

Dr. Munazza Zulfiqar Ali

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Educational History

Ph.D	2008	Punjab University, Lahore, Pakistan
M.Phil	2001	Punjab University, Lahore, Pakistan
M.Sc	1993	Quaid-i-Azam University, Islamabad Pakistan
B.Sc	1990	Punjab University, Lahore, Pakistan
F.Sc	1988	Sargodha Board, Pakistan
Matric	1986	Sargodha Board, Pakistan

Awards and Honours

- **First position in Faisalabad Division in Middle Standard Examination (1984)**
- **First Position in Intermediate Examination(F. Sc Pre-Engineering) in Sargodha Board(1988)**
- **Awarded Gold medal and Nishaan -i- Haider Scholarship (1988)**
- **Won President Talent Scholarship (1988-1993)**
- **Fourth Position in Quaid-i-Azam University in M. Sc (Physics) Examination (1993)**
- **Awarded University Grants Commission Scholarship for M. Phil (1997-1999) Aailed**
- **Awarded Higher Education Commission Scholarship for Ph. D (2004-2008) Aailed**
- **Awarded International Research Initiative Scholarship of HEC (2006) Not-availed**

Professional Experience

- **Associate Professor:** *June 05, 2015- present*
- **Assistant Professor:** *January 09 2008 – June 04, 2015*
Physics Department Punjab University, Lahore, Pakistan
- **Lecturer :** *October 24 1994 - January 08, 2008*
Punjab Education Department, Pakistan
- **Lecturer:** *May 01 1993 - October 23 1994*
Chenab College Jhang Pakistan

Courses Taught

- Nonlinear Physics (M. Phil, PhD)
- Solid State Physics (M.Sc)
- Statistical Physics (B.Sc Hons.)
- Thermodynamics and Kinetic Theory (B.Sc. Hons.)
- Waves and Oscillations (B.Sc. Hons.)

Other Formal Trainings

- **Refresher Course in Teaching Methods**
Government College, Lahore 1995
- **Computer Training Course**
Lahore College for Women University, Lahore 2000
- **Research Methodology**
Lahore College for Women University, Lahore 2003

Special lecturers and Presentations

- *Gap Solitons in Photonic Crystals*
CSSP, Punjab University, Lahore 12- 4 -2004
- *Left-handed material in Photonic Crystals*
CSSP, Punjab University, Lahore 8- 12- 2005
- *An Introduction to Left-handed metamaterials and Photonic Crystals*
Physics Department GCU, Lahore 9 – 12 – 2005
- *Hyperbolic Metamaterials* 12-08-2015
40th International Nathiagali Conference Islamabad.

Research Interests

- Condensed Matter Physic
- Gap Soliton formation and Optical bistability in Photonic Band Gap materials
- Linear and nonlinear wave propagation in left-handed metamaterials
- Surface waves in left-handed metamaterials and photonic band gap materials

Publications

1. *Investigation of nonlinear wave propagation in multilayered structures containing left-handed layers-a delta-function approach.*
Munazza Zulfqar Ali, Ali, Tariq Abdullah, *Phys. Lett. A* 351 (2006) 184-191
2. *Investigation of the linear and nonlinear properties of a Drude Model Photonic Crystal*
Munazza Zulfqar Ali , Tariq Abdullah, *Physica B: Cond.Matt.* 390 (2007) 45-51
3. *Properties of the angular gap in a one dimensional photonic crystal containing single negative material layers.*
Munazza Zulfqar Ali , Tariq Abdullah, *Phys. Lett. A.* 372 (2008) 1695-1700
4. *Nonlinear localization due to a left-handed layer in a one-dimensional photonic crystal containing single negative material layers.*
Munazza Zulfqar Ali, Tariq Abdullah, *Chin. Phys. Lett.* 25 (2008) 137-140

5. *Optical bistability at angular incidence in a one dimensional photonic band gap structure containing single negative material.*
Munazza Zulfiqar Ali , Tariq Abdullah, *Opt. Commun.* 281(2008) 3177-3182
6. *Photonic gaps in one-dimensional PBG structures containing left-handed materials*
Munazza Zulfiqar Ali, *Asian Journal of Physics* 18 (2009) 1-6
7. *Properties of angular gap in one dimensional periodic structure containing left-handed metamaterials*
Munazza Zulfiqar Ali , *Optica Applicata*, XLI (2011) 41-49
8. *Appearance of a zero-n and a zero-phi gap in different frequency ranges in a single 1-d photonic band gap structure*
Munazza Zulfiqar Ali , T. Abdullah, *Int. J. Mod. Phys. B*, 25 (2011) 3027-3034
9. *Unconventional Photonic Gaps of a one dimensional photonic band gap structure*
Munazza Zulfiqar Ali, *Optica Applicata*, vol. XLI No. 3 (2011)744-750
10. *Properties of single and multiple defect modes in one dimensional photonic crystals containing left handed*
Munazza Zulfiqar Ali , *Chin. Opt. Lett.* 10, (2012), 071604
11. *Effective medium parameters for 1D photonic crystals containing single negative materials using the envelope function approach,*
Munazza Zulfiqar Ali, *Chin. Opt. Lett.* 11 (2013) 040501
12. *Optical Tamm states at interfaces of different periodic media containing single and double negative material layers*
Maryam Saeed, Munazza Zulfiqar Ali, *The Nucleolus* 50, (2013), 289
13. *Ion Acoustic Solitons in Dense Magnetized Plasmas with Non-relativistic and Ultra-relativistic Degenerate Electrons and Positrons.*
Safeer Sadiq, Shahzad Mehmood, Q. Haque, Munazza Zulfiqar Ali, *The Astrophysical Journal*, 793: 27 (2014)
14. *Global Global transmission diagrams for evanescent waves in a nonlinear hyperbolic metamaterial.*
Munazza Zulfiqar Ali, Ashfaq Ahmad Bhatti, Qamar ul Haque, and Shahzad Mahmood, *Chin. Opt. Lett.* 13(9), 090601 (2015).
15. *Nonlinear Tunneling of Surface Plasmon Polaritons in Periodic Structures Containing Left-Handed Metamaterial Layers*
Munazza Zulfiqar Ali, *Advances in Condensed Matter Physics* , Volume 2015, Article ID 343864, 5 pages
16. *Arbitrary amplitude electrostatic waves propagation in a magnetized dense plasma containing helium ions and degenerate electrons.*
**S. Mahmood, S. Sadiq, Q. Haque, Munazza Zulfiqar Ali
Physics of Plasmas 23, 062308 (2016)**

Research Students (Completed Work)

- **Maria Kiran**

Wave propagation in left-handed metamaterials (M.Phil thesis 2007-2009)

- **Masood-ul-Hassan Farooq**

Defect Modes in one-dimensional Photonic Crystals (M.Phil thesis 2008-2010)

- **Sajjad Ahmad**

Surface Plasmons Polaritons in left-handed metamaterials (M.Phil thesis 2009-2011)

- **Hafiz Masood**

Differential Detection of Faraday Rotation and Generation and Detection of Elliptically Polarized Light (Co-supervision) (B.Sc Hons.)

- **Amna Zahid**

Nonlinear Properties of left-handed metamaterial (M.Phil thesis 2009-2011)

- **Maryam Saeed**

Optical Tamm States at interfaces of Left-handed metamaterials (M.Phil thesis 2010-2012)

- **Zunera Akhtar**

Nonlinear surface plasmons in left handed metamaterials (M.Phil thesis 2010-2012)

- **Misbah Batool**

Optical Bistability in one dimensional photonic Crystals (M.Phil thesis 2011-2013)

- **Khadija Karim**

Plasmon Polariton in Hyperbolic metamaterials. (M.Phil thesis 2011-2013)

- **Adeel Akram**

Negative refraction in metamaterials (M.Phil (2013-15)

- **Zobia Afzal**

Surface Plasmons in Hyperbolic Metamaterials (M.Phil 2013-15)

- **Hasnain Haider**

Wave Propagation in Photonic HyperCrystals. (M.Phil 2014-16)

References

- **Professor Dr. Tariq Abdullah**
Centre for Solid State Physics, Punjab University, Lahore Pakistan
(PhD Advisor)
- **Professor Dr. Stephen Hughes**
Physics Department, Queens University, Kingston, Canada
(PhD External thesis evaluator)