

Dr. Madan L. Verma

Faculty of Biotechnology, School of Basic Sciences
 Indian Institute of Information Technology Una
 Saloh, Himachal Pradesh-177209, India
 Emails: madanverma@iiitu.ac.in; madanverma@gmail.com
 Phone: +91 9418158549

Research Profiles

- h-Index: 31; I-10 index: 61, Total Citations: ≥ 3814
- <https://scholar.google.com.au/citations?user=gFKxjNUAAAAJ&hl=en>
- <https://orcid.org/0000-0002-8145-6549>
- <https://www.scopus.com/authid/detail.uri?authorId=10142820400>
- <https://www.researchgate.net/profile/Madan-Verma>

Academic Qualifications

Sep 2004 – Jul 2009	Ph.D Biotechnology, Department of Biotechnology, Himachal Pradesh University Shimla, India
Jun 2002 – Jun 2004	M.Tech Biotechnology, Centre for Biotechnology, Anna University Chennai, India (First Class with Distinction).
Apr 1999 – Apr 2001	M.Sc Biotechnology, Center for Biotechnology, Maharshi Dayanand University Rohtak, India (First Class with Second Position).
Apr 1995 – Apr 1998	B.Sc Chemistry, Botany & Zoology, Govt. Degree P.G. College Hamirpur, HP University Shimla, India (First Class with Third position).
Apr 1994 – Mar 1995	10+2 Chemistry, Biology, Physics, H.P.S.E.B., Dharamshala, India (First Class).
Apr 1992 – Mar 1993	10 th Science, Math, Social Science, Hindi, English, H.P.S.E.B., Dharamshala, India (First Class with National Merit Scholarship).

Working Experience

Jun 2019–Present	Faculty of Biotechnology, School of Basic Sciences, IIIT Una, H.P.
Jan 2016–Jun 2019	Visiting Faculty in Biotechnology, Dr Y S Parmar University of Horticulture and Forestry, H.P., India
Jan 2011–Oct 2015	Postdoctoral Research Fellow, Deakin University, Australia
Jul 2009–Dec 2010	Assistant Professor, Department of Biotechnology, National Institute of Technology Jalandhar, India

List of completed Sponsored Projects at IIIT Una, HP

S. No.	Investigator Name & Institute/ Role	Project Title and Period	Funding agency/ Project Status	Total cost (INR)	Project outcome
1.	Dr Madan L. Verma, School of Basic Sciences, IIIT Una, H.P. /Coordinator	Workshop “Prelude to Biotechnology and Bioinformatics” and 23-24 August 2019	BRSI, Trivandrum, Kerala/Completed	25,300/-	Biotechnology popularization and Skill Development Program to Govt. School and College students

2.	Dr. Madan L. Verma, School of Basic Sciences, IIIT Una, H.P. /Principal Investigator	Project “Development of nanomaterial immobilised enzymes system for the production of food- grade esters”, Australian High Commission, New Delhi with Sanction No: AAGS2020/82 and July 2020- June 2021	Australian High Commission, New Delhi/Completed	7,75,950/-	Methodology developed and High-Impact publications
3.	Dr. Madan L. Verma, School of Basic Sciences, IIIT Una, H.P. /Principal Investigator & Prof. S. Selvakumar, Principal Co- Investigator, Director, IIIT Una, H.P.	Project “Nanobiotechnological route for improving the enzymatic saccharification of forest waste of Himachal Pradesh”, Sanction Order: STC/F (8)-6/2019(R&D 2019- 20)-377) and July 2020 to June 2022	Himachal Pradesh Council for Science, Technology & Environment, Shimla, H.P./Completed	6,15,000/-	Methodology developed, High-Impact publications, Research Highlights in National newspaper
			Grand Total (INR)	14,16,250/-	(Fourteen Lakhs Sixteen thousand and two hundred fifty)

List of peer-reviewed publications (*Corresponding author)

Journal Publications (From IIIT Una)

- Chandel H, Kumar P, Chandel A, and **Verma ML***(2024) Biotechnological advances in biomass pretreatment for bio-renewable production through nanotechnological intervention. *Biomass Conversion and Biorefinery* 4:1-23. (SCIE, **Impact Factor: 4.987, Citations: 42**) ISSN:1610-3653 <https://doi.org/10.1007/s13399-022-02746-0>
- Verma ML***, Dhanya BS, Wang B, Thakur M, Rani V, Kushwaha R (2024) Bio-nanoparticles mediated transesterification of algal biomass for biodiesel production. *Sustainability*. 2024; 16(1):295. <https://doi.org/10.3390/su16010295> (SCIE, **Impact Factor: 3.9, Citations: 01**).
- Verma ML***, Joseph PJ, Sen Karaman D (2023) Microbial nanotechnology: a new frontier in microbiology. *Frontiers in Microbiology* 14, 2023. <https://doi.org/10.3389/fmicb.2023.1296573> (SCIE, **No. of downloads: 263, Impact Factor: 5.2**).
- Verma ML***, Sukriti, Dhanya BS, Saini R, Das A, Varma, RS (2022) Synthesis and application of graphene-based sensors in biology. A review. *Environmental Chemistry Letters* 20:2189-2212 (SCI, **Impact Factor: 15.7**) ISSN:1610-3653 <https://doi.org/10.1007/s10311-022-01404-1>
- Thakur M, Wang B, **Verma ML*** (2022) Development and applications of nanobiosensors for sustainable agricultural and food industries: Recent developments, challenges and perspectives. *Environmental Technology and Innovation*. 26,102371 (SCI, **Impact Factor:7.758, Citations: 2**) ISSN: 2352-1864 <https://doi.org/10.1016/j.eti.2022.102371>
- Singh J, Dhamija I, Meehenian H, Kumar N, Simran S, Muskan M, **Verma ML***, Kumar S* (2022) Chronicle updates in cyclodextrin-based carriers for drug delivery. *Bull Natl Res Cent* **46**, 202

- (2022). <https://doi.org/10.1186/s42269-022-00904-y>
7. Paul D, Arora A, and **Verma ML*** (2021) Advances in Microbial Biofuel production. *Frontiers in Microbiology* 12, 2768 (**SCI, Impact Factor: 6.064**) ISSN: 1664-302X <https://doi.org/10.3389/fmicb.2021.746216>
 8. **Verma ML*** and Rani V (2021) Biosensors for toxic metals, polychlorinated biphenyls, biological oxygen demand, endocrine disruptors, hormones, dioxin, phenolic and organophosphorus compounds: a review. *Environmental Chemistry Letters*. 19:1657–1666 (**SCI, Impact Factor: 13.615; Citations:21**) Publisher: **Springer** ISSN: 1610-3653. <https://doi.org/10.1007/s10311-020-01116-4>
 9. Dhanya BS, Mishra A, Chandel AK and **Verma ML*** (2020) Development of sustainable approaches for converting the organic waste to bioenergy. *Science of the Total Environment* 723:138109 (**SCI, Impact Factor: 10.753; Citation:70**). ISSN: 0048-9697 <https://doi.org/10.1016/j.scitotenv.2020.138109>
 10. **Verma ML***, Dhanya BS, Sukriti, Thakur M, Jeslin J and Kushwaha R (2020) Carbohydrate and protein based biopolymeric nanoparticles: current status and biotechnological applications. *International Journal of Biological Macromolecules* 154:390-412 (**SCI, Impact Factor: 8.085; Citations: 51**). ISSN: 0141-8130 <https://doi.org/10.1016/j.ijbiomac.2020.03.105>
 11. Arora A, Nandal P, Singh J and **Verma ML*** (2020) Nanobiotechnological route for the biomass pretreatment. *Material Science for Energy Technologies* 3:308-318. (**Scopus Indexed; Citations: 42**) ISSN: 2589-2991 <https://doi.org/10.1016/j.mset.2019.12.003>
 12. Thakur N, Dhanya BS, and **Verma ML*** (2020) Nano-immobilized biocatalysts and their potential biotechnological applications in bioenergy sector. *Material Science for Energy Technologies* 3:808-824. (**Scopus Indexed, Citations:22**) ISSN: 2589-2991 <https://doi.org/10.1016/j.mset.2020.09.006>
 13. **Verma ML***, Kumar S, Das A, Randhawa JS, Chamundeewari M (2020) Chitin and chitosan-based support materials for enzyme immobilization and biotechnological applications. *Environmental Chemistry Letters*. 18:315–323 (**SCI, Impact Factor: 13.615, Citations: 91**) Publisher: **Springer** ISSN: 1610-3653. <https://doi.org/10.1007/s10311-019-00942-5>

