

# Curriculum Vitae

Dr. RASHI GUPTA



## Personal Profile

Name : Dr. Rashi Gupta  
Father's Name : Dr. Krishan Kant  
Mother's Name : Dr. Laxmi Gupta  
Date of Birth : November 22, 1992  
Nationality : Indian  
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## Education

Qualification	School / College / University	Year
10 <sup>th</sup>	Modern Vidya Niketan Sr. Sec. School, Faridabad, Haryana	2008
12 <sup>th</sup>	Modern Vidya Niketan Sr. Sec. School, Faridabad, Haryana	2010
B.Sc.(H) Physics	Hansraj College, University of Delhi, New Delhi	2013
M.Sc. (Physics)	Department of Physics and Astrophysics, University of Delhi, New Delhi	2015
Ph. D.	University School of Basic and Applied Sciences, GGS Indraprastha University, Dwarka, New Delhi	2019

**Specialization:** Materials Science, Condensed Matter Physics, Ion Beam Modification of Materials, Track-Etch Nano and Micro Technology

## Visits Abroad for Academic Pursuits:

- ✓ Kyoto, Japan
- ✓ Strasbourg, France
- ✓ Phoenix, Arizona, USA
- ✓ Paris, France
- ✓ Singapore

## List of Publications in International Journals

1. “Influence of low energy (keV) negative Li ion implantation on properties of electrochemically induced scaffold-based growth of PbSe nanowires”, **Rashi Gupta** and Rajesh Kumar, *Journal of Materials Science: Materials in Electronics*, 2019, 30(3), 2192-2212. [Springer-2.22].
2. “Effect of SHI on properties of template synthesized Cu nanowires”, **Rashi Gupta**, R.P. Chauhan, S.K. Chakarvarti, Rajesh Kumar, *Ionics*, 2019, 25(1), 341–352. [Springer-2.354].
3. “Influence of low energy ion beam implantation effect on Cu nanowires synthesized using template based electrodeposition”, **Rashi Gupta** and Rajesh Kumar, *Nano-Structures & Nano-Objects*, 2019, 18, 100318-100326. [Elsevier-4.25]
4. “Enhanced field emission from copper nanowires synthesized using ion track-etch membranes as scaffolds”, **Rashi Gupta**, R. P. Chauhan, S. K. Chakarvarti, M. K. Jaiswal, D. Ghoshal, S. Basu, S. Suresh, S. F. Bartolucci, N. Koratkar and Rajesh Kumar, *Journal of Materials Science: Materials in Electronics*, 2018, 29 (22), 19013–19027. [Springer-2.22]
5. “Gamma ray induced modifications in copper microwires synthesized using track-etched membrane”, **Rashi Gupta**, Rajesh Kumar, R.P. Chauhan, S.K. Chakarvarti, *Vacuum*, 2018,148, 239-247. [Elsevier-2.9]
6. “Electronic energy loss ( $S_e$ ) sensitivity of electrochemically synthesized free-standing Cu nanowires irradiated by 120 MeV high energy ion beam of different atomic mass”, **Rashi Gupta** and Rajesh Kumar, *Applied Physics A*, 125, 835-850, 2019. [Springer-1.81].
7. “Influence of gamma radiation on the optical, morphological, structural and electrical properties of electrodeposited lead selenide nanowires”, **Rashi Gupta**, R. P. Chauhan and Rajesh Kumar, *Optical Materials*, 99, 109538, 2020 [Elsevier 2.0]
8. “Effect of annealing on the surface morphology, optical and structural properties of nano dimensional tungsten oxide prepared by coprecipitation technique”, J. Ram, R. G. Singh, **Rashi Gupta**, V. Kumar, F. Singh and Rajesh Kumar, *Journal of Electronic Materials*, 2019, 48(2), 1174-1183. [Springer 1.7]
9. “Modification in the properties of SnO<sub>2</sub> & TiO<sub>2</sub> nanocomposite thin films by low energy ion irradiation”, V. Kumar, M. K. Jaiswal, **Rashi Gupta**, P. K. Kulriya, K. Asokan, I. Sulania, S. Ojha and Rajesh Kumar, *Journal of Integrated Ferroelectrics*, 2018, 193, 88-99. [Taylor & Francis-0.5].
10. “High energy 120 MeV Ti<sup>9+</sup> ion beam induced modifications in optical, structural and surface morphological properties of titanium dioxide thin films”, V. Kumar, **Rashi Gupta**, J. Ram, P.

