temperature dependant Raman study of PrFeO3 thin film **Feroz.Ahmad.Mir**, M.Ikram and Ravi kumar *Journal of Raman Spectroscopy* ;, 42, 201–208 (2011). DOI 10.1002/jrs.2655

(12). Local symmetry breaking in PrFeO3 thin films and other similar systems after Ni doping: A brief Raman study **Feroz.Ahmad.Mir**, M.Ikram and Ravi kumar *Vibrational Spectroscopy* 55 (2011) 307–310 doi:10.1016/j.vibspec.2010.10.007

(13).Symmetry breaking in Ni-doped PrFeO3 thin films established by Raman study **Feroz.Ahmad.Mir**, M.Ikram and Ravi kumar *Phase Transitions* Vol. 84, No. 2, February 2011, 167–178.B doi.org/10.1080/01411594.2010.529601

(14). Effect of substrate on physical properties of PrFe0.5Ni0.5O3 thin films prepared by pulsed laser deposition **Feroz.Ahmad.Mir,** M.Ikram and Ravi kumar *Solid State Science* 13 (2011) 1994-1999. doi:10.1016/j.solidstatesciences.2011.09.001

(15). Doping effects arising from Ni for Fe in PrFeO3 Ceramic Thin Films **Feroz.Ahmad.Mir**, M.Ikram and Ravi kumar *Philosophical Magazine* Vol. 92, No. 9, 21 March 2012, 1058–1070. doi.org/10.1080/14786435.2011.637987

(16). Amorphization and disorder in PrFeO3 thin films after heavy ion irradiations **Feroz.Ahmad.Mir**, M.Ikram and Ravi kumar *Applied Radiation and Isotopes* 70 (2012) 2409–2415 doi.org/10.1016/j.apradiso.2012.06.002

(17). Optical and electrical characterization of Ni-doped orthoferrites thin films prepared by sol-gel process **Feroz Ahmad Mir**, Javid A. Banday, Christian Chong, Pierre Dahoo, and Fayaz A. Najar *European journal of Physics: Appl. Physics* (2013) 61: 10302

(18) Effect of Ni doping on magnetization and magnetotransport properties of PrFeO3 thin films deposited by pulse laser technique **Feroz Ahmad Mir**, S.K.Sharma, Ravi kumar *Chin. Phys. B* Vol. 23, No. 4 (2014) 048101. DOI: 10.1088/1674--1056/23/4/048101

(19). Studies of some physical properties of PrFe0.7Ni0.3O3 thin films after 200MeV Ag15+ irradiation **Feroz Ahmad Mir** *Philosophical Magazine* Vol. 94, No. 3, 331–344, (2014). doi.org/10.1080/14786435.2013.853139

(20). "Crystal structure of PrFeO3 thin film around antiferromagnetic-paramagnetic phase transition", **Feroz A. Mir** *International Journal of Thermophysics* 36,1654-1660,(2015).

## Organic Molecules And Soft Materials

(21). Structural, Thermal and Optical Studies of Oxypeucedanin hydrate monoacetate micro-crystals from Prangos pabularia Javid Ahmad Banday, **Feroz Ahmad Mir**, Saleem Farooq, Mushtaq A Qurishi, Surinder Koul, and Tej Kishen Razdan *American Journal of Analytical Chemistry* **3, 204-209,(2012).** doi:10.4236/ajac.2012.33029

(22). Salicylic acid and methyl gallate from the roots of Conyza Canadensis Javid Ahmad Banday, **Feroz Ahmad Mir**, Saleem Farooq, Mushtaq A Qurishi,Surinder Koul, and Tej Kishen Razdan *International Journal of Chemical and Analytical Science* 2012,3(2),1305-1308.

(23). Isolation, Structural, Spectral and Thermal studies of Imperatorin micro-crystals from Prangos pabularia Javid Ahmad Banday, **Feroz Ahmad Mir**, M.A. Qurishi, Surinder Koul, and Tej Kishan Razdan *Journal of Thermal Analysis and Calorimetry* 2013 112:1165–1170. DOI 10.1007/s10973-012-2683-x

(24). Structural and Optical properties of Heraclenin: A Bio-Organic Molecule from Prangos Pabularia Javid Ahmad Banday, **Feroz Ahmad Mir**, Aijaz H Kant, and G.M.Bhat, *Optik* 2013 124 4655–4658. doi.org/10.1016/j.ijleo.2013.01.114

(25). Heraclenin : a potential optoelectronic device material from Prangos pabularia Javid Ahmad Banday,G.M.Bhat, **Feroz Ahmad Mir**, M.A. Qurishi, Surinder Koul, and Tej Kishan Razdan *Journal of Electronic Materials* 2013 42, 8, 2498-2503. DOI: 10.1007/s11664-013-2596-x

(26). Isoflavone: a brief study on structural and optical properties Soubiya. M. Buchh, **Feroz A.Mir**, Shakeel ul Rehman and Mushtaq A. Qurishi *Eur. Phys. J. Appl. Phys* 2013,62,03,31201. DOI: 10.1007/s11664-013-2596-x

(27). Crystal structure, morphological, optical and electrical investigations of Oxypeucedanin micro crystals: an isolated compound from a plant **Feroz Ahmad Mir**, G.M.Bhat, K.Asokan, K.M.Batoo, Javid A Banday, *Journal of Materials Science :Electronic Mat* 25:431–437(2014). DOI 10.1007/s10854-013-1606-3

(28). 4-hydroxy Coumarin: a possible γ-radiation dosimeter Feroz A. Mir, S.Rehman, and S.H.Khan *Nuclear and Radiation Physics* **68 21921-21922** (2014).

