

Dr. Vinita Hooda

Assistant Professor

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Education

Ph.D.	M.D. University, Rohtak
Master of Science (Bio-informatics)	Sikkim Manipal University
Master of Science (Plant Science)	Banasthali Vidyapith

Postdoctoral training

University of Massachusetts, U.S.A.

Career Profile

Designation	Mode	Institution served	Duration
Assistant Professor	Regular	M.D.University, Rohtak	2008- continue
Lecturer	Regular	Govt. College for Women, Rohtak	2003-2008
Lecturer	Contractual	M.D.University, Rohtak	2000-2003

Research interests

Major areas of research in my lab relate to the field of enzymology and nanobiotechnology. So far, we have explored the use of metal and metal oxide nanoparticles to enhance activity and stability of enzymes such as nitrate reductase, peroxidase, catalase, polyamine oxidase, diamine oxidase and oxalate oxidase. We are also studying the impact of nanoparticles on crop plants such as *Cicer arietinum* and *Sorghum vulgare*.

Projects Undertaken

Title of the Project	Duration	Funding Agency	Amount Mobilized	Status
Effect of changing the nanoscale environment on the activity and stability of nitrate reductase	2011-14	UGC, New Delhi	7,22,000/-	Completed
“Effect of nanoparticles on germination and growth of <i>Vigna radiata</i> ”	2012-13	Dr. Radha Krishnan Fund, M.D. University	10,000.00	Completed
Fabrication of photometric sensing strip for polyamine determination	2013-16	SERB-DST, New Delhi	22,50,000/-	On going
Development of biosensors for pathogen detection	2012-17	DBT Life Science Builder Grant	5,00,000/-	On going
Fabrication of silver nanoparticles loaded epoxy membrane and its use for defluoridation of contaminated water	2015-18	HSCST, Panchkula	8,00,000/-	On going

Mentoring Experience

Masters’ thesis research

Number of students supervised: 16

Ph.D thesis research

No. of registered students :04

No. of thesis submitted: 01

Publications

1. Veena Sachdeva and Vinita Hooda. Effect of changing the nanoscale environment on activity and stability of nitrate reductase. *Enzyme and Microbial Technology*, Volume 89, July 2016, Pages 52–62. **Impact Factor: 2.322**
2. Vinita Hooda, Veena Sachdeva and Nidhi Chauhan. "Nitrate quantification: recent insights into enzyme based methods". 2016. *Reviews in Analytical Chemistry* (Accepted article). **Impact Factor: 1.658**
3. Vinita Hooda, Nidhi Chauhan and Preety. A novel eco-friendly approach for synthesis of silver nanoparticles using glucose oxidase in immobilized form. 2016. *Nanoscience and Nanotechnology Asia* (Accepted article).
4. Veena Sachdeva and Vinita Hooda. Immobilization of nitrate reductase onto epoxy affixed silver nanoparticles for determination of soil nitrates. *International Journal of Biological Macromolecules*. 2015Aug; 79:240-7. **Impact Factor: 2.858**
5. Preety, Vinita Hooda. Immobilization and Kinetics of Catalase on Calcium Carbonate Nanoparticles Attached Epoxy Support. *Applied Biochemistry and Biotechnology*, January 2014, Volume 172, Issue 1, pp 115-130. **Impact Factor: 1.735**

6. Veena Sachdeva, Vinita Hooda. A new immobilization and sensing platform for nitrate quantification. *Talanta*, Vol. 124, February 2014, Pp 52–59. ISSN: 0039-9140. **Impact Factor: 3.545**
7. G.Prasada Babu, Vinita Hooda, K.Audishesamma and Ch. Paramageetham. Allelopathic effects of some weeds on germination and growth of *Vigna mungo* (L). Hepper. *International Journal of Current Microbiology and Applied Sciences*. Volume 3 Number 4 (2014) pp. 122-128. **Impact Factor: 2.937**
8. K.Audishesamma, Ch. Paramageetham, P.Charan Theja, Vinita Hooda and G. Prasada Babu. Influence of Transgenic *Bt* Crop Root Exudates on Rhizospheric Soil Microflora. *International Journal of Current Microbiology and Applied Sciences*. Volume 3 Number 5 (2014) pp. 289-294. **Impact Factor: 2.937**
9. Nidhi Chauhan, Vinita Hooda & C.S.Pundir. *In vitro* effects of metal oxide nanoparticles on barley oxalate oxidase. *Journal of Nanoparticle Research* Feb. 2013; 15, 1493-1505. **Impact Factor: 2.184**
10. Vinita Hooda, Prasada babu Gundala & Paramageetham Chinthala. Sequence analysis and homology modelling of peroxidase from *Medicago sativa*. *Bioinformatics*, Vol. 8, Issue 21, October 2012. Pp 974-979. **Impact Factor: 1.0**
11. R. Kumar, V. Hooda and C.S.Pundir (2011). Purification and partial characterization of oxalate oxidase from leaves of forage Sorghum (*Sorghum vulgare* var. KH-105) seedlings. *Indian Journal of Biochemistry and Biophysics*, 48 (1), 42-46. **Impact Factor: 0.871**
12. N. Chauhan, V. Hooda and C.S. Pundir (2011). Influence of copper nanoparticles on copper requiring enzyme. *Journal of Experimental Nanoscience*. 1-10. **Impact Factor: 0.981**
13. V. Hooda (2010). Physiochemical, Functional and Structural Characterization of Wheat Germin Using *In Silico* methods. *Current Research Journal of Biological Sciences*, 3(1), 35-41.
14. V. Hooda (2006). Phytoremediation of Toxic Metals from Soil and Waste Water. *Journal of Environmental Biology*, 28(2), 367-376.
15. V.Malik and C.S.Pundir (2002). Determination of total cholesterol in serum by cholesterol esterase and cholesterol oxidase immobilized and co-immobilized onto arylamine glass. *Biotechnology and Applied Biochemistry*, 35, 191-197. **Impact Factor: 1.362**
16. V.Malik, S.Singh and C.S.Pundir (2001). Cholesterol esterase and cholesterol oxidase immobilized onto arylamine glass beads. *Chinese Journal of Biotechnology*, 18(2): 155-161.
17. Sarita, V. Malik, V. Kalia and C.S. Pundir (2000). Immobilization of Porcine Pancreas Lipase on Zirconia Coated alkylamine glass using glutaraldehyde. *Indian Journal of Chemical Technology*, 7: 64-67. **Impact Factor: 0.531**