- Singh, V. Kumar, S. K. Sharma, R. S. Katiyar and Rajesh Kumar, *Vacuum*, 2019, 166, 323-334. [Elsevier].
11. “Effect of low energy (keV) ion irradiation on structural, optical and morphological properties of SnO<sub>2</sub>-TiO<sub>2</sub> nanocomposite thin films”, V. Kumar, M. K. Jaiswal, **Rashi Gupta**, J. Ram, I. Sulania, S. Ojha, X. Sun, N. Koratkar, Rajesh Kumar, *Journal of Materials Science: Materials in Electronics*, 2018, 29 (15), 13328–13336. [Springer].
  12. “Modifications in physico-chemical properties of 100 MeV oxygen ions irradiated polyimide Kapton-H polymer”, S. K. Gupta, **Rashi Gupta**, P. Singh, V. Kumar, M. K. Jaiswal, S.K. Chakarvarti, Rajesh Kumar, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, 2017, 406, 188-192. [Elsevier 1.3].
  13. “Ion implantation effects of negative oxygen on copper nanowires”, P. Rana, C. Narula, A. Rani, R. P. Chauhan, **Rashi Gupta**, Rajesh Kumar. *Journal of Materials Science: Materials in Electronics*, 2017, 28(14), 9998-10006. [Springer].
  14. “Radiation induced nano-scale free volume modifications in amorphous polymeric material: a study using positron annihilation lifetime spectroscopy”, Rajesh Kumar, P. Singh, S. K. Gupta, **Rashi Gupta**, M. K. Jaiswal, M. Prasad, A. Roy Chowdhury, R. P. Chauhan, D. Das, *Journal of Radioanalytical and Nuclear Chemistry*, 2017, 314(3), 1659-1666. [Springer 1.0].
  15. “Development of WO<sub>3</sub>-PEDOT: PSS hybrid nanocomposites based devices for energy and environment application”, J. Ram, R. G. Singh, F. Singh, V. Kumar, V. Chauhan, **Rashi Gupta**, U. Kumar, B. C. Yadav and Rajesh Kumar, *Journal of Materials Science: Materials in Electronics*, 2019, 30, 13593-13603. [Springer].
  16. “High energy 120 MeV Au<sup>9+</sup> ion beam induced modifications and evaluation of craters in surface morphology of SnO<sub>2</sub> and TiO<sub>2</sub> nanocomposite thin films”, V. Kumar, **Rashi Gupta**, V. Chauhan, J. Ram, P. Singh, M. Prasad, R. Mehra and Rajesh Kumar, *Applied Nanoscience*, 9(6), 1265–1280, 2019 [Springer 3.2].
  17. “High energy (150 MeV) Fe<sup>11+</sup> ion beam induced modifications of physicochemical and photoluminescence properties of high-k dielectric nanocrystalline zirconium oxide thin films”, V. Chauhan, **Rashi Gupta**, V. Kumar. J. Ram, F. Singh, M. Prasad, S. Kumar, S. Ojha, P. A. Alvi, R. Mehra, Rajesh Kumar, *Ceramics International*, 45(15), 18887-18898 2019. [Elsevier].
  18. “Study of humidity sensing properties and ion beam induced modifications in SnO<sub>2</sub>-TiO<sub>2</sub> nanocomposite thin films” Vikas Kumar, Vishnu Chauhan, Jagjeevan Ram, **Rashi Gupta**, Shalendra Kumar, Priyanka Chaudhary, B.C. Yadav, Sunil Ojha, Indra Sulania, Rajesh Kumar, *Surface & Coatings Technology*, 392, 125768, 2020 [Elsevier 3.8].