Prior to joining IIIT Una

14. **Verma ML**, Rao NM, Barrow CJ, Puri M (2019) Suitability of recombinant lipase immobilised on functionalised magnetic nanoparticles for fish oil hydrolysis. *Catalysts* 9, 420 Publisher: **MDPI**. (**SCIE, Impact Factor: 4.501; Citations: 14**) ISSN 2073-4344 <https://doi.org/10.3390/catal9050420>
15. Chamundeewari M, Jeslin J, **Verma ML*** (2019) Nanocarriers for drug delivery applications. *Environmental Chemistry Letters* 17, 849–865 (**SCI, Impact Factor: 13.615; Citations: 81**) Publisher: **Springer** ISSN: 1610-3653. <https://doi.org/10.1007/s10311-018-00841-1>
16. **Verma ML*** (2017) Nanobiotechnology advances in enzymatic biosensors for the agri-food industry. *Environmental Chemistry Letters* 15(4):555-560 (**SCI, Impact Factor: 13.615; Citations: 47**) Publisher: **Springer** ISSN: 1610-3653. <https://doi.org/10.1007/s10311-017-0640-4>
17. Thakur R, Kumar S, Awasthi CP, and **Verma ML** (2017) Biochemical evaluation of tartary buckwheat (*Fagopyrum tataricum* Gaertn.) genotypes of cold desert of Himachal Pradesh. *Biosciences, Biotechnology Research Asia* 14 (1): 1-16 (**Scopus Indexed; Citations: 2**) ISSN: 2456-2602 <http://dx.doi.org/10.13005/bbra/2514>
18. **Verma ML***, Puri M, Barrow CJ (2016). Recent trends in nanomaterials immobilised enzymes for biofuel production. *Critical Reviews in Biotechnology* 36(1):108-119 (**SCI, Impact Factor: 8.489; Citations: 149**). Publisher: Taylor and Francis Group, United Kingdom, ISSN: 0738-8551 <https://doi.org/10.3109/07388551.2014.928811>
19. Abraham RE, **Verma ML**, Barrow CJ, Puri M (2014) Suitability of ferrite nanoparticles immobilised cellulases in enhancing enzymatic saccharification of pretreated hemp biomass. *Biotechnology for Biofuels*, 7:90 (**SCI, Impact Factor: 6.343; Citations: 206**) Publisher: BioMed Central ISSN: 1754-6834 <https://doi.org/10.1186/1754-6834-7-90>
20. **Verma ML**, Rajkhowa R, Barrow CJ, Wang X, Puri M (2013). Exploring novel ultrafine Eri silk bioscaffold for enzyme stabilisation in cellobiose hydrolysis. *Bioresource Technology*, 145:302-306 (**SCI, Impact Factor: 11.889; Citations: 48**). ISSN: 0960-8524 Publisher: Elsevier

- <https://doi.org/10.1016/j.biortech.2013.01.065>
21. **Verma ML**, Naebe M, Barrow CJ, Puri M (2013). Enzyme immobilisation on amino-functionalised multi-walled carbon nanotubes: Structural and biocatalytic characterisation. *PLoS One*, 8(9): e73642 (**SCI, Impact Factor: 3.752**; Number of downloads: 8179, **Citations: 165**) Publisher: Public Library of Science ISSN:1932-6203 <https://doi.org/10.1371/journal.pone.0073642>
 22. **Verma ML**, Chaudhary R, Tsuzuki T, Barrow CJ, Puri M (2013). Immobilization of β -glucosidase on a magnetic nanoparticle improves thermostability: Application in cellobiose hydrolysis. *Bioresource Technology*, 135:2-6 (**SCI, Impact Factor: 11.889**; **Citations: 187**) ISSN: 0960-8524 Publisher: Elsevier <https://doi.org/10.1016/j.biortech.2013.01.047>
 23. **Verma ML**, Barrow CJ, Puri M (2013). Nanobiotechnology as a novel paradigm for enzyme immobilization and stabilisation with potential applications in biofuel production. *Applied Microbiology and Biotechnology*, 97:23-39 (**SCI, Impact Factor: 5.560**; **Citations: 244**). Publisher: Springer Berlin Heidelberg ISSN: 1432-0614 <https://doi.org/10.1007/s00253-012-4535-9>
 24. Puri M, Barrow CJ, and **Verma ML** (2013). Enzyme immobilization on nanomaterials for biofuel production. *Trends in Biotechnology*, 31:215-216 (**SCI, Impact Factor: 19.536**; **Citations: 85**). Publisher: Cell Press ISSN: 0167-7799 <https://doi.org/10.1016/j.tibtech.2013.01.002>
 25. **Verma ML**, Barrow CJ, Kennedy JF, Puri M (2012) Immobilization of β -galactosidase from *Kluyveromyces lactis* on functionalized silicon dioxide nanoparticles: Characterization and lactose hydrolysis. *International Journal of Biological Macromolecules*, 50: 432-437 (**SCI, Impact Factor: 8.085**; **Citations: 98**) ISSN: 0141-8130 Publisher: Elsevier <https://doi.org/10.1016/j.ijbiomac.2011.12.029>
 26. **Verma ML**, Kanwar SS (2012). Harnessing the potential of thermophiles: The variants of extremophiles. *Dynamic Biochemistry, Process Biotechnology and Molecular Biology*, 6 (1):28-39 (**Citations: 7**). Publisher: Global Science Books ISSN: 1749-0626
 27. **Verma ML**, Azmi W, Kanwar SS (2011). Enzymatic synthesis of isopropyl acetate catalysed by immobilized *Bacillus cereus* lipase in organic medium. *Enzyme Research*, vol., Article ID 919386, 7 pages (**Scopus Indexed**; **Citations: 29**). Publisher: Hindawi ISSN: 2090-0414 <https://doi.org/10.4061/2011/919386>
 28. **Verma ML**, Kanwar SS (2010). Purification and characterization of a low molecular mass alkaliphilic lipase of *Bacillus cereus* MTCC 8372. *Acta Microbiologica et Immunologica Hungarica*, 57:187-201 (**SCIE, Impact Factor: 2.143**; **Citations: 24**) Publisher: Akadémiai Kiadó ISSN: 1217-8950 <https://doi.org/10.1556/amicr.57.2010.3.4>
 29. **Verma ML**, Azmi W, Kanwar SS (2009). Synthesis of ethyl acetate employing celite-immobilized lipase of *Bacillus cereus* MTCC 8372. *Acta Microbiologica et Immunologica Hungarica*, 56:229-242 (**SCIE, Impact Factor: 2.143**; **Citations: 25**) Publisher: Akadémiai Kiadó ISSN: 1217-8950 <https://doi.org/10.1556/amicr.56.2009.3.3>
 30. Kalia SB, Kaushal G, Kumar M, Cameotra SS, Sharma A, **Verma ML**, Kanwar SS (2009). Antimicrobial and toxicological studies of some metal complexes of 4-methylpiperazine-1-carbodithioate and phenanthroline mixed ligand. *Brazilian Journal of Microbiology*, 40:916-922 (**Impact Factor: 2.857**; **Citations: 28**). Publisher: SciELO, Brazil. ISSN: 1517-8382 <https://doi.org/10.1590/S1517-83822009000400024>
 31. **Verma ML**, Kanwar SS (2008). Properties and application of *Poly* (MAc-2011co-DMA-cl-MBAm) hydrogel immobilized *Bacillus cereus* MTCC 8372 lipase for synthesis of geranyl acetate. *Journal of Applied Polymer Science*, 110:837-846 (**SCI, Impact Factor: 3.125**; **Citations: 25**). Publisher: John Wiley & Sons, USA ISSN: 1097-4628 <https://doi.org/10.1002/app.28539>
 32. **Verma ML**, Azmi W, Kanwar SS (2008). Microbial lipases: At the interface of aqueous and non-aqueous media. *Acta Microbiologica et Immunologica Hungarica*, 55:265-293 (**SCIE, Impact Factor: 2.143**; **Citations: 72**). Publisher: Akadémiai Kiadó ISSN: 1217-8950 <https://doi.org/10.1556/amicr.55.2008.3.1>
 33. **Verma ML**, Chauhan GS, Kanwar SS (2008). Enzymatic synthesis of isopropyl myristate using immobilized lipase from *Bacillus cereus* MTCC-8372. *Acta Microbiologica et Immunologica Hungarica*, 55:327-342 (**SCIE, Impact Factor: 2.143**; **Citations: 28**). Publisher: Akadémiai Kiadó ISSN: 1217-8950 <https://doi.org/10.1556/amicr.55.2008.3.4>

