Dr. Jeewan Sharma

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Academic Qualifications:

- **Ph.D. (Experimental Condensed Matter Physics)** from Panjab University Chandigarh, India (October 2008).
  Thesis title: "Preparation and Characterization of Selenium based Nanocrystalline Thin Films" (supervisor: Dr. S.K. Tripathi)
- **M.Sc.** in 1st class from Panjab University, Chandigarh, India (2002).
- **B.Sc. (Non-Medical)** in 1st Class from H.P. University, Shimla, India (2000).
- **CSIR-UGC JRF (NET)**
  - **(2003)** under Roll No. 503526 vide CSIR letter no. F.No.10-2(5)2003(I)-EU. II dated 01-11-2003.
  - **(2004)** under Roll No. 504617 vide CSIR letter no. F.No.10-2(5)2004(i)-E.U. II dated 01-12-2004.

Professional Experience

- **Senior Research Fellow (CSIR Project, New Delhi)** (Experimental Condensed Matter Physics): worked on the preparation of nanocrystalline thin films and their characterizations (structural thermal, electrical, photoelectrical and optical) in department of Physics, Panjab University Chandigarh (India).

Research Experience details

Fields: Experimental Condensed Matter Physics. Structural, electrical, photoelectrical, thermal and optical properties of nanocrystalline semiconductors thin films. More than 5 years experience in Experimental Condensed Matter Physics (Structural, Thermal, electrical, photo-electrical and optical properties.) at Panjab University, Chandigarh, India.

During *Ph.D.* I have earned good experience in developing instrumentation for the experiments (e.g. preparation of amorphous semiconductor materials, nanocrystalline thin films, muffle furnace, vacuum systems and low temperature experiments) and microelectronics applications. I have good experience in the development and process optimization for the different measurement systems (coating unit, ac and dc impedance spectroscopy, XRD and SEM etc.) for the characterization of the semi-conducting materials also. The structural, electrical and optical properties of CdSe, SnSe and ZnSe nanocrystallites have been studied. Studies also have been made for the annealing effects on nanocrystalline semiconductor materials.

Experience/ Academic Honours, Awards:

- Presently working as Assistant Professor in Department of Nanotechnology, Sri Guru Granth Sahib World University, Fatehgarh Sahib. Teaching Quantum Mechanics for M. Tech. from July 2012 to till date.

- Worked as Sr. Lecturer in the Department of Physics, Maharishi Markandeshwar University, Mullana, Ambala. Taught Applied Physics I & II and Applied Physics Lab I & II for B. Tech. and Quantum Mechanics for M. Sc. from March 2010 to June 2012.
- Worked as a Lecturer in the Department of Physics, Maharishi Markandeshwar University, Mullana, Ambala. Taught Applied Physics I, Applied Physics II and Applied Physics Lab I, Applied Physics Lab II for B. Tech. and Quantum Mechanics for M. Sc. From July 2008 to February 2010.
- Worked as a Lecturer in Thapar University. Taught mathematical Physics for M. Sc., nano-science and nano-materials and Materials Science for B. Tech. during 2007-2008.
- Worked as a Lecturer in CAM Solutions, Taught basic applied Physics from July 2002 to July 2004.

Conferences/Workshops

- Presented paper in **National Conference on Nanoscience and Instrumentation Technology** at N.I.T. Kurukshetra on Mar. 28-29, 2013.
- Presented papers in **National Conference on Preservation of Environment: Challenges Before Humanity** at SGGSW University, Fatehgarh Sahib on Mar. 14, 2013.
- Presented paper in **International Conference on Emerging Trends in Physics for Environmental Monitoring & Management** at Punjabi University, Patiala on Dec. 17-19, 2012.
- Presented paper in **International Conference on Advancements and Future Ttrends in Mechanical and Materials Engineerig** at PTU Kapurthala on Oct. 05-07, 2012
- Attended **Short term course on Physics lab organization and updating** at NITTTR, Chandigarh on May 21-25, 2012.
- Presented papers in **National Conference on Global Upcomings in Environment, Science and Technology** at PTU, Gaini Zail Singh Campus, Bathinda on April 13-14, 2012.
- Attended **One Day Workshop on Water Conservation Practices** at M.M. University, Mullana on March 22, 2012
- Presented papers in **National Conference on Recent Trends in Materials Science** at Jay Pee University, Waknaghat during October 08-10, 2011.
- Attended **One Day Workshop on Phoenix Training Program** at M.M. University, Mullana on October 12, 2010.
- Attended **Expert Lecture on Intellectual Property Rights** at MMEC Mullana on Sept. 14, 2010.
- Attended **Workshop on Optical Thin Film Technology & Its Applications** at IDDC, Ambala Cantt. during August 25-27, 2010.
- Presented paper in **National Conference on Emerging Perspectives and Sustainable Developments in Physics** at D.A.V. College Abohar during November 18-19, 2009.
- Presented paper in **National Seminar on Theoretical and Experimental Techniques in Nanoscience and nanotechnology '*TETNN-07*'** at Deptt. of Physics, P.U. Chandigarh during March 29-30, 2007.
- Presented paper in **1st Chandigarh Science Congress** at P.U. Chd during March 10-11, 2007.
- Attended **National Meeting on Nano and Novel Materials *'NANM-2006'*** at Deptt. of Physics, P.U. Chandigarh during March 8-9, 2006.
- Presented paper in **15th International Symposium on Non Oxide and Optical Glasses, *'ISNOG-2006'*** at I.I.Sc. Bangalore during April 10-14, 2006.
- Presented paper in **International Conference on Optics and Optoelectronics, 'ICOL-2005'** at I.R.D.E. Dehradun during Dec. 12-15, 2005.
- Attended **49th DAE Solid State Physics Symposium** at Guru Nanak Dev University, Amtritsar during Dec. 26-30, 2004.