Google scholar link: <https://scholar.google.co.in/citations?user=gzdFxcYAAAAJ&hl=en>

### Papers Presented in International/ National Conferences/ Seminars/ Workshops

1. “Physico-chemical, optical and electrical properties of lead selenide nanowires synthesized by template electrodeposition in polycarbonate membrane” paper presented

- at 8th International Conference on Nanostructures, Nanomaterials and Nanoengineering (ICNNN 2019) organized at **Kyoto, Japan** during October 11-14, 2019.
2. “120 MeV Au<sup>9+</sup> ion induced modifications of template synthesized PbSe nanowires for thermoelectric applications” presented a paper at the 2018 MRS Spring Meeting & Exhibit organized at **Phoenix, Arizona, USA** during April 2-6, 2018.
  3. “Effect of SHI on properties of template synthesized Cu nanowires” paper presented at International Conference on Science and Engineering of materials (ICSEM 2018) organized by **Sharda University, Greater Noida, India** during January 06 - 08, 2018.
  4. “Effect of aluminium ion implantation on structural, morphological, electrical and mechanical properties of template electro synthesized Cu nanowires” presented paper at 4<sup>th</sup> International Conference on Application of RadiotraCers and Energetic Beams in Sciences (ARCEBS 2018), organized at **The Ffort Raichak, Kolkata, India** during November 11-17, 2018.
  5. “Low energy ion beam implantation effect on Cu nanowires synthesized using template-based electrodeposition” presented a paper at International Conference on Soft Materials (ICSM 2018), organized at **MNIT Jaipur, India** during December 9-14, 2018.
  6. “Influence of gamma radiation on lead selenide nanowires with micrometer-scale lengths electrodeposited in porous template for potential energy applications” presented a paper at International Conference on Materials for Energy Applications (ICME-2018), organized at **S.S. Jain Subodh P. G. College, India** during December 6-8, 2018.
  7. “Controlled synthesis of semiconductor nanowire arrays using scaffold-based electrodeposition” presented a paper at National Conference on Nano Structured Materials and Device Technologies (NCNSMDT 2018) organized by **Aggarwal college Ballabgarh, Faridabad, India** during December 21 – 22, 2018.
  8. “Effect of pH of the electrolyte used in electrodeposition of copper nanostructures via template synthesis” presented paper at 5<sup>th</sup> National Conference on Nanoscience and Instrumentation Technology (NCNIT 2017) organized by **National Institute of Technology, Kurukshetra, Haryana, India** during March 05 - 06, 2017.
  9. “Effect of Ar<sup>+6</sup> ion implantation on the properties of Cu nanowires” presented a paper at International Conference on Materials Research and Technology (ICMRT 2017) organized by **Aggarwal college Ballabgarh, Faridabad, India** during July 10 – 11, 2017.
  10. “Modifications in properties of gamma irradiated low dimensional copper wires synthesized via ion track etch membrane” presented a paper at 27<sup>th</sup> International Conference on Nuclear Tracks and Radiation Measurements (ICNTRM 2017) organized by the **University of Strasbourg, Strasbourg, France** during August 28 - September 01, 2017.
  11. “Swift heavy ions induced modifications in Cu nanostructures synthesized using electrochemical deposition” presented paper at 27<sup>th</sup> International Conference on Nuclear Tracks and Radiation Measurements (ICNTRM 2017) organized by **University of Strasbourg, Strasbourg, France** during August 28-September 01, 2017.

12. "Study of diametric variation in the properties of Cu nanowires synthesized using polycarbonate track etch membrane" presented a paper at International Conference on Nanoscience and Nanotechnology (ICNN 2017) organized by **Babasaheb Bhimrao Ambedkar University, Lucknow** during September 22-24, 2017.
13. "Effect of oxygen ion implantation on the properties of PbSe nanowires" presented a paper at 4<sup>th</sup> International Conference on Nano structuring by Ion Beam (ICNIB 2017) organized by **Devi Ahilya University, Indore** during October 11-13, 2017.
14. "The comparison between the characteristics of track etch membrane based electrochemically synthesized and electroless deposited PbSe nanowires" presented a paper at 20<sup>th</sup> National Conference on Solid State Nuclear Track Detectors and Their Applications (SSNTDs 2017) organized by **VVIET, Mysore** during October 26 – 28, 2017.
15. "Template assisted synthesis of one-dimensional structures" presented a paper at National Conference on Recent developments in Science & Technology in the modern era (RDSTME-2017) organized by **Arya PG college Panipat, Haryana** on December 15, 2017.
16. "A review of electrochemical synthesis technique and use of titanium oxide nanostructures as sensors and devices" presented a paper at 4<sup>th</sup> National Conference on Nanoscience and Instrumentation Technology (NCNIT 2017) organized by **National Institute of Technology, Kurukshetra, Haryana, India** during June 04 - 05, 2016.