34. Kanwar SS, Gehlot S, **Verma ML**, Gupta R, Kumar Y, Chauhan GS (2008). Synthesis of geranyl butyrate employing *poly* (AAc-co-HPMA-cl-EGDMA) hydrogel-immobilized lipase of *Pseudomonas aeruginosa* MTCC-4713. *Journal of Applied Polymer Science*, 110:2681-2692 (**SCI, Impact Factor: 3.125; Citations: 24**) Publisher: John Wiley & Sons, USA ISSN: 1097-4628 <https://doi.org/10.1002/app.28241>
35. Kanwar SS, Sharma C, **Verma ML**, Chauhan S, Chimni SS, Chauhan GS (2008). Short-chain ester synthesis by transesterification employing *poly* (MAc-co-DMA-cl-MBAm) hydrogel-bound lipase of *Bacillus coagulans* MTCC-6375. *Journal of Applied Polymer Science*, 109:1063-1071 (**SCI, Impact Factor: 3.125; Citations: 29**). Publisher: John Wiley & Sons, USA ISSN: 1097-4628 <https://doi.org/10.1002/app.25320>
36. Chhabra G, Chaudhary D, **Varma M**, Sainger M, Jaiwal PK (2008). TDZ-induced direct shoot organogenesis and somatic embryogenesis on cotyledonary node explants of lentil (*Lens culinaris* Medik.). *Physiology and Molecular Biology of Plants*, 14:347-353 (**SCIE, Impact Factor: 2.391; Citations: 55**) Publisher: Springer India ISSN: 0974-0430 <https://doi.org/10.1007/s12298-008-0033-z>
37. Kanwar SS, **Verma ML**, Maheshwari C, Chauhan S, Chimni SS, Chauhan GS (2007). Properties of poly (AAc-co-HPMA-cl-EGDMA) hydrogel-bound lipase of *Pseudomonas aeruginosa* MTCC-4713 and its use in synthesis of methyl acrylate. *Journal of Applied Polymer Science*, 104:183-191 (**SCI, Impact Factor: 3.125; Citations: 22**) Publisher: John Wiley & Sons, USA ISSN: 1097-4628 <https://doi.org/10.1002/app.25315>
38. Kanwar SS, Kaushal RK, **Verma ML**, Kumar Y, Azmi W, Gupta R, Chimni SS, Chauhan GS (2007). Synthesis of ethyl oleate employing synthetic hydrogel-immobilized lipase of *Bacillus coagulans* MTCC-6375. *Indian Journal of Biotechnology*, 6:68-73 (**Scopus Indexed, Impact Factor: 0.786; Citations: 16**). ISSN: 0975-0967 Publisher: Nisair <http://hdl.handle.net/123456789/3015>
39. Kanwar SS, Verma HK, Pathak S, Kaushal RK, Kumar Y, **Verma ML**, Chimni SS, Chauhan GS (2006). Enhancement of ethyl propionate synthesis by poly (AAc-co-HPMA-cl-MBAm)-immobilized *Pseudomonas aeruginosa* MTCC-4713 exposed to Hg²⁺, and NH₄⁺ ions. *Acta Microbiologica et Immunologica Hungarica*, 53:195-207 (**SCIE, Impact Factor: 2.143; Citations: 15**) Publisher: Akadémiai Kiadó ISSN: 1217-8950 <https://doi.org/10.1556/amicr.53.2006.2.6>
40. Kanwar SS, Kaushal RK, **Verma ML**, Kumar Y, Chauhan GS, Gupta R, Chimni SS (2005). Synthesis of ethyl laurate by hydrogel immobilized lipase of *Bacillus coagulans* MTCC-6375. *Indian Journal of Microbiology*, 45:187-193 (**SCIE, Impact Factor: 2.461; Citations: 31**) Publisher: Springer India ISSN: 0973-7715

Conference Publication

Peer-Reviewed Full-length Conference Papers

1. **Verma ML***, Kumar P, Chandel H (2023) Nanobiotechnological Routes in Lignocellulosic Waste Pre-treatment for Bio-renewables Production. In: Gakkhar N, Kumar S, Sarma AK, Graham NT (eds) Recent Advances in Bio-Energy Research. ICRABR-2022 2022. Springer Proceedings in Energy. Springer, Singapore. https://doi.org/10.1007/978-981-99-5758-3_3
2. **Verma ML*** and Puri M (2018) Nanobiotechnology: A tool for improving efficiency of biofuel production. *CPUH-Research Journal*: 2018, 3(2), 57-60 ISSN (Online): 2455-6076
3. **Verma ML***, Kumar S, Devi A, Jana AK (2012). Engineering enzyme for efficient biocatalysis. 2nd International conference on Biomedical engineering and assistive technologies at National Institute of Technology, Jalandhar, India, December 6-7, 2012 ISBN:13:978-81-925454-1-7
4. **Verma ML***, Kumar S, Devi A, Jana AK (2012). Strategy to optimize the recombinant gene expression in *Escherichia coli*. 2nd International conference on Biomedical engineering and assistive technologies at National Institute of Technology, Jalandhar, India, December 6-7, 2012 ISBN:13:978-81-925454-1-7
5. **Verma ML***, Kumar S, Devi A, Jana AK (2012). Metagenomics approaches for the discovery of novel lipases with biotechnological perspectives. 2nd International conference on Biomedical engineering and assistive technologies at National Institute of Technology, Jalandhar, India, December 6-7, 2012. ISBN: 13:978-81-925454-1-7
6. **Verma ML*** (2010). Microbial biosynthesis of biopolymers and applications in the biopharmaceutical, biomedical and food industries. International conference on Biomedical engineering and assistive

- technologies at National Institute of Technology, Jalandhar, India, December 17-19, 2010.
7. **Verma ML***, Kanwar SS, Jana AK (2010). Bacterial biosensors for measuring availability of environmental pollutants. International conference on Biomedical engineering and assistive technologies at National Institute of Technology, Jalandhar, India, December 17-19, 2010 (Citations: 1)
 8. **Verma ML***, Jana AK, Kanwar SS (2010). Current status of biotechnological production of the cholesterol lowering drug lovastatin and its biomedical applications. International conference on Biomedical engineering and assistive technologies at National Institute of Technology, Jalandhar, India, December 17-19, 2010.
 9. Jain Y, Goel A, Rana C, Sharma N, **Verma ML***, Jana AK (2010). Biosensors, types and applications. International conference on Biomedical engineering and assistive technologies at National Institute of Technology, Jalandhar, India, December 17-19, 2010 (Citations: 2).
 10. Goyal A, Jain Y, **Verma ML***, Jana AK (2010). Fundamentals and applications of Maldi-Tof. International conference on Biomedical engineering and assistive technologies at National Institute of Technology, Jalandhar, India, December 17-19, 2010.
 11. Sharma N, Rana C, **Verma ML***, Jana AK (2010). X-Ray Crystallography: Applications in the biotechnology research. International conference on Biomedical engineering and assistive technologies at National Institute of Technology, Jalandhar, India, December 17-19, 2010.