(29). Structural, optical and transport properties of 4-hydroxy Coumarin: an organic Schottky diode **Feroz Ahmad Mir**, S.Rehman, K.Asoken and S.H.Khan *Applied Physics A* 116:1017–1023 (2014).

(30). Optical properties of some modified plant compound after 662 keV gamma radiation, **Feroz A. Mir**, Sajad A. Rather, Javid A. Banday and Shoukat H. Khan *Radiation Effects and Defects in Solids* Vol. 169, No. 11, 906–912,(2014).

(31). Transparent wide band gap crystals follow indirect allowed transition and bipolaron hopping mechanism **Feroz A. Mir**, *Results in Physics* 4, 103–104,(2014)

(32). Optical and Schottky diode performance of Au/4-hydroxy Coumarin /ITO heterojunction **, Feroz A. Mir** *Optik* Volume 126, Issue 1, January 2015, Pages 24–27

(33). Spectrophotometric and electrical properties of imperatorin: an organic molecule, **Feroz A. Mir** *Appl. Phys. A* 120:1659–1663,(2015).

(34). "Gamma irradiation studies of composite thin films of poly vinyl alcohol and coumarin" **Feroz A. Mir**, Adil Gani and K. Asokan *RSC Advances* 6, 1554-1561 (2016).

(35) "Gamma radiation response of plant isolated *coumarin glycoside*" **Feroz Ahmad Mir**, S.Rehman and S.H.Khan, *Optik* Volume 127, 8361–8366 (2016).

## Single Crystals And Bulk Materials

(36). Growth, structural, optical and electrical properties studies of Na substituted potassium hydrogen tartrate crystals **Feroz Ahmad Mir** *European journal of Physics: Appl. Physics* February 57 : 20202 (2012). DOI: 10.1051/epjap/2011110001

(37). Growth and various characterizations of $LiHSO_4$ single crystals, Fayaz A. Najar, Gowhar B. Vakil, Fayaz A. Wani, **Feroz A. Mir**, K. Asokan, *J Mater Sci: Mater Electron* 26:1455–1460(2015).

(38). Fractal analysis of PrFe1-xNixO3($0 \leq x \leq 0.3$) pervoskite samples by using micrographs **Feroz.Ahmad.Mir**, M.Ikram and Ravi kumar *Journal of Optoelectronics and Biomedical Materials* Vol. 2, Issue 3, July – September 2010, p. 161 – 165

(39). Reduction By Hydrogen Of Vanadium In Phase And Vanadate Lead Appatites:An EPR Study M. Ikram. H.Ahmad Pietro mendes **F.A.Mir** A .Bashir A. paula , A.M.Rossi *Modern Physics Letters B* ,issue22 volume 21 page:1489-1500 (2007).

(40).A study on SmFeO3-Polyanaline composites, **Feroz A. Mir** and Fayaz A. Wani and G.B.Vakil, *J. of Inorganic and Organometallic Poly. and Mat. ,DOI:10.1007/s10904-016-0414-7*

*(41)* **CdZnO Coated Thin Films: Application for Energy Conversion Devices,** R.A. Zargar, A.H. Shah, H.A. Reshi, M. Arora, F.A. Mir, *JOURNAL OF NANO- AND ELECTRONIC PHYSICS* Vol. **11** No 1, 01027(3pp) (2019).

(42). **Crystallographic, Spectroscopic and Electrical Study of ZnO:CdO Nanocomposite-Coated Films for Photovoltaic Applications** R.A. Zargar, A.H. Shah, M. Arora, **F.A. Mir**, Arabian *Journal for Science and Engineering* doi.org/10.1007/s13369-019-03823-9.

(43). Structural, morphological, vibrational, thermal and optical properties of ZnS quantum dots in Polymer Matrix **Feroz A. Mir,** Owais I. Mir and Rayees A. Zargar Current Alternative Energy (Accepted 2019).

## Health And Radiations

(44). Measurement of radioactive nuclides present in soil samples of district Ganderbal of Kashmir Province for radiation safety purposes **Feroz A Mir** and Sajad A. Rather *Journal of Radiation Research and Applied Sciences* 8,155-159 (2015).

(45). A study of different external beam radiotherapy techniques for cervix cancer and measurement of dose to the rectum, Sajad Ahmad, M. Mohib-ul Haq, **Feroze Ahmad Mir**, Nazir Ahmad Khan and Ajaz Ahmad *Nuclear & Radiation Phys.* 70, 23782-23784 (2014).

(46). "A Study On UV Photoprotection Of Osthol" **Feroz Ahmad Mir** and S.H.Khan, RADIATION EFFECTS & DEFECTS IN SOLIDS, VOL. 171, NOS. 11–12, 943–950 (2016).

(47). *"A Study on Coumarin molecule as UV dosimeter"*, **Feroz A. Mir** & Owais I. Mir, International Journal of Photonics & Optical Technology, Vol. 4, no. 3, pp.30-33, July-September 2018.

**(e). Abstracts** *(list abstracts of work presented at national and international workshops/conferences*

***I have contributed in around 60 national and international workshops/conferences.***

***I also gave invited talks at different institutes on different topics.***

**REFERENCES**


**(1). Prof. G. M. Bhat**
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**University of Kashmir, Srinagar- 190006**
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**Inter University Accelerator Centre,**
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S.N.Bose National Centre for Basic Sciences, Kolkata,
West Bengal India,
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**Department of Nuclear Medicine,**
**SKIMS Srinagar Kashmir,**
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**Dr. Feroz Ahmad Mir** **Dated: 09-04-2019(Rajouri J&K)**