

Date: 28-09-2015

CURRICULUM – VITAE

Name: DR. MONICA GAMBHIR

Personal Information:

Date of Birth: 20-12-1979

Citizenship: Indian

Present Position: Assistant Professor on Ad-hoc basis

Official Address: Swami Shraddhanand College, (University of Delhi)
Alipur, Delhi - 110036

Address for Correspondence: G-2/38, first floor, Sector-16, Rohini,
Delhi-110085

Mobile No.: 9899891248

E-mail address: monica.gambhir@yahoo.com, monicagdu@gmail.com

Date of Appointment in the College: 09-08-2011

Total Teaching Experience: more than seven years

Native Place: Delhi, India

Education:

- **Bachelor of Physics** from Miranda House College, University of Delhi, with an aggregate of 74.74% in the year 2000.
- **B.Ed.** from GGSIPU, Delhi with an aggregate of 79.7 in the year 2002.

- **Master of Physics** from Miranda House College, University of Delhi, with an aggregate of 71.70% in the year 2003.
- Qualified **CSIR (NET)** with JRF in Dec, 2004.
- Completed **Ph.D. in Physics** in July 2010 from Department of Physics and Astrophysics, University of Delhi entitled” **Laser Field Effects on Intersubband Transitions in Quantum Nanostructures.**” under supervision of Prof. Man Mohan

Teaching experience

- **Swami Shraddhanand College, University of Delhi**
August 2011-Continuing
 - Designation : Ad-hoc Assistant Professor
 - Department : Physics
 - Courses Taught : B.Sc. (H) Physics and B.Sc. (Physical Science)
- **Institute of Home Economics, University of Delhi**
July 2011-August 2011
 - Designation : Ad-hoc Assistant Professor
 - Department : Physics
 - Courses Taught : B.Sc. (Home Science)
- **Miranda House, University of Delhi**
December 2010-June 2011
 - Designation : Ad-hoc Assistant Professor
 - Department : Physics
 - Courses Taught : B.Sc. (H) Physics and B.Sc. (Applied Physical Sciences)
- **Daulat Ram College, University of Delhi**
August 2008 - November 2010
 - Designation : Ad-hoc lecturer
 - Department : Physics
- **Miranda House, University of Delhi**
July 2006- October 2006, February 2007 - April 2007 and July 2008 - August 2008
 - Designation : Ad-hoc lecturer
 - Department : Physics
 - Courses Taught : B.Sc. (H) Physics and B.Sc. (Applied Physical Sciences)

Fellowship and Awards:

- CSIR JRF from the year 2005-2007
- CSIR SRF from the year 2007-2008
- Member of Organizing Committee of 2nd International Conference on Atomic, Molecular and Optical Physics with Applications"(CDAMOP), held at University of Delhi, Delhi-110 007, India (March 21- 23, 2006).
- Member of Organizing Committee of 3rd International Conference on Atomic, Molecular, Optical and Nano Physics with Applications"(CDAMOP) at University of Delhi, Delhi-110 007, India (December 14-16, 2011).
- Member of Organizing Committee of 4th International Conference on Atomic, Molecular, Optical and Nano Physics with Applications (CDAMOP) at University of Delhi, Delhi-110 007, India (March 11-14, 2016).

International /National Positions and/or Awards/ Fellowships: NA

List of Students Awarded Ph.D./M/Phil.: NA

List of Students Pursuing Ph.D./M.Phil. : NA

List if Students guided for /M.Tech./B.Tech/B.Sc./M.Sc./B.A./M.A. Projects etc. . NA

List of students guided for Summer projects: NA

List of Students guided for Innovation Projects: NA

REVIEWER INTENATIONAL/National JOURNALS: NA

Member International/National Journal editorial Board etc.: NA

Research Projects/ Innovation Projects Undertaken: NA

(i) Completed

(ii) Ongoing

Research Interests:

Understanding the physics of matter structured at the nanometer scale is one of the most active areas of research today. Much more attention is being paid to the study of the physics of low dimensional quantum nanostructures such as quantum well, quantum wire and quantum dot systems. Just like all the branches of science, both experimentalist and theorist are working on the study of various properties of quantum nanostructures. In

recent years the nonlinear properties of quantum nanostructures have attracted considerable attention owing to their unusual electronic and optical properties and possible practical applications. The development and further improvement of laser technology elicits increasing interest in a theoretical description of the phenomena involved in the effect of intense electromagnetic radiation on heterostructures. My research interests are in the physics and applications of quantum nanostructures, especially their study in electric, magnetic and laser fields. In our research, we are using various scientific programming languages such as FORTRAN, Mathematica, Matlab and C++ and Latex is also used as publishing software. A better understanding of the optical properties of these structures is having potential for practical application of the electrooptical devices

Computer Literacy:

Knowledge and experience of Windows 7, MS Word, MS Access, using email and the Internet. ICT is used for research work covering a range of software including simulations and modeling tools, spreadsheets and graphing tools, information resources such as the internet, presentation technologies such as digital projectors etc. Extensively using Fortran Programming, Linux/Latex and MS Office tools for research work.