### **Short Term course/School Attended**

1. "Short term course on Emerging materials: Synthesis and characterization" organized by Department of physics at National Institute of Technology, Kurukshetra, Haryana during June 06-10, 2016.
2. Ph. D. Teaching Programme for course module "Ion beam induced modifications in solids" organized at IUAC, New Delhi during 19<sup>th</sup> Feb-16<sup>th</sup> March, 2018 and obtained grade "A".

### **Awards and Achievements**

1. **YOUNG SCIENTIST AWARD** by Nuclear Track Society of India at 21<sup>st</sup> National Conference on Solid State Nuclear Track Detectors and Their Applications organized by Department of Physics, Ramjas College and Department of Physics and Astrophysics, University of Delhi, New Delhi during January 29-31, 2021.
2. **INTERNATIONAL YOUNG SCIENTIST AWARD** for exemplary contribution towards Exploration in The Field of Nanotechnology and Nanoengineering Research by Global Achievers Foundation at Indo-Thai Friendship Summit-2020 held at Bangkok (Thailand) conferred by Hon'ble Mr. Korn Debbaransi, Former Deputy Prime Minister. Thailand.
3. **BEST ORAL** presentation award for "Physico-chemical, optical and electrical properties of lead selenide nanowires synthesized by template electrodeposition in polycarbonate membrane" paper presented at 8<sup>th</sup> International Conference on

Nanostructures, Nanomaterials and Nanoengineering (ICNNN 2019) organized at Kyoto, Japan during October 11-14, 2019.

4. **BEST POSTER** presentation award for “Effect of SHI on properties of template synthesized Cu nanowires” paper presented at International Conference on Science and Engineering of materials (ICSEM 2018) organized by Sharda University, Greater Noida, India during January 06 - 08, 2018.
5. **BEST ORAL** presentation award for “Controlled synthesis of semiconductor nanowire arrays using scaffold-based electrodeposition” presented a paper at International Conference on National Conference on Nano Structured Materials and Device Technologies (NCNSMDT 2018) organized by Aggarwal college Ballabgarh, Faridabad, India during December 21 - 22, 2018.
6. **BEST ORAL** presentation award for “Study of diametric variation in the properties of Cu nanowires synthesized using polycarbonate track etch membrane” paper presented at International Conference on Nanoscience and Nanotechnology (ICNN 2017) organized by Babasaheb Bhimrao Ambedkar University, Lucknow, India during September 22 - 24, 2017.
7. **BEST POSTER** presentation award for “Template assisted synthesis of one dimensional structure” paper presented at 4<sup>th</sup> National Conference on Recent Developments in Science and Technology in Modern Era (RDSTME 2018) organized by Arya P.G. College, Panipat, India on December 15, 2017.
8. **BEST ORAL** presentation award for “Comparison between the characteristics of track etchmembrane based electrochemically synthesized and electroless deposited PbSe nanowires” paper presented at 20<sup>th</sup> National Conference on Solid State Nuclear Track detectors and Their Applications (SSNTDs 20) organized by Vidya Vikas Institute of Engineering and Technology, Mysore, India during October 26 - 28, 2017.
9. **BEST ORAL** presentation award for “Effect of Ar<sup>+6</sup> ion implantation on properties of Cu nanowires” paper presented at International Conference on Materials Research and Technology (ICMRT 2017) organized by Aggarwal College Ballabgarh, India during July 10 - 11, 2017.
10. **BEST ORAL** presentation award for “Effect of pH of the electrolyte used in electrodeposition of copper nanostructures via template synthesis” paper presented at 5<sup>th</sup> National Conference on Nanoscience and Instrumentation Technology (NCNIT 2017) organized by National Institute of Technology, Kurukshetra, Haryana, India during March 05 - 06, 2017.