List of Scientific Publications

(a) Published in International/National Journals

1) Optical and electrical properties of ZnSe thin films: effect of vacuum annealing.
   Jeewan Sharma, Deep Shikha and S.K. Tripathi.
   Romanian Reports in Physics, **66(4)** (2014)
2) Electrical characterization of nanocrystalline zinc selenide thin films.
   Jeewan Sharma, Deep Shikha and S.K. Tripathi.
   Journal of Theoretical and Applied Physics **6(1)** (2012) 16.
3) Comparison of morphological and optical properties of nanocrystalline tin selenide powder and thin films
   Deep Shikha, R. P. Chauhan and **Jeewan Sharma**
   Optoelectronics and Advanced Materials: Rapid Communication, **6(7-8)** (2012) 734.
4) Influence of light irradiation on electrical and optical properties of nanocrystalline cadmium selenide thin films
   Jeewan Sharma and S.K. Tripathi.
   Digest Journal of Nanomaterials and Biostructures,**6 (3)** (2011) 1179.
5) Effect of deposition pressure on structural, optical and electrical properties of zinc selenide thin films
   Jeewan Sharma and S.K. Tripathi.
   Physica B, **406 (9)** (2011) 1757.
6) Thermal induced changes on optical and electrical properties of zinc selenide thin films
   Jeewan Sharma and S.K. Tripathi.
   Materials Science:An Indian Journal, **7 (2)** (2011).
7) Thermal induced changes on electrical and optical properties of nanocrystalline CdSe thin films.
   Jeewan Sharma, G.S.S. Saini, N. Goyal and S.K. Tripathi.
   Journal of Optoelectronics and Advanced Materials, **9** (2007) 3194.
8) Electrical properties of a-$Se_{85-x}Te_{15}Sn_x$ thin films.
   V. Sharma, A. Thakur, **Jeewan Sharma**, V. Kumar, S. Gautam and S.K. Tripathi.
   Journal of Non-Crystalline Solids, **353** (2007) 1474.
9) Proton induced changes on the optical parameters of a-$(Ge_{20}Se_{80})_{0.96}Ag_{0.04}$ thin films.
   S.K. Tripathi, A. Thakur, G. Singh, **Jeewan Sharma**, V. Sharma, K.P. Singh, G.S.S. Saini and N. Goyal.
   Journal of Materials Science Letters, **41** (2006) 1847.
10) Preparation and characterization of SnSe nanocrystalline thin films.
    Jeewan Sharma, G. Singh, A. Thakur, G.S.S. Saini, N. Goyal and S.K. Tripathi.
    Journal of Optoelectronics and Advanced Materials, **7** (2005) 2085.
11) Effect of Sb additive on the electrical properties of Se-Te alloy.
    S.K. Tripathi, V. Sharma, A. Thakur, **Jeewan Sharma**, G.S.S. Saini and N. Goyal.
    Journal of Non-Crystalline Solids, **351** (2005) 2468.
12) Irradiation effects on the optical properties of a-Ge-Se-Ag thin films.
    S.K. Tripathi, A. Thakur, G. Singh, **Jeewan Sharma**, V. Sharma, K.P. Singh, G.S.S. Saini and N. Goyal.
    Journal of Optoelectronics and Advanced Materials, **7** (2005) 2095.
13) Effect of Bi on the electrical properties of a-$Ge_{20}Se_{80}$ glasses.
    G. Singh, **Jeewan Sharma**, A. Thakur, N. Goyal, G.S.S. Saini and S.K. Tripathi.
    Journal of Optoelectronics and Advanced Materials, **7** (2005) 2069.

(b) Papers published in the Proceedings of Conferences:

1) Review of effect of deposition temperature & annealing on particle size of MSe thin films by Chemical Bath Deposition.
   Deep Shikha, J.K. Sharma and **Jeewan Sharma.**
   National Conference on Emerging Horizons in Science and Technology, Jan. 17-18, 2014.
2) Effect of pH on structural properties of nanocrystalline thin tin selenide films.
   Deep Shikha, R.P. Chauhan and **Jeewan Sharma.**
   National Conference on Nanoscience and Instrumentation Technology, Mar. 28-29, 2013
3) Feasibility of natural minerals as gamma rays shielding materials.
   Harpreet Singh, **Jeewan Sharma**, Parjit S. Singh and Tejbir Singh

National Conference on Preservation of Environment: Challenges Before Humanity, March 14, 2013.

4) Environmental issues for semiconducting nanoparticles.
   Alka Monga, Tejbir Singh and **Jeewan Sharma.**
   National Conference on Preservation of Environment: Challenges Before Humanity, Mar. 14, 2013.
5) Structural and optical properties of chemically deposited nanocrystalline SnSe thin films.
   Deep Shikha, R.P. Chauhan and **Jeewan Sharma.**
   International Conference on Emerging Trends in Physics for Environmental Monitoring & Management, Dec. 17-19, 2012.
6) Structural properties of nanocrystalline SnSe thin films deposited at different substrate temperatures.
   Deep Shikha, R.P. Chauhan and **Jeewan Sharma**.
   International Conference on Advancements and Future Ttrends in Mechanical and Materials Engineerig, October 05-07, 2012
7) Effect of stabilizer on structural properties of ZnO thin films.
   Deep Shikha, Vimal Mehta, S.C.Sood, and **Jeewan Sharma.**
   National Conference on Global Upcomings in Environment, Science and Technology, April 13-14, 2012.
8) Mobility activation in nanocrystalline ZnSe thin films: Effect of deposition pressure.
   Jeewan Sharma, Deep Shikha and S.K. Tripathi.
   National Conference on Recent Trends in Materials Science, October 08-10, 2011
9) Structural properties of nanocrystalline SnSe powder and thin films.
   Deep Shikha, R.P. Chauhan and **Jeewan Sharma**.
   National Conference on Recent Trends in Materials Science, October 08-10, 2011
10) Effective atomic number studies for some chalcogenide thin films.
    Tejbir Singh, J.K. Sharma and **Jeewan Sharma**.
    National Conference on Emerging Perspectives and Sustainable Developments in Physics, November 18-19, 2009.
11) Effect of light irradiations on electrical and optical properties of nanocrystalline SnSe thin films.
    Jeewan Sharma, G.S.S. Saini, N. Goyal and S.K. Tripathi
    National Seminar on Theoretical and Experimental Techniques in Nanoscience and nanotechnology, March 29-30, 2007.
12) Light induced changes on the electrical and optical properties of nanocrystalline CdSe thin films.
    Jeewan Sharma, G.S.S. Saini, N. Goyal and S.K. Tripathi.
    1st Chandigarh Science Congress, March 10-11, 2007.
13) Preparation and characterization of diamond like carbon thin films.
    S.K. Tripathi, S. Gupta, **Jeewan Sharma**, F.I. Mustafa, N. Goyal and G.S.S. Saini.
    1st Chandigarh Science Congress, March 10-11, 2007.
14) Determination of trap density by space charge limited current in amorphous glassy alloy.
    Alka Monga, **Jeewan Sharma** and S.K. Tripathi.
    National Conference on Recent Advances in Material Science, Sept. 27-29, 2006.
15) Effect of light irradiations on electrical and optical properties of nanocrystalline SnSe thin films.
    Jeewan Sharma, A. Thakur, G.S.S. Saini, N. Goyal and S.K. Tripathi.
    15th International Symposium on Non Oxide and Optical Glasses, April 10-14, 2006.
16) Optical and electrical characterization of nanocrystalline SnSe thin film.
    Jeewan Sharma, G. Singh, A. Thakur, G.S.S. Saini, N. Goyal and S.K. Tripathi.
    International Conference on Optics and Optoelectronics, 'ICOL-2005' Dec. 12-15, 2005.
17) Effect of irradiation on the optical parameters of a-$(Ge_{20}Se_{80})_{0.96}Ag_{0.04}$ thin films.
    G. Singh, **J. Sharma**, A. Thakur, K.P. Singh, G.S.S. Saini, N. Goyal and S.K. Tripathi.
    49th DAE Solid State Physics Symposium, Dec. 26-30, 2004.
18) Optical properties of a-Ge-Se-Sn Thin Films.
    A. Thakur, V. Sharma, G. Singh, **Jeewan Sharma**, G.S.S. Saini, N. Goyal and S.K. Tripathi.
    7th International Conference on Optoelectronics, Fiber Optics and Photonics, Dec. 09-11, 2004.