

**Prof. Meryam Sardar**

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New Delhi - 110 025.

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**Research Interest: Separation of Enzymes; Enzyme stabilization, Industrial applications of enzymes, Nanobiotechnology.**

*Educational Qualification*

1998 *Ph. D.* Indian Institute of Technology, Delhi.

*Thesis Title*, “Applications of reversibly soluble insoluble polymers in bioseparation and enzyme immobilization”.

1991 *M.Sc.*, Biotechnology, Aligarh Muslim University, Aligarh.

1989 *B.Sc. (Hons)*, Chemistry, Aligarh Muslim University, Aligarh.

**CURRENT APPOINTMENT**

- Working as Professor in the Department of Biosciences, Jamia Millia Islamia, New Delhi-110025. (from 2013- till date)

**PREVIOUS APPOINTMENTS**

- Associate Professor Feb2009-March 2013
- Reader (Dept. of Biosciences, JMI) **Feb 2006- Feb2009**
- *Young Scientist (Principal Investigator)* *Nov. 2004-Feb 2006*  
Department of Science and Technology Sponsored Project.  
Indian Institute of Technology (IIT), New Delhi.
- *Senior Research Associate* *August 2001-August 2004*  
Council of Scientific Industrial Research (CSIR) sponsored research project  
Indian Institute of Technology (IIT), New Delhi.
- *Lecturer* *November 1998-March, 2001*  
Department of Biochemistry  
Hamdard University, New Delhi.
- *Project Scientist* *April, 1998-October 1998*  
Department of Biotechnology sponsored research project.  
Indian Institute of Technology (IIT), New Delhi

## PUBLICATIONS AND PRESENTATIONS

### *Papers Published in refereed journals*

1. Mir, I. A., Alam, H., Priyadarshini, E., Meena, R., Rawat, K., Rajamani, P., **Sardar. M** & Bohidar, H. B. (2018). Antimicrobial and biocompatibility of highly fluorescent ZnSe core and ZnSe@ ZnS core-shell quantum dots. *Journal of Nanoparticle Research*, 20(7), 174. **IF: 2.127**
2. Alam H, Khatoon N, Raza M, Ghosh PC and **Sardar M**. (2018). Synthesis and Characterization of Nano Selenium Using Plant Biomolecules and Their Potential Applications. *BioNanoScience*. DOI: 10.1007/s12668-018-0569-5.
3. Praveen, A., Khan, E., Perwez, M., **Sardar, M.**, & Gupta, M. (2018). Iron Oxide Nanoparticles as Nano-adsorbents: A Possible Way to Reduce Arsenic Phytotoxicity in Indian Mustard Plant (*Brassica juncea L.*). *Journal of Plant Growth Regulation*, 37(2), 612-624. **IF: 2.047**
1. Khatoon, N, Alam. H and **Sardar M**.(2018). Removal of toxic contaminants from water by sustainable Green synthesized silver nanoparticles. *IET Nanobiotechnology*, (In press). **IF: 2.059**.
2. Ahmad, T., Phul, R., Khatoon, N., & **Sardar, M**. (2017). Antibacterial efficacy of *Ocimum sanctum* leaf extract-treated iron oxide nanoparticles. *New Journal of Chemistry*, 41(5), 2055-2061. **IF: 3.277**
3. Khatoon, N., & **Sardar, M**. (2017). Efficient Removal of Toxic Textile Dyes using Silver Nanocomposites. *J Nanosci Curr Res*, 2(113), 2.
4. Perwez, M., Ahmad, R. and **Sardar, M.**, 2017. A Reusable Multipurpose Magnetic Nanobiocatalyst for Industrial Applications. *International Journal of Biological Macromolecules*. **IF: 3.909**
5. Khatoon N, Mazumder JA, **Sardar M** (2017) Biotechnological Applications of Green Synthesized Silver Nanoparticles. *J Nanosci Curr Res* 2: 107. **ISSN-** 2356-749X (Print); 2314-6931 (Online)

6. Mazumder, J.A., Ahmad, R. and **Sardar, M.**, 2016. Reusable magnetic nanobiocatalyst for synthesis of silver and gold nanoparticles. "International Journal of Biological Macromolecules", 93, pp.66-74.", **ISSN: 0141-8130** (Web of Science indexed) PubMed ID: 27581559. **IF: 3.909**
7. Batra, P., Mushtaq, A., Mazumder, J. and **Sardar, M.** Nanoparticles and their Applications in Orthodontics "Advances in Dentistry & Oral Health", 2016; 2(2): 555584. DOI: 10.19080/ADOH.2016.01.555584 **ISSN: 2472-6389**
8. Anjum, Uzma, **Sardar, M.**, et al. "Nanoparticle Synthesis and Oxygen Anion Diffusion in Double Perovskite GdBaCo<sub>2-x</sub>FexO<sub>5+δ</sub> Electrodes for SOFC." ECS Transactions 72.7 (2016): 111-116.
9. Mishra, A., Ahmad, R., Perwez, M., & **Sardar, M.** (2016). Reusable Green Synthesized Biomimetic Magnetic Nanoparticles for Glucose and H<sub>2</sub>O<sub>2</sub> Detection. *BioNanoScience*, 6(2), 93-102.
10. Husain, S., **Sardar, M.**, & Fatma, T. (2015). Screening of cyanobacterial extracts for synthesis of silver nanoparticles. *World Journal of Microbiology and Biotechnology*, 31(8), 1279-1283. ISSN: 0959-3993. **IF: 2.1**
11. Khatoon, N., Ahmad, R., & Sardar, M. (2015). Robust and fluorescent silver nanoparticles using *Artemisia annua*: biosynthesis, characterization and antibacterial activity. *Biochemical engineering journal*, 102, 91-97. **IF: 3.1**
12. Khatoon, N., Mishra, A., Alam, H., Manzoor, N., & **Sardar, M.** (2015). Biosynthesis, characterization, and antifungal activity of the silver nanoparticles against pathogenic *Candida* species. *BioNanoScience*, 5(2), 65-74.
13. Mishra, A., Singh, P., & **Sardar, M.** (2015). Peroxidase assisted biosynthesis of silver and gold nanoparticles: Characterization and computational study. *Advanced Materials Letters*, 6, 194-200. **IF: 1.46**
14. Mishra, A., & **Sardar, M.** (2015). Cellulase assisted synthesis of nano-silver and gold: Application as immobilization matrix for biocatalysis. *International journal of biological Macromolecules*, 77, 105-113. **IF: 3.909**
15. Mishra A, Ahmad R, & **Sardar M** (2015) Biosynthesized iron oxide nanoparticles mimicking peroxidase activity: Application for biocatalysis and biosensing. *Journal of Nanoengineering and Nanomanufacturing*, 5, 1-6

16. Ahmad, R., Mohsin, M., Ahmad, T., & **Sardar, M.** (2015). Alpha amylase assisted Synthesis of TiO<sub>2</sub> Nanoparticles: Structural Characterization and Application as Antibacterial Agents. *Journal of hazardous materials*.283, 171-177. **IF: 6.51**
17. Ahmad R, Mishra A, **Sardar M** (2014) Simultaneous Immobilization and Refolding of Heat Treated Enzyme on TiO<sub>2</sub> nanoparticles. *Advanced Science, Engineering and Medicine*. 6, 1-5
18. Ahmad, R., & **Sardar, M.** (2014). Immobilization of cellulase on TiO<sub>2</sub> nanoparticles by physical and covalent methods: a comparative study. *Indian journal of biochemistry & biophysics*, 51(4), 314-320. **IF: 0.38.**
19. Mishra, A., & **Sardar, M.** (2014). Alpha Amylase Mediated Synthesis of Gold Nanoparticles and Their Application in the Reduction of Nitroaromatic Pollutants. *Energy and Environment Focus*, 3(2), 179-184.
20. Ahmad, R., Khatoon, N., & **Sardar, M.** (2014). Antibacterial Effect of Green Synthesized TiO<sub>2</sub> Nanoparticles. *Advanced Science Letters*, 20(7-9), 1616-1620.
21. Pandey, C., Khan, E., Mishra, A., **Sardar, M.**, & Gupta, M. (2014). Silver Nanoparticles and Its Effect on Seed Germination and Physiology in *Brassica juncea* L. (Indian Mustard) Plant. *Advanced Science Letters*, 20(7-9), 1673-1676.
22. Ahmad, R., Khatoon, N., & **Sardar, M.** (2013). Biosynthesis, Characterization and Application Of TiO<sub>2</sub> Nanoparticles In Biocatalysis And Protein Folding. *Journal of Proteins & Proteomics*, 4(2), 115-121.
23. Mishra A, Kaushik NK, **Sardar M** and Sahal D (2013) Evaluation of antiplasmodial activity of green synthesized silver nanoparticles. *Colloids Surf B: Biointerfaces*.111, 713-718. **IF: 3.88**
24. Mishra A and **Sardar M** (2013) Rapid Biosynthesis of Silver Nanoparticles Using Sugarcane Bagasse-An Industrial Waste. *J. Nanoeng. Nanomanuf.* 3, 217-219.
25. Ahmad R and **Sardar M** (2013). Treatment of Industrial Textile Dye Waste Water by TiO<sub>2</sub>Nanobioconjugates. *International Journal of Environmental Research and Development*.3(3), 7-10.
26. Mishra A and **Sardar M.** (2013) Removal of phenols from aqueous solutions using Spent Mushroom Substrate. *International Journal of Applied Engineering Research*. 8 (10), 27-31.

27. Ahmad R and **Sardar M** (2013). TiO<sub>2</sub> nanoparticles as an antibacterial agent against *E. coli*. *International Journal of Innovative Research in Science, Engineering and Technology*. 2(8),3569-3574.
28. Ahmad R, Mishra A and **Sardar M** (2013). Peroxidase-TiO<sub>2</sub> nanobioconjugates for the removal of Phenols and dyes from aqueous solutions. *Advanced Science, Engineering and Medicine*. 5(10),1020-1025
29. Mishra A, Ahmad R, Singh V, Gupta MN and **Sardar M** (2013). Preparation, Characterization and Biocatalytic Activity of a Nanoconjugate of Alpha Amylase and Silver Nanoparticles. *J. Nanosci. Nanotechnol.* 13:5028-5033. **IF: 1.354**
30. Singh M, Kumar D, Yusuf MA, **Sardar M** and Sarin NB (2013). Effects of wild-type and  $\alpha$ -tocopherol-enriched transgenic *Brassica juncea* on the components of xenobiotic metabolism, antioxidant status, and oxidative stress in the liver of mice. *Transgenic Res.*22(4):813-22. **IF: 2.341**
31. Kumar, D., Yusuf, M. A., Singh, P., **Sardar, M.**, & Sarin, N. B. (2013). Modulation of antioxidant machinery in  $\alpha$ -tocopherol-enriched transgenic *Brassica juncea* plants tolerant to abiotic stress conditions. *Protoplasma*, 250(5), 1079-1089. PubMed PMID: 23361901. **IF: 2.457**
32. Mishra A and **Sardar M** (2012).Alpha amylase mediated synthesis of silver nanoparticles. *Science of Advanced Material.*4:143-146. **IF:1.31**
33. Mishra A, Mehdi SJ, Irshad M, Ali A, **Sardar M** and Rizvi MMA(2012).Effect of Biologically Synthesized Silver Nanoparticles on Human Cancer Cells. *Science of Advanced Material.* 4:1200-1206. **IF:1.31**
34. Aparna A, **Sardar M** and Dinkar S. Synergy with Rifampicin and kanamycin enhances potency, kill kinetics and selectivity of de novo designed antimicrobial peptides. *Antimicrobial agents and chemotherapy.* (2010). 54:1693-1699. **IF:4.30**
35. **Sardar M**, Varandani D, Mehta BR and Gupta MN. Affinity Directed assembly of multilayers of Pectinase. *Biocat. Biotrans.*(2008). 26, 1-8. **IF: 0.836**
36. **Sardar M**, Sharma A and Gupta MN. Refolding of a denatured alpha chymotrypsin and its smart bioconjugate by Three phase partitioning. *Biocat. Biotrans.*(2007).25:92-97. **IF: 0.836**

37. **Sardar M** and Gupta MN. Immobilization of Tomato pectinase on Con A-Seralose 4B by affinity layering. *Enzymes and Microbial. Technology* (2005).37:355-59. **IF:2.9**
38. Roy I, **Sardar M** and Gupta MN. Crosslinked alginate guar-gum beads as affinity media for purification of jacalin. *Biochem. Eng. J.* (2005).23:193-198.
39. Roy I, **Sardar M** and Gupta MN. Evaluation of smart bioconjugate of pectinase for chitin hydrolysis. *Biochem. Eng. J.* (2003).16:329-335.
40. Roy I, **Sardar M** and Gupta MN. Hydrolysis of chitin by pectinex. *Enzymes and Microbial.Technology.* (2003).32:582-588.
41. **Sardar M**, Roy I and Gupta MN. A smart bioconjugate of alginate and pectinase with unusual biological activity towards chitosan. *Biotech Prog.*(2003).19:1654 – 1658.
42. **Sardar M**, Roy I and Gupta MN. Simultaneous purification and immobilization of *A. niger*xylanase on the reversibly soluble polymer Eudragit L-100. *Enzymes and Microbial Technology.*,(2000).27: 672-679.
43. Roy I, **Sardar M** and Gupta MN. Exploiting unusual affinity of usual polysaccharides for separation of enzymes in fluidized bed mode. *Enzymes and Microbial Technology.*(2000).27: 53-65.
44. **Sardar M** and Gupta MN. Alginate as an affinity material for alpha amylases. *Bioseparation*,(1998). 7: 159-165.
45. **Sardar M**, Agarwal R, Kumar A, and Gupta MN. Noncovalent immobilization of enzymes on an enteric polymer Eudragit S-100. *Enzymes and Microbial Technology*, (1997). 20: 361-367.
46. Tyagi R, Kumar A, **Sardar M**, Kumar S and Gupta MN. Chitosan as an affinity macroligand for precipitation of N- acetylglucosamine binding proteins/enzymes. *Isolation and Purification*,(1996).2: 217-226.

### ***Book Chapters***

1. **Sardar, M.** Alam, H (2018). Green and Sustainable Selenium Nanoparticles and Their Biotechnological Applications, Green and sustainable Advanced Materials, Shakel Ahmed and Chaudhery Mustansar Hussain (eds), 333-354, Scrivener Publishing LLC.
2. **Sardar M.,** Mazumder J.A. (2019) Biomolecules Assisted Synthesis of Metal Nanoparticles. In: Dasgupta N., Ranjan S., Lichtfouse E. (eds) Environmental Nanotechnology. Environmental Chemistry for a Sustainable World, vol 21. Springer, Cham.
3. **Sardar, M.** Mohammad, P, Razi, A, Mukherjee, J, Gupta MN(2017). Immobilization of enzymes on magnetic nanoparticles. Encyclopedia of Nanoscience and Nanotechnology. H.S. Nalwa(eds), Volume 28, Pages 1-30, American Scientific publisher.
4. **Sardar, M.** Mishra, A (2015). Isolation of Genomic DNA by Silane-Modified Iron Oxide Nanoparticles. Nanotechnology: Novel Perspectives and Prospects. Bhupinder Singh et.al (Eds). Mc Graw Hill Education, India, New Delhi. (2015), 311-317.
5. **Sardar, M.,** Mishra, A., & Ahmad, R. (2014). Biosynthesis of Metal Nanoparticles and Their Applications. Ashutosh Tiwari and Anthony P.F. Turner (eds.) *Biosensors Nanotechnology*, 239-266. John Wiley & Sons, Inc.
6. Singh V, **Sardar M,** Gupta MN (2013). Immobilization of enzymes by bioaffinity layering. Guisan JM(eds). *Methods Mol Biol.*1051:129-37. Humana Press

### ***Papers presented in Conferences:***

- Mazumder J and Sardar. M. “Silver nanoparticles conjugated glass substrates for removal of microbial contaminants from Water” on International conference on Nanobiotechnology, 2018” organized by Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi on Feb 5-6, 2018.
- **Hammad A** and Sardar. M. “Green Synthesized Selenium Nanoparticles using Guava leaf extract and their Biomedical Applications. Symposium on Selenium Chemistry Biology” organized by BARC training school, Mumbai on November 9-11, 2017.

- Sardar M, **Perwez M**. “Enzymatic Approach for Biofilm removal” on Emergic discoveries in health and agricultural science” organized by SBC, JNU on 16-18 Nov, 2017.
- Sardar M, Mazumder J (2017), “A reusable enzyme system for synthesis of metal nanoparticles: A green Approach. “National Seminar on Recent Advances in Environmental Toxicology”, organized by Dept. of Bioscience, Jamia Millia Islamia, New Delhi on Feb. 13-14, 2017.
- Sardar M, Perwez M, Mazumder J (2017), “Green synthesised iron oxide nanoparticles for glucose and H<sub>2</sub>O<sub>2</sub> detection” National Seminar on Biophysics (BIOPHYSIKA-2017), organized by Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi on March 16th 2017.
- Sardar M and Khatoon N, Alam. H (2017). Treatment of Toxic Textile dyes with Biogenic Nano Silver. UGC-SAP sponsored National Seminar on Recent Advances in Environmental Toxicology, Organized by Dept. of Bioscience, Jamia Millia Islamia, New Delhi on Feb. 13-14, 2017.
- Sardar M, Batra P, Mazumder J (2016), “Application of Biosynthesized silver nanoparticles on Orthodontic removable appliances” International Conference on Advances in Nanomaterials and Nanotechnology, Organized by the Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi on November 4th to 5th, 2016.
- **Sardar M** and Khatoon N (2016). Green and sustainable silver nanoparticles for waste water treatment. International Conference and Expo on Waste Water and Novel Technologies, Conference Series LLC, Chicago, USA, July 18-19.
- Khatoon N, Alam H and and **Sardar M** (2016). Green Synthesized Silver Nanoparticles for Decolourization and Biodegradation of Azo Dye Compounds. International Conference on Emerging Trends in Biomedical Sciences, Department of Biochemistry, Aligarh Muslim University, March 6-8. Abstract page 197, Poster no. 110.
- Perwez M and **Sardar M** (2016). Agro-Waste Synthesized Iron Oxide Nanoparticles as Artificial Peroxidase. International Conference on Emerging Trends in Biomedical Sciences, Department of Biochemistry, Aligarh Muslim University, March 6-8. Abstract page 178, Poster no. 90.
- Alam H, Khatoon N and and **Sardar M** (2016). Biomimetic Synthesis of Silver Nanoparticles for Bioremeditation of Yamuna Water. Sixth International Conference on Metals in Genetics,



Chemical Biology and Therapeutics. Indian Institute of Science, February 17-20. Abstract page 145, Poster no. 43.

- Khatoon N and and **Sardar M** (2015). Synergistic Effect of Green Synthesized Silver Nanoparticles: A Study against Gram positive and Gram Negative Bacteria, National Conference on “Interdisciplinary Approach in Chemical Science”. Centre for Interdisciplinary Research in Basic Sciences, JMI. December 16. Abstract page 67, Poster no. 147.
- Mazumder J, Ahmad R and **Sardar M** (2015). Alpha Amylase Assisted Synthesis of Metal Nanocomposites. National Conference on “Interdisciplinary Approach in Chemical Science”. Centre for Interdisciplinary Research in Basic Sciences. December 16. Abstract page 28, Poster no. 21.
- Ahmad R, Mishra A and **Sardar M** (2014). Green Synthesized Magnetic Nanoparticles behaving as Artificial Peroxidase: Application in Waste Water Treatment. National Conference on Waste Disposal and its Effect on Biodiversity. Mohammad Ali Jauhar University, Rampur. November 15-16, 2014. Abstract Page: 24
- Khatoon N, Ahmad R and and **Sardar M** (2014). Robust and Fluorescent Silver Nanoparticles using *Artemisia annua* : Biosynthesis, Characterization and Antibacterial Activity. International Conference on Emerging Trends in Biotechnology, School of Environmental Science, JNU, New Delhi. November 6-9, Abstract page: M8, Poster no. MBF:24.
- Khatoon N, Ahmad R, Mishra A and **Sardar M** (2014). Effect of *Artemisia annua* assisted silver nanoparticles on oxidative enzymes of E. coli. National Seminar on Metal Toxicity and Oxidative stress, Department Of Biosciences, JMI 23-24 Sept. Abstract page: 93, Poster no. PP-15.
- Khatoon N, Ahmad R, and **Sardar M** (2014). Synthesis, Characterization and Antibacterial activity of Artemesia annua Leaf extract mediated silver nanoparticles. 1<sup>st</sup> International conference on emerging trends of nanotechnology in drug discovery. Organised by Sri Venketeswara College & Department of Biochemistry, University of Delhi south campus, INDIA. May 26-27. Abstract page: 82, Poster no. PP-68.
- Mishra A & **Sardar M.** (2014). Green synthesis of Copper Oxide Nanoparticles and their Characterization. National Conference on Nanotechnology and Renewable Energy (NCNRE-

14). Department of Applied Science and Humanities, JMI, New Delhi, India, April 28–29. Abstract page: 32, Poster no. A19

- Khatoon N, Mishra M and **Sardar M.** (2014). Biogenic Silver Nanoparticles using *Ocimum sanctum* leaf extract: Synthesis, spectral analysis and antifungal studies. International Conference on Chemical Biology. CSIR-IICT, Hyderabad. Abstract page: 195, Poster no. PP220.
- Mishra M and **Sardar M.** (2013). Alpha amylase mediated synthesis of gold nanoparticles and their application as chemocatalyst. International Conference on Plant Biotechnology, Molecular Medicine and Human Health. Department of Genetics, University of Delhi. Abstract page: 299, Poster no. P257.
- Ahmad R, **Sardar M** (2013). Treatment of Industrial Textile Dye Waste Water by TiO<sub>2</sub> Nanobioconjugates. Oral Presentation in proposed International Conference On “Sustainable Innovative Techniques In Civil and Environmental Engineering” (SITCEE- 2013) to be held on 5th-6th June 2013 at Jawaharlal Nehru University, New Delhi. Page. 7-10.
- Mishra A, **Sardar M** (2013). Removal of phenols from aqueous solutions using spent mushroom substrate. Oral Presentation in proposed “Various Facets of Energy Technologies and its Management for Sustainable Development” (ET & MSD-2013) to be held on 16-17 march 2013 at Jawaharlal Nehru University,
- Ahmad R, Mishra A and **Sardar M** (2012). Removal of Textile dyes from aqueous solution by Peroxidase adsorbed on TiO<sub>2</sub> nanoparticles. Interdisciplinary Science Conference 2012 (I-ISC) on “Protein Folding and Diseases” organized by the Centre for Interdisciplinary Research in Basic Sciences (CIRBSc) during December 8-10, 2012 at Jamia MilliaIslamia with Journal of Proteins and Proteomics **as Publication partner.** Abstract page 42.
- Mishra A, Ahmad R and **Sardar M** (2012). TiO<sub>2</sub> nanoparticles assisted refolding of denatured alpha amylase. Interdisciplinary Science Conference 2012 (I-ISC) on “Protein Folding and Diseases” organized by the Centre for Interdisciplinary Research in Basic Sciences (CIRBSc) during December 8-10, 2012 at Jamia Millia Islamia with Journal of Proteins and Proteomics **as Publication partner.** Abstract page 16.
- Ahmad R and **Sardar M** (2012). Adsorption of Cellulase on TiO<sub>2</sub> Nanoparticles with Enhanced Catalytic Activity. 81st Annual Meeting of Society of Biological Chemists (India)

and Symposium on Chemistry and Biology: Two Weapons against Diseases November 8 - 11, 2012 at Science City, Kolkata, India. Abstract page 135.

- Mishra A, Ahmad R and **Sardar M** (2011). Green synthesis of silver nanoparticles using soluble proteins of *Azadirachta indica* leaf. In 7th National Symposium and Conference on Solid State Chemistry & Allied Areas (ISCAS -2011) At Jamia MilliaIslamia, New Delhi. Abstract P. 96.
- Ahmad R, Mishra A and **Sardar M**(2011). Peroxidase TiO<sub>2</sub>nanoconjugates for the removal of phenols and dyes from aqueous solutions. 80<sup>th</sup> Annual meeting of the Society of Biological Chemists (India) Central Institute of Medicinal and Aromatic Plants (Council of Scientific and Industrial Research) Lucknow. Abstract p.65.
- Ahmad R and **Sardar M** (2010) Treatment of phenolic waste water by TiO<sub>2</sub> nanobioconjugates. In International Conference on Emerging Technologies for Sustainable Environment. AMU, Aligarh Page 29-31.
- Mondal K, **Sardar M**, Varandani, D Mehta BR and Gupta MN(2006) A nano level look at some novel biocatalyst designs by atomic force microscopy. In International conference on nano science and Technology. New Delhi, IIT, Delhi. Abstract p. 408.
- **Sardar M**, Agarwal R, Kumar A, and Gupta MN, (1996) Noncovalent immobilization of enzymes on an enteric polymer Eudragit S-100. In National symposium on molecular and cellular Biophysics and 23<sup>rd</sup> annual meeting of Indian Biophysical society, New Delhi, AIIMS. Abstract p. 175.

#### **Projects guided at post graduate level:**

1. Mohd Mohsin (2008): Immobilization of Horseradish peroxidase on TiO<sub>2</sub> Nanoparticles.
2. Nutan Singh (2008): Screening of *Anabaena* Strains for proteases, Co-supervisor Dr. Tasneem Fatma
3. Shah Saddad Hussain (2009): Comparing the activities of different Classes of antibiotics, Co-supervisor Dr. Dinkar Sahal, ICGEB
4. D. Yuveine (2009): Extracellular alpha amylase of cyanobacterium *Anabaena Sp. NCCU-9*: production and properties, Co-supervisor Dr. Tasneem Fatma.
5. Jaya Upreeti (2010): Refolding of thermally denatured alpha amylase on TiO<sub>2</sub> Nanoparticles.

6. Udeep Chawla (2010): Removal of phenol from aqueous solution by peroxidase of spent mushroom substrate.
7. Manish Kumar (2011): Removal of phenol from aqueous solution by peroxidase TiO<sub>2</sub> Nanoconjugate.
8. Mariyam Zuberi (2011): Green Synthesis of Silver nanoparticles.
9. Thoidingjam Shivani (2011): Screening of Plants for the synthesis of silver nanoparticles.
10. Rajeev kumar (2012): Radiation Induced Sudden Changes charges in Replication initiation step protein in Hela cell, Co-supervisor Dr. Sandeep Saxena, NII
11. Gaurav Sharma (2012): Genotyping of recombinant inbred lines for drought tolerance in chick pea ( *Cicer arietinum L.* ) Using SSR markers, Co-supervisor Dr. Pradeep Kumar, NRCPB, New delhi.
12. Nafeese Khatoon (2012): Green Synthesis of silver nanoparticles using Tulsi Leaf extract and their antifungal property, Co-supervisor Dr. Nikhat Manzoor.
13. Pooja (2012): Biosynthesis of gold nanoparticles mediated by alpha amylase enzyme.
14. Awadhesh Kumar Verma (2013): Biophysical characterization of Alpha amylase-silver Nanoparticles.
15. Zainab Sana (2013) Robust and Biocompatible silver nanoparticles synthesized from *Azadirachta indica* Leaves
16. Komal Sharma (2013) Biosynthesis of silver nanoparticles using trypsin
17. Jahirul Ahmed Mazumder (2013): Antibacterial activity of TiO<sub>2</sub> nanoparticles against *E. coli*.
18. Shazia Hassan (2014): Iron oxide nanoparticles mimicking peroxidase enzyme activity.
19. Faheem Ahmad (2014): Immobilization and characterization of cellulase on magnetic nanoparticles.
20. Mohammad Marghub Mohsin (2016): Biosynthesized ZnO nanoparticles and their effects on growth of *Brassica* plant.
21. Shilpa Tulsian (2016): Biogenic Silver Nanoparticles for Decolourization and removal of textile dyes.
22. Sameer Vohra (2017): Effect of different ratios of components of Aspartame on *C.elegans*.
23. Mohmmad Alimuddin(2017): Screening of Enzymes for Biofilm degradation.

24. Mehroze Rizvi (2018): Biosynthesized nanosilver for detection of Heavy Metal
25. Nafees Alam (2018): Magnetic cross-linked aggregate of Pectinase.
26. Ravi Chauhan (2018): Silver nanoparticle based microbial detection.
27. Rashmita Bishi (2018): Cloning and expression of calmodulin and calmodulin like proteins in *P.facliparam*.

**PhD supervision:**

**Awarded: 06 (supervised) + 02 (Co-supervised)**

**Pursuing: 06**

**Research Projects Completed:**

Sr. No.	Title of the Project	Funding Agency	Amount	Date of sanction and duration
1.	Peroxidase conjugate of TiO <sub>2</sub> nanoparticles for the removal of phenols from aqueous solutions.	UGC	Rs 13,39,183/-	01-05-2009 to 30-04-2012
2.	<b>(Co- supervisor)</b> Evaluation of hypoglycemic compounds from Cyanobacteria	CCRUM	Rs 25,00,000/-	30-06-2009 to 31-05-2011
3.	Reactivation strategies by unfolding/refolding of inactivated immobilized enzymes.	Department of Science & Tech. (DST)	Rs. 10,87,000	19.11.2004. to 18.11.2007.
4.	Biosynthesized silver Nanoparticles as antimicrobial agents against water borne pathogenic bacteria	Indian Council of Medical research, Govt. Of India	2757750/-	03.05.2015-03.06.2018

### Ongoing Research Projects:

Sr. No.	Title of the Project	Funding Agency	Amount	Date of sanction and duration
2	<b>(Co-supervisor)</b> Cyanobacteria as bioreactor for the synthesis of nanoparticle	DRDO, India	89,44 ,000	2017-ongoing