18. C.S. Pundir, V. Malik, A.K. Bhargava, M. Thakur, V. Kalia, S. Singh and N.K. Kuchhal (1999). Studies on Horseradish Peroxidase Immobilized onto Arylamine and Alkylamine glass. *J. Plant Biochemistry and Biotechnology*, 8: 123-126. **Impact Factor: 1.094**
19. R. Kaur, M. Thakur, V. Malik and C.S. Pundir (1998). Detection and Solubilization of Membrane Bound Oxalate oxidase from Mature Leaves of *Bougainvillea glabra*. *Physiol. Mol. Biol. Plants*, 4: 147-156.
20. Malik V., Thakur M., Goyal L. and Pundir C.S. (1998). Relationship between chemical composition of urinary calculi and trace metal content. *Analytica Medica*, 6(1): 3-4.
21. S. Singh, M. Thakur, V. Malik, L. Goyal and C.S. Pundir (1998). Influence of NaCl stress on Oxalate Oxidase Activity in Germinating Seeds of Forage Sorghum hybrid. *Indian J. Plant Physiol.*, 3(4): 317-319.
22. Vinita Malik and C.S.Pundir (1998). Plant Enzymes in Food Industry. *Physiol. Mol. Biol. Plants*, 4: 7-8.
23. V. Malik and C.S. Pundir (1997). Plant Enzymes as Therapeutic Agents. *Physiol. Mol. Biol. Plants*, 3: 87-88.

Awards and Distinctions

Awarded Raman fellowship by UGC for Post Doctoral work in USA

Recipient of Gold Medal during M.Sc.

Qualified NET (Life Sciences) conducted by CSIR-UGC

Participation in some recent conferences/ seminars/ training programmes

- i) Co-chaired a session on 'Sustainable development' in the 'National Seminar on Law and Social Justice in India' held on March 8-9, 2014 organized by Department of Law, M.D.University
- ii) Attended fifth UGC-Networking Resource Centre Workshop in Biological Sciences from 1st-25th May, 2012 at Indian Institute of Science, Bangalore.
- iii) Presented Paper in International Seminar on "Emerging Threats and Challenges to Biodiversity: Policy Framework for Sustainable Management" at S.V.University, Tirupati from 2nd- 4th March, 2012.
- iv) Attended National Seminar on "Challenges in Combating Diseases: Cause to Cure" organized by Department of Zoology, M.D.University on 23rd March, 2012.
- v) Attended one day National Seminar on "Recent Advances in Application of Genetics" organized by Department of Genetics, M.D.University on 20th March, 2012.
- vi) Presented Paper in "International Conference on Nanomaterials and Nanotechnology" organized at University of Delhi from 18th December – 21st December, 2011.

- vii) Successfully completed the Summer School on “Comparative Genomics and Proteomics in Drug Discovery” from 30th May – 13th June, 2011 at UGC-Networking Resource Centre in Biological Sciences, School of Biological Sciences, Madurai Kamraj University, Madurai – 625021.
- viii) Presented Poster at a workshop on Nanoscience and Nanotechnology, “**Aligarh Nano 1**” organized by the Dept. of Applied Physics, from 26th-27th March, 2011 at A.M.U., Aligarh .
- ix) Attended the refresher course in Life sciences from 15th Feb- 9th March, 2011 organized by CPDHE at Delhi University.
- x) Attended one-day India-Japan Seminar on “**Nanomaterials for Diagnostics and Therapeutics**” organized by the Dept. of Biochemistry on Oct 30, 2010 at M.D.University, Rohtak.
- xi) Successfully completed the three days National Workshop on **Bioinformatics** organized by the Dept. of Biotechnology from 14-16 Sept, 2010 at M.D.University, Rohtak

Other Contributions

Invited Lectures/ talks on

- i) “ Food Security in the Twenty First Century” at Government College, Julana on 20.08.2011
- ii) “ Origin of Life on Earth” at Government College, Julana on 20.08.2011c
- iii) “Climate Change: Environmental and Health Effects” at Government College Julana on 01.12.2010
- iv) “Role of Youth in Environment Preservation” at Government College Julana on 01.12.2010
- v) “Ikkiswi sadi mei Khad Suraksha (Food Security in the 21st Century) at All India Radio, Rohtak .
- vi) “Antariksh mein Bharat” at All India Radio, Rohtak.
- vii) “Pradushan ka Prayay – Global Warming” at All India Radio, Rohtak.
- viii) “Stem Cell Therapy” at All India Radio, Rohtak.
- ix) “Jal, Vayu tatha Saur Urja” at All India Radio, Rohtak.

Reviewer for

- i) Applied Biochemistry and Biotechnology, Springer.
- ii) Advanced Materials Reviews, VBRI Press