Contribution in International Conferences/Seminars/Workshops : NA

Contribution in National Conferences Seminars/Workshops : Conference Abstracts

1. **Monica Gudwani**, Vinod Prasad and Man Mohan.
Laser induced Intersubband transitions in a quantum dot.
XVI National Conference on Atomic and Molecular Physics, TIFR, Mumbai,
January 8-11, 2007.
2. **Monica Gudwani**, Vinod Prasad, P. K. Jha and Man Mohan
Intense Laser Field Effects on the Intersubband Optical Transitions in a Double
Quantum Well.
Topical Conference on Atomic and Molecular Physics (TC2008), Department of
Physics, Sardar Patel University, Vallabh Vidyanagar, Gujarat, January (3-5
2008).

3. **Monica Gudwani**, Pradeep Kumar Jha, Siddhartha Lahon and Man Mohan. Optical control of population transfer in a double quantum well using delayed laser pulses. International Conference on Transport and Optical Properties of Nanomaterials (ICTOPON 2009), University of Allahabad.

LIST OF PUBLICATIONS:

1. **Monica Gudwani**, Vinod Prasad, Pradeep Kumar Jha and Man Mohan. Photon-Assisted Intersubband Transitions in a Quantum Wire. NANO © World Scientific, Vol.1, No. 3 (2006) **213-218**.
ISSN: 1793-7094
Impact Factor: 1.167
2. **Monica Gudwani**, Vinod Prasad, Pradeep Kumar Jha and Man Mohan. Intersubband Transitions in Coupled Quantum Wells under an Intense Laser Field. International Journal of Nanoscience, Vol. 7, Nos. 4 & 5 (2008) **215–221**.
Online ISSN: 1793-5350
3. **Monica Gambhir**, Siddhartha Lahon, Pradeep Kumar Jha and Man Mohan. Laser-induced adiabatic population transfer in asymmetric quantum wells. NANO © World Scientific **4** (2009) 289.
ISSN: 1793-7094
Impact Factor: 1.167
4. Siddhartha Lahon, **Monica Gambhir**, Pradeep Kumar Jha and Man Mohan. Multiphoton excitation of disc shaped quantum dot in presence of laser (THz) and magnetic field for bioimaging. Physica status solidi (b) 247 (2010) 962.
Online ISSN: 1521-3951
Impact factor: 1.489.
5. **Monica Gambhir**, Manoj Kumar, P. K. Jha, Man Mohan. Linear and nonlinear optical absorption coefficients and refractive index changes associated with intersubband transitions in a quantum disk with flat cylindrical geometry. Journal of Luminescence 143 (2013) 361–367.
ISSN: 0022-2313

Impact Factor: 2.144

6. **Monica Gambhir**, Sukirti Gumber, P.K. Jha, Man Mohan
Dependence of Electromagnetically Induced Transparency on Pressure and
Temperature in a Quantum Dot with Flat Cylindrical Geometry.
Superlattices and Microstructures 71 (2014) 147–161
ISSN: 0749-6036

Impact Factor: 1.564

7. Sukirti Gumber, Manoj Kumar, **Monica Gambhir**, Man Mohan and P. K. Jha
Thermal and magnetic properties of cylindrical quantum dot with asymmetric
confinement.
Canadian Journal of Physics, Published on the web 8 June 2015, 10.1139/cjp-
2014-0688

Impact factor: 0.96

**List of Books/Monographs Published (along with the Publisher's name and ISBN
No. and year of Publication): NA**

**Articles in Edited Books/Conference Proceedings/Book Chapter
Published**

Monica Gudwani, Siddharha Lahon, Pradeep Kumar Jha and Man Mohan.
Optical Control of Population Transfer in a Double Quantum well using Delayed Laser
Pulses
Laser and Bose-Einstein Condensation Physics
Editor(s): Man Mohan, Anil Kumar, Aranya B. Bhattacharjee, Anil Kumar Razdan
ISBN: 978-81-8487-064-0
Publication Year: 2010

Journal Proceedings/ Journals Edited (Conference Proceeding)

Influence of hydrostatic pressure and temperature on subluminal and superluminal pulse
propagation in a flat quantum disk
Monica Gambhir, Sukirti Gumber, P. K. Jha and Man Mohan

M-6, CDAMOP 2015, Pg No. XXXII

Popular articles published / Articles published in newspapers etc.: NA

Professional Association and Membership of Learned Bodies: NA

Any Other information: -