Abstracts (selected) Published in Conferences Proceedings (From IIT Una)

1. **Verma ML***, Kumar P, and Chandel H (2022) Recent trends in application of nanobiotechnology for the lignocellulosic biomass pretreatment, International Conference on Innovation in Applied Science and Engineering (ICIASE)- 2022 organized by NIT Jalandhar. https://www.nitj.ac.in/nitj_files/links/Brochure_ICIASE-2022_070322_36067.pdf
2. **Verma ML***, Kumar P, and Chandel H (2022) Nanobiotechnological routes in lignocellulosic waste pretreatment for bio-renewables production. 3rd International Conference On Recent Advances In Bio-energy Research (ICRABR-2022), 9-11 March, 2022 at Sardar Swaran Singh National Institute of Renewable Energy, Kapurthala, Punjab. <http://nibe.res.in>
3. Kumar P, **Verma ML***, and Selvakumar Subramanian (2021) Biotechnology advances in biomass treatment for bioenergy production through nanotechnological intervention. International Conference on Biotechnology for Sustainable Agriculture, Environment and Health (BSAEH-2021), jointly organized by Malaviya National Institute of Technology, Jaipur and The Biotech Research Society, India at Jaipur, India

Prior to joining IIT Una

4. **Verma ML*** (2018) Nanobiotechnology advances bioenergy production: Development of effective nanobiocatalytic system(s) through the immobilization of enzymes on functionalized nanomaterials with potential application in cellulose hydrolysis. Bioprocessing for Energy and Carbon from Agro Residues (BECAR)” at the Indian Institute of Technology Mandi, held from 23rd-24th Jan 2018 (Invited talk)
5. **Verma ML*** (2018) Nanobiotechnology: A tool for improving efficiency of biofuel production. 9th Indian Youth Science Congress (Abstract ID: 9IYSC 172) on 07-09 April 2018 Career Point University Hamirpur H.P (Oral Presentation).
6. **Verma ML*** (2016) Nanoimmobilisation of Industrial enzymes for potential applications in food technology. International Workshop on Advanced Nanomaterials for Energy, Health and Sustainability 3rd to 6th October, 2016 at Indian Institute of Technology Mandi (Invited Talk)
7. **Verma ML*** (2012). Development of effective biocatalytic systems through the immobilization of enzymes on functionalized nanomaterials. International Conference on the Challenges in Environmental Science & Engineering, 9-13 September, 2012, Melbourne, Australia ISBN: 978-0-646-58149-1 (Oral Presentation)
8. **Verma ML*** (2012). Nanobiotechnology as a novel paradigm for enzyme stabilization with potential application in industrial biotechnology. SRC Day 2012, 15 November, 2012, at Fourpoints by Sheraton,

Geelong, Australia (Oral Presentation)

9. **Verma ML***, Naebe M, Barrow CJ, Puri M (2012). Development of effective biocatalytic systems through the immobilization of enzymes on functionalized nanomaterials: preparation, characterization and application in biofuel production. 5th International Conference on the "Challenges in Environmental Science & Engineering, 9-13 September, 2012, Melbourne, Australia.
10. **Verma ML**, Abraham RE, Barrow CJ, Puri M (2012). Immobilizing enzymes on functionalized nanomaterials for biofuel production. 1st International Conference on BioNano Innovation, 18-20 July, 2012, Brisbane, Australia.
11. Abraham RE, **Verma ML**, Barrow CJ, Puri M (2012). Lignocellulosic biomass hydrolysis for biofuel production using nanoscaffold bound enzyme. CSIRO Cutting Edge Symposium, 13-15 November 2012, Parkville, Victoria, Australia.
12. Abraham RE, **Verma ML**, Barrow CJ, Puri M (2012). Functionalisation of novel nanomaterials for enzyme immobilization with enhanced application in biofuel production. International Conference on Industrial Biotechnology, 21-23 November, 2012 Punjabi University Patiala, India.
13. Abraham RE, **Verma ML**, Barrow CJ, Puri M (2012). Nanobiotechnology delivers bioenergy production: Functionalization of nanomaterial for immobilizing enzymes with potential application in cellulose hydrolysis. 5 International conference on Industrial Bioprocess, 7-10 October, 2012, Taiwan.
14. **Verma ML**, Barrow CJ, Puri M (2011). Nanomaterial immobilized β -galactosidase for industrial applications. International Conference on New Horizons in Biotechnology (NHBT-2011), 21-24 November, 2011, Trivandrum, Kerala, India.
15. **Verma ML**, Kishor K, Kanwar SS, Jana AK (2011). Effect of water activity on the lipase catalysed reaction in non-aqueous media. International Conference on Microbial Biotechnology for Sustainable Development & 52th Annual Conference of Association of Microbiologists of India organized by Panjab University, Chandigarh, 3-6 November, 2011, India.
16. **Verma ML**, Jana AK (2011). Microbial proteases: At the interface of academia and industry. New horizons in bio-processing of foods, 25-26 February, 2011 at Sant Longowal Institute of Engineering & Technology, Longowal, Punjab, India.
17. **Verma ML**, Kanwar SS (2010). Syntheses of fragrance esters using *B. cereus* MTCC 8372 lipase. 51 Annual Conference of Association of Microbiologists of India & International Symposium on Cross Disciplinary Microbiology: Avenues and Challenges [AMI 2010-CMAC], 14-17 December, 2010 at Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India.
18. **Verma ML**, Kanwar SS (2009). Purification of a low molecular weight thermostable *Bacillus cereus* MTCC 8372 lipase and its application for synthesis of a fragrance ester. 50th AMI conference, 15-18 December, 2009 at National Chemical Laboratory, Pune, India.
19. **Verma ML**, Kanwar SS (2008). Synthesis of ethyl acetate by transesterification reaction using celite immobilized *Bacillus cereus* MTCC 8372 lipase. 3rd International Congress on Bioprocesses in Food Industries, 6-8 November, 2008 at Osmania Univ., Hyderabad, India.
20. **Verma ML**, Kanwar SS (2008). Synthesis of isopropyl acetate using silica immobilized *Bacillus cereus* MTCC 8372 lipase. 49th AMI Annual Conference at University of Delhi, Delhi, India, 18-20 November, 2008.
21. **Verma ML**, Kanwar SS (2007). Enzymatic synthesis of geranyl acetate using immobilized *Bacillus cereus* MTCC 8372 lipase. 48th AMI Annual conference held on Dept. of Biotechnology, IIT Madras, India, 18-21 December, 2007.
22. **Verma ML**, Charan S, Kumar Y, Chauhan GS and Kanwar SS (2006). A high-grade cosmetic additive-isopropyl myristate synthesis using *Pseudomonas aeruginosa* BTS-2 lipase in organic media. 47th AMI conference at Barkatulla University Bhopal, India, 4-6 December, 2006.
23. Kanwar SS, Kumar Sandeep, **Verma ML** et al., (2005). Synthesis of ethyl acrylate using hydrogel-immobilized lipase of *Bacillus coagulans* MTCC-6375. 46th Annual Conference of AMI being organized at Osmania University, Hyderabad, India, from December 8-10, 2005.

Scholarly Books (From IIIT Una)

1. **Verma ML** (2020) Biotechnological approaches in food adulterants. CRC Press, Boca Raton, USA ISBN: 9780367369866 <https://doi.org/10.1201/9780429354557>
2. **Verma ML** (2020) Nanobiotechnology for sustainable bioenergy and Biofuel Production. CRC Press, Boca Raton, USA ISBN: 9780367085872 <https://doi.org/10.1201/9780429023194>

Prior to joining IIIT Una

3. **Verma ML**, and Chandel AK (2019) Biotechnological Production of Bioactive Compounds. Elsevier, Netherlands. ISBN: 9780444643230 <https://doi.org/10.1016/C2018-0-02574-8>
4. Thakur R, **Verma ML** (2017) Food bioactives with special references to Himalayan tartary buckwheat. Lambert Academic Publisher Germany ISBN: 978-3-330-03304-7 <https://www.lap-publishing.com/catalog/details/store/gb/book/978-3-330-03304-7/food-bioactives-with-special-reference-to-himalayan-tartary-buckwheat>
5. **Verma ML**, Kanwar SS (2007). Antimicrobial chemotherapy. Immunology and Medical Microbiology (e-book): National Science Digital Library NISCAIR: New Delhi, India. <http://nsdl.niscair.res.in/jspui/bitstream/123456789/605/1/AntimicrobialChemotherapy.pdf>
6. Kanwar SS, **Verma ML** (2007). Principles and applications of immunological techniques. Immunology and Medical Microbiology (e-book): National Science Digital Library NISCAIR: New Delhi, India. <http://nsdl.niscair.res.in/jspui/bitstream/123456789/606/1/Immunotechniques.pdf>

Scholarly Book Chapters (From IIIT Una, H.P.)

1. Chandel H, Wang B, and **Verma ML*** (2022) Microbial lipases and their applications in the food industry. Book “Value-Addition in Food Products and Processing Through Enzyme Technology”, Elsevier, ISSN: 978-0-323-89929-1 <https://doi.org/10.1016/B978-0-323-89929-1.00029-9>
2. Chetal G, and **Verma ML*** (2022) In silico approaches for the quest of the novel enzymes.
3. Chandel H, Wang B, and **Verma ML***(2022) Nanomaterial-based fluorescent biosensors for monitoring environmental pollutants. Book “Encyclopedia of Sensors and Biosensors” ISSN: 9780128225486 <https://www.elsevier.com/books/encyclopedia-of-sensors-and-biosensors/narayan/978-0-12-822548-6>
4. Chandel H, Wang B, and **Verma ML***(2022) Control of biofilm formation during food processing. Book “A complete Guidebook on biofilm Study” Elsevier, ISSN: 9780323884808 <https://doi.org/10.1016/B978-0-323-88480-8.00007-8>
5. Rani V and **Verma ML***(2022) Fabrication of disposable sensor for testing of environmental pollutants. Book “Electrochemical sensors based on carbon composite materials: fabrication, properties and applications”, Elsevier, ISSN: 075035125X <https://www.brownsbfs.co.uk/Product/Manjunatha-J-G-Mangalore-University-India/Electrochemical-Sensors-Based-on-Carbon-Composite-Materia/9780750351256>
6. **Verma ML***, Dhanya BS, Thakur M, Jeslin J, and Jana AK (2021) Plant derived nanoparticles and their biotechnological applications. Book “Comprehensive Analytical Chemistry”, Elsevier, ISSN: 0166-526X <https://doi.org/10.1016/bs.coac.2021.01.011>
7. **Verma ML***, Rani V, Kumari R, Sharma D, Kumar S, and Kushwaha R (2021) Bioprospecting: at the interface of plant and microbial communities. Book “Phytomicrobiome Interactions and Sustainable Agriculture” ISSN: 9781119644620, <https://doi.org/10.1002/9781119644798.ch12>
8. Kumar S, Kushwaha R, Kumar S, and **Verma ML*** (2021) Decongestion of lignocellulosics: a critical assessment of physicochemical approaches. Book “Handbook of Biofuels” Elsevier, ISSN: 9780128228104, <https://doi.org/10.1016/B978-0-12-822810-4.00009-9>
9. Rani V, and **Verma*** **ML** (2021) Biotechnological role of salicylic acid: A plant hormone. Book “A Salicylic acid contribution in plant Biology against a change environment” Nova Publisher, ISSN: 978-1-53619-153-0 <https://novapublishers.com/shop/salicylic-acid-contribution-in-plant-biology-against-a-changing-environment/>
10. Chintagunta AD, Kumar A, Kumar SPJ, and **Verma ML*** (2021) Contribution of metallic nanomaterials in algal biofuel production. Book “Metal and Metal oxides for Energy and Electronics”,

- Springer, ISSN: 978-3-030-53065-5 https://doi.org/10.1007/978-3-030-53065-5_9
11. **Verma ML***, Dhanya BS, Thakur M, Jeslin J, and Jana AK (2021) Plant derived nanoparticles and their biotechnological applications. In: Verma SK, Das A (eds) Comprehensive Analytical Chemistry. Elsevier Publisher, ISBN 0166-526, Vol 94, pp 1-35 <https://doi.org/10.1016/bs.coac.2021.01.011>
 12. Saini R, Rao V, Sharma S, and **Verma ML*** (2021) Screening of microbial enzymes and their potential applications in the bioremediation process. Book "Microbial Products for Health, Environment and Agriculture". DOI:10.1007/978-981-16-1947-2_16
 13. Rani V, and **Verma ML*** (2021) Biotechnological role of salicylic acid: A plant hormone. In: Kapoor D, Gautam V, Bhardwaj (eds) A Salicylic acid contribution in plant Biology against a change environment. Pp 189-215. Nova Science Publishers USA ISBN: 978-1-53619-153-0
 14. **Verma ML***, Thakur M, Randhawa JS, Sharma D, Thakur A, Meehnian H, Jana AK (2020) Biotechnological applications of fungal enzymes with special reference to bioremediation. In: Gothandam K., Ranjan S., Dasgupta N., Lichtfouse E. (eds) Environmental Biotechnology Vol. 2, Pp 221-247 ISBN: 978-3-030-38195-0 https://doi.org/10.1007/978-3-030-38196-7_10
 15. **Verma ML***, Kumar P, Sharma S, Dhiman K, Sharma D, Verma AD (2020) Gold Nanoparticle-mediated delivery of therapeutic enzymes for biomedical applications. In: Daima H., PN N., Ranjan S., Dasgupta N., Lichtfouse E. (eds) Nanoscience in Medicine Vol. 1. Environmental Chemistry for a Sustainable World, vol 39. pp 89-115, Springer, Cham. ISBN 978-3-030-29206-5 https://doi.org/10.1007/978-3-030-29207-2_3
 16. Rani V, and **Verma ML*** (2020) Biosensor applications in the detection of heavy metals, polychlorinated biphenyls, biological oxygen demand, endocrine disruptors, hormones, dioxin, and phenolic and organophosphorus compounds. In: S. Kumar Tuteja et al. (eds.), Nanosensors for Environmental Applications, Environmental Chemistry for a Sustainable World 43, pp 1-28 ISBN: 978-3-030-38100-4 https://doi.org/10.1007/978-3-030-38101-1_1
 17. Sharma S, Rani V, Saini R and **Verma ML*** (2020) Bioprospecting and biotechnological applications of microbial endophytes. In: Arora P. (eds) Microbial Technology for Health and Environment. Microorganisms for Sustainability, vol 22. Springer, Singapore. ISBN:97898115267947 In: Arora P. (eds) Microbial Technology for Health and Environment. Microorganisms for Sustainability, 22:191-228, Springer, Singapore. https://doi.org/10.1007/978-981-15-2679-4_7 (Citations: 2)
 18. Thakur M, Bajaan S, Rana N, and **Verma ML*** (2020) Microalgal technology: A promising tool for wastewater remediation. In: Arora P. (eds) Microbial Technology for Health and Environment. Microorganisms for Sustainability, 22:25-56, Springer, Singapore. ISBN: 978-981-15-2678-7 https://doi.org/10.1007/978-981-15-2679-4_2
 19. **Verma ML***, Abraham RE, Puri M (2020) Nanobiocatalyst designing strategies and their applications in food industry. In: Singh SP, Pandey A, Singhanian RR, Larroche C, Li Z (eds) Biomass, Biofuels, Biochemicals, Elsevier, pp 171-189, ISBN 9780128198209, <https://doi.org/10.1016/B978-0-12-819820-9.00010-7>.
 20. Chintagunta AD, Kumar A, Kumar SPJ, and **Verma ML*** (2020) Contribution of metallic nanomaterials in algal biofuel production. In: Rajendran S., Qin J., Gracia F., Lichtfouse E. (eds) Metal and Metal Oxides for Energy and Electronics. Environmental Chemistry for a Sustainable World, 55:331 -353. ISBN: 978-3-030-53064-8 Springer, Cham. https://doi.org/10.1007/978-3-030-53065-5_9
 21. **Verma ML***, Saini R, Sharma S, Rani V, and Jana AK (2020). Suitability of the lantana weed as a substrate for biogas production. In: Srivastava N., Srivastava M., Mishra P., Gupta V. (eds) Substrate Analysis for Effective Biofuels Production. Clean Energy Production Technologies. pp 51 -78, Springer, Singapore. ISBN: 978-981-32-9606-0, https://doi.org/10.1007/978-981-32-9607-7_3
 22. Thakur M, Kushwaha R, **Verma ML*** (2020) Role of chitosan nanotechnology in biofuel production. In: Verma ML (eds) Nanobiotechnology for Sustainable Bioenergy and Biofuel Production, pp 89-122, ISBN 9780367085872 CRC Press, USA <https://doi.org/10.1201/9780429023194>
 23. Kumar K, Kushwaha R, **Verma ML*** (2020) Contributions of nanomaterials in biofuel production. In: Verma ML (eds) Nanobiotechnology for Sustainable Bioenergy and Biofuel Production, CRC Press, USA, ISBN 9780367085872 <https://doi.org/10.1201/9780429023194>

24. **Verma ML***, Kishor K, Dhanya BS, Randhawa JS, Jana AK (2020) Nanobiotechnological solutions for sustainable bioenergy production. In: Verma ML (eds) Nanobiotechnology for Sustainable Bioenergy and Biofuel Production, pp 89-122, CRC Press, USA, ISBN: 9780367085872 <https://doi.org/10.1201/9780429023194>

Prior to joining IIT Una

25. **Verma ML***, Kumar S, Jeslin J, Dubey NK (2020) Microbial production of biopolymers with potential biotechnological applications. In: Pal K, Banerjee I, Sarkar P, Kim D, Deng W-P, Dubey NK, Majumder K (eds) Biopolymer-Based Formulations, Elsevier, pp 105-137, ISBN 9780128168974, <https://doi.org/10.1016/B978-0-12-816897-4.00005-9>.
26. **Verma ML***, Sahota S, Jana AK (2020) Potential applications of nanobiocatalysis for sustainable biofuels production. In: Zarzycki PK (eds) Pure and Functionalized Carbon-Based Nanomaterials: Analytical, Biomedical, Civil and Environmental Engineering Applications, ISBN: 9781351032308 CRC Press, Francis and Taylor, USA <https://doi.org/10.1201/9781351032308>
27. **Verma ML***, Thakur M, Kumar P, Ahmad I, Sharma KD (2020) Carbon nanomaterials in biosensors for biotechnological applications. In: Zarzycki PK (eds) Pure and Functionalized Carbon- Based Nanomaterials: Analytical, Biomedical, Civil and Environmental Engineering Applications., ISBN 9781351032308 CRC Press, Francis and Taylor, USA <https://doi.org/10.1201/9781351032308>
28. **Verma ML***, Rani V, Kumari R, Sharma D, Kumar S, Kushwaha R (2021) Bioprospecting: at the interface of plant and microbial communities. In: Verma A, Saini JK, Hesham AE, Singh HB (Eds), Phytomicrobiome Interactions and Sustainable Agriculture”, pp 217-239, Wiley Publisher. <https://doi.org/10.1002/9781119644798.ch12>
29. Birru B, Shalini P, **Verma ML** (2020) Nanobiotechnology advances in bioreactors for biodiesel production. In: Verma ML (eds) Nanobiotechnology for sustainable bioenergy and biofuel production, ISBN 9780429023194 CRC Press, USA <https://doi.org/10.1201/9780429023194>
30. Kushwaha R, Kumar S, **Verma ML** (2020) Impacts of nanobiotechnology in biorefineries: An overview. In: Verma ML (eds) Nanobiotechnology for sustainable bioenergy and biofuel production, ISBN: 9780429023194 CRC Press, USA <https://doi.org/10.1201/9780429023194>
31. **Verma ML***, Sharma S, Dhiman K, Jana AK (2019) Microbial production of nanoparticles: mechanisms and applications. In: Prasad R. (eds) Microbial Nanobionics. Nanotechnology in the Life Sciences. pp 159-176 Springer, Cham. https://doi.org/10.1007/978-3-030-16383-9_7
32. **Verma ML** (2019) Biotechnological applications of lipases in flavour and fragrance ester production. In: Arora P. (eds) Microbial Technology for the Welfare of Society. Microorganisms for Sustainability, 17:1-24. Springer, Singapore. https://doi.org/10.1007/978-981-13-8844-6_1 ISBN: 978-981-13-8843-9 (Citations: 2)
33. **Verma ML***, Sharma S, Saini R, Rani V and Kushwaha (2020) Bioflavonoids: synthesis, functions and biotechnological applications. Editor(s): Verma ML, Chandel AK, Elsevier/Biotechnological production of bioactive compounds. Pp 69-105, Elsevier Press, Netherlands, Europe. ISBN 9780444643230, <https://doi.org/10.1016/B978-0-444-64323-0.00003-5>.
34. Kumar S, Kushwaha R, **Verma ML** (2020) Recovery and utilization of bioactives from food processing waste, Editor(s): Verma ML, Chandel AK, Biotechnological production of bioactive compounds, Elsevier, Pp 37-68, ISBN 9780444643230, <https://doi.org/10.1016/B978-0-444-64323-0.00002-3>.
35. Thakur M, Chandel A, Kumar S, **Verma ML*** (2020) Biotechnological production of phytosteviosides and their potential applications, Editor(s): Verma ML, Chandel AK, Biotechnological production of bioactive compounds, Elsevier, Pages 139-164, ISBN 9780444643230, <https://doi.org/10.1016/B978-0-444-64323-0.00005-9>.
36. Kumar P, Shaunak I, **Verma ML*** (2020), Biotechnological application of health promising bioactive molecules, Editor(s): Verma ML, Chandel AK, Biotechnological Production of Bioactive Compounds, Elsevier, Pages 165-189, ISBN 9780444643230, <https://doi.org/10.1016/B978-0-444-64323-0.00006-0>.
37. Kumar S, Gill BS, Verma A, **Verma ML**, Kushwaha R (2020) Biotechnological production of high-valued algal astaxanthin and lutein under different growth conditions, Editor(s): Verma ML, Chandel AK,

- Biotechnological Production of Bioactive Compounds, Elsevier, Pages 191-220, ISBN 9780444643230, <https://doi.org/10.1016/B978-0-444-64323-0.00007-2>.
38. **Verma ML***, Kishor K, Sharma D, Kumar S, Sharma KD (2020) Microbial production of omega-3 polyunsaturated fatty acids, Editor(s): Verma ML, Chandel AK, Biotechnological Production of Bioactive Compounds, Elsevier, Pages 293-326, ISBN 9780444643230, <https://doi.org/10.1016/B978-0-444-64323-0.00010-2>.
 39. Sánchez-Muñoz S, Mariano-Silva G, Leite MO, Mura FB, **Verma ML**, da Silva SS, Chandel AK (2020) Production of fungal and bacterial pigments and their applications, Editor(s): Verma ML, Chandel AK, Biotechnological Production of Bioactive Compounds, Elsevier, Pages 327-361, ISBN 9780444643230, <https://doi.org/10.1016/B978-0-444-64323-0.00011-4>.
 40. Majumdar M, Shivalkar S, Pal A, **Verma ML**, Sahoo AK, Roy DN (2020) Nanotechnology for enhanced bioactivity of bioactive compounds, Editor(s): Verma ML, Chandel AK, Biotechnological Production of Bioactive Compounds, Elsevier, Pages 433-466, ISBN 9780444643230, <https://doi.org/10.1016/B978-0-444-64323-0.00015-1>.
 41. Thakur M, Sharma KD, **Verma M*** (2020) An overview of potential toxicity of food adulterants and food adulteration act. In: Verma ML (eds) Biotechnological Approaches in Food Adulterants, CRC Press. Boca Raton, USA ISBN 9780367369866 <https://doi.org/10.1201/9780429354557>
 42. Singh J, Meehnian H, Gupta P, **Verma ML*** (2020) Food colours: the potential sources of food adulterants and their food safety concerns. In: Verma ML (eds) Biotechnological Approaches in Food Adulterants, CRC Press. Boca Raton, USA ISBN 9780367369866 <https://doi.org/10.1201/9780429354557>
 43. Das A, Sukriti, **Verma ML*** (2020) Contributions of Omics approaches for the detection of food adulterants. In: Verma ML (eds) Biotechnological Approaches in Food Adulterants, CRC Press. Boca Raton, USA ISBN 9780367369866 <https://doi.org/10.1201/9780429354557>
 44. Thakur M, Sharma KD, **Verma ML*** (2020) Advances in proteomics approaches for food authentication. In: Verma ML (eds) Biotechnological Approaches in Food Adulterants, CRC Press. Boca Raton, USA ISBN 9780367369866 <https://doi.org/10.1201/9780429354557>
 45. **Verma ML***, Sharma D, Dhanya BS, Thakur M, Sharma N, Sharma KD, Jana AK (2020) Computing in biotechnology for food adulterants. In: Verma ML (eds) Biotechnological Approaches in Food Adulterants, CRC Press. Boca Raton, USA ISBN 9780367369866 <https://doi.org/10.1201/9780429354557>
 46. **Verma ML***, Kumar S, Das A, Randhawa JS, Chamundeeswari M (2019) Enzyme immobilization on chitin and chitosan-based supports for biotechnological applications. In: Crini G., Lichtfouse E. (eds), Sustainable Agriculture Reviews 35, Springer Nature Switzerland. ISBN: 978-3-030-16537-6 https://doi.org/10.1007/978-3-030-16538-3_4
 47. **Verma ML***, Kumar P, Sharma D, Verma AD, Jana AK (2019) Advances in nanobiotechnology with special reference to plant systems. Plant Nanobionics, Nanotechnology in the Life Sciences, Springer Nature. Pages 371-387, ISBN: 978-3-030-12495-3 https://doi.org/10.1007/978-3-030-12496-0_13
 48. **Verma ML** (2018). Critical evaluation of toxicity tests in context to engineered nanomaterials: An introductory overview. Nanotoxicology: Toxicity Evaluation, Risk Assessment and Management” pp 1-21 Publisher Taylor and Francis ISBN 978-1-4987-9941-6 <https://doi.org/10.1201/b21545>
 49. **Verma ML** (2017). Fungus-mediated bioleaching of metallic nanoparticles from agro-industrial by-products. In: Prasad R. (eds) Fungal Nanotechnology. Fungal Biology. Springer, Cham. ISBN: 978-3-319-68423-9 https://doi.org/10.1007/978-3-319-68424-6_5
 50. **Verma ML** (2016). Enzymatic nanobiosensors in the agricultural and food industry. Nanoscience in Food and Agriculture, Part of Sustainable Agriculture Reviews Book Series 4: 229-245. ISBN: 978-3-319-53111-3 Publisher: Springer Nature ISSN: 2210-4410
 51. **Verma ML***, Barrow CJ (2015). Recent advances in feedstocks and enzyme immobilised technology for effective transesterification of lipids into biodiesel, In Microbial Factories: Biofuels, Waste treatment: Volume 1, Springer Publisher, pp 160-182. Publisher: Springer India ISSN: 978-81-322-2598-0
 52. Kanwar SS, **Verma ML**, Puri S, Chauhan GS (2015). Synthetic hydrogel: Characteristics and

- applications, In Emerging Areas in Biotechnology, Publisher: Nirmal Book Agency, Kurukshetra, India, pp 173-212.
53. Gupta SK, **Verma ML**, Kanwar SS (2015). Lectins: properties and applications, In Emerging Areas in Biotechnology, Publisher: Nirmal Book Agency, Kurukshetra, India, pp 456-498.
 54. Puri M, **Verma ML** (2012). Innovation in technology development with reference to enzymatic extraction of flavonoids, In Innovation in Healthy and Functional Foods, CRC Press, Boca Raton. Florida USA, pp 323-334. ISBN: 9781439862674
 55. **Verma ML***, Jana AK (2011). Microbial proteases: At the interface of academia and industry, In Bio-processing of Foods, Asiatech Publishers, New Delhi, India, pp 15-28. ISBN: 81-87680-27-X
 56. Puri M, **Verma ML**, Mahale K (2011). Processing of citrus peel for the extraction of flavonoids for biotechnological applications, In Flavonoids: Dietary sources, Properties and Health Benefits, Nova Publishers, USA, pp 443-459. ISBN: 978-1-61942-052-6
 57. Kanwar SS, and **Verma ML** (2010). Lipases, In Encyclopedia of Industrial Biotechnology, Wiley Publishers, USA, pages 1-16 (**Citations: 11**). ISBN: 978-0-471-79930-6 DOI: 10.1002/9780470054581.eib387.
 58. Kanwar SS, **Verma ML**, Azmi W, Gupta R (2005). Bioactive and immuno-active medicinal plants and status of Himalayan Region-A status report, Institute of Integrated Himalayan Studies (UGC-Center of Excellence, Himachal Pradesh University Shimla, India). Pages 1-74.

Research-Academic Achievements

1. World's Top 2% Scientist list in the 2021 and 2020 ranking published by Stanford University USA
2. Awarded Endeavour Awards Ambassador in 2016 by the Australian Government.
3. A Brief biography published in Marquis Who's Who in the World, USA in 2013.
4. Awarded Alfred Deakin Postdoctoral Research Fellowship in 2012 by Deakin University Australia.
5. Awarded Endeavour Research Fellowship in 2011 by the Australian Government, Department of Education, Employment and Workplace Relations.
6. Awarded DBT-SRF in 2007 by Department of Biotechnology, Govt. of India.
7. Awarded DBT-JRF in 2005 by Department of Biotechnology, Govt. of India.
8. Qualified National Level Examination of Biotechnology Eligibility Test (BET-2005) for DBT-JRF (**All India Rank: 1**) under M.Tech Biotechnology category conducted by University of Pune, Pune, on behalf of Dept. of Biotechnology (DBT), Govt. of India.
9. Awarded Junior Research Fellowship in Engineering and Technology in 2004 by the Indian Government University Grants Commission.
10. Qualified National Level Examination of Graduate Aptitude Test in Engineering (GATE-2002) in Life Sciences (**All India Rank: 45**) conducted by Indian Institute of Science Bangalore, India.
11. Qualified National Level Examination of CSIR-UGC-(NET)-2002 in Life Sciences essential for research and lectureship position in Indian Institutes/Universities.
12. Recipient of DBT studentship, awarded by the Department of Biotechnology, New Delhi, for qualifying the national entrance test for Masters in Biotechnology, 2002-2004.
13. Awarded Merit Certificate for standing 3rd in B.Sc-III (Medical) examination by Govt. Degree PG College, Hamirpur (H.P.).
14. Awarded Merit Scholarship in B.Sc-II (Medical) from H. P. University, Shimla.
15. Awarded Merit Certificate in 10th Standard from Himachal Pradesh Board of School Education, Dharamshala (H.P.).

Professional Training

1. Certificate of participation for five-day FDP on “**Effective Teaching and Learning Practices in Computational Biology**”, organized by National Institute of Technology Warangal during 15th -19th March, 2021
2. Certificate of participation for National Virtual Symposium on “**Agricultural Nanotechnology**”

- organized by Centre for Ocean Research, Sathyabama Institute of Science and Technology, Chennai, during 24, Aug.'20 and 25, Aug.'2020
3. Certificate of participation for “**6 DAYS - Workshop on Chromatographic Techniques**” organized by Centre for Ocean Research, Sathyabama Institute of Science and Technology, Chennai, & Department of Chemistry in association with Ministry of Earth Sciences-Earth Science Technology Cell from 07, Sept.'20 to 12, Sept.'20
 4. Certificate of Participation “**Mass Spectrometry based Metabolomics**” by Dr Praveen Kumar Research Manager/Research Scientist, Mass Spectrometry Research Center, University of Maryland, USA held on 25 June, 2020, organized by Amity International Society for Natural Products, Health & Allied Sciences Domain, Amity University Uttar Pradesh, Noida (INDIA).
 5. Participation Certificate for EBSCO Webinar “**The impact of Convergence, Divergence and Synergy Factors of LAM (Library, Archives and Museum) Paradigm in Digital Preservation**” on 24th June 2020.
 6. Participation certificate for 7-days **Science Academies “Science Leadership Workshop**” organized by the Central University of Punjab, Bathinda, India from June 22 to June 28, 2020.
 7. Certificate of Participation “**Online FDP on E-Content Development for 21st Century Learners**” organized by NITTTR Chennai and IIIT Sricity on 15-19 June 2020.
 8. Certificate of participation for A Two-day Virtual Workshop on **Develop, Deliver and Assess Online Courses with MOODLE Learning Management System** during May 2-3, 2020. This workshop is initiated jointly by IIITDM, Kurnool and IIIT, Tiruchirappalli.
 9. Participation certificate for **International Workshop on Big Data Analytics** organized by the Department of Computer Science and Engineering, SSN College of Engineering sponsored by BIRAC project and in association with IIIT, Una (HP) during 28-30 May, 2020 on virtual platform.
 10. Certificate of Achievement: **Certified Virtual Classroom Teacher** organized by Classle SKILLNET in association with the Madras/Chennai Chapters of IEEE Computer Society, ACM, and Computer Society of India on 28 May 2020.
 11. Certificate of completion for online Coursera 6-week course in **Industrial Biotechnology** developed by University of Manchester UK on 23 May 2020.
 12. Coordinator for Two days BRSI Sponsored Workshop “**Prelude to Biotechnology and Bioinformatics**”, organized by IIIT Una on 23 and 24 August 2019.
 13. Participated **One-week FDP Curriculum Design organized by IIT Mandi** on July 8–12, 2019.
 14. Endeavour Professional Development Workshop by Australian Government Department of Education and Training, Melbourne, 20 May 2015.
 15. Research Development workshops series at Deakin University Geelong: Leading by Example-Future Fellows and DECRAAs on 20 November 2014; Dealing with the ARC on 3 November 2014; Dealing with Australian Research Council on 31 October 2014; Developing your Research Career on 24 September 2014; Developing an Earlier Career Researcher Track Record on 24 March 2014.
 16. AISRF Bio/Nanotechnology workshop on 12-14 March, 2014 at Deakin University Australia
 17. Supervising at Deakin-2012 workshops at Deakin University Australia
 18. Short Term Training Course on Techniques in Genetic Engineering on February 15-21 at the Department of Biotechnology, Sant Gadge Baba Amravati University Amravati, India.
 19. Entrepreneurship Development Program in Biotechnology on June 11-15, 2007 at Biotech Consortium India Limited New Delhi, India.
 20. Bioinformatics Tools on Genomics Analyses on July 5-7, 2006 at the Department of Agricultural Biotechnology, CSK Himachal Pradesh Agricultural University Palampur, India.

Memberships of Professional Societies

I am an active member of the following international and national societies: American Chemical Society, Society of Biological Chemists, Bioprocessing network Australia, European Association of Pharma Biotechnology, The International Forum on Industrial Bioprocesses, International Society for Genomic and

Evolutionary Microbiology, Indian Society for Technical Education, Biotech Research Society of India, Association of Microbiologists of India, and Indian Science Congress Association.

Editorial Committee Members & Guest Editor for International Scientific Journals

1. Associate Editor, Frontiers in Microbiology (Impact Factor:6.064)
2. Editorial Board Member of the following journals: SpringerPlus, American journal of Research Communications, Journal for Bioprocessing and Biotechniques, Journal of Microbial and Biochemical Technology.
3. Guest Editor, Frontiers in Microbiology in 2021 &2023.
4. Guest Editor, Journal of Bioprocessing and Biotechniques, Omics Publishers in 2014, Thematic issue “Industrial applications of enzymes”.
5. Scientific committee member, International Conferences on Challenges in Environmental Science & Engineering (CESE), Australia from 2012 to 2017.

Reviewers for International Scientific Journals

I am an active reviewer for Nature/Springer/Elsevier/Cell/MDPI/Fronteirs based peer-review journals, such as Scientific Reports, Renewable and Sustainable Energy Reviews, Bioresource Technology, Journal of protein and peptideletters, PLoS One, Engineering in life sciences, Process Biochemistry, International Journal of Biological Macromolecules, International Biodeterioration & Biodegradation, Catalysis letter, Applied Biochemistry andBiotechnology, Biotechnology and Applied Biochemistry, Current Biotechnology etc.

Professional Services

1. Paper Setter cum Evaluator, Central University of Himachal Pradesh & Dr YSP University of Horticulture and Forestry, Nauni, HP, etc.
2. Book Proposal Reviewer for Wiley, Elsevier, Springer, Taylor and Francis, etc.
3. Book Editor for Elsevier, and CRC Press, etc.
4. Grant Reviewer of European project proposal
5. PhD Thesis Examiner, Australian and Indian Institutes, etc.

Teaching and Research Interests

Teaching: Biotechnology, Industrial Biotechnology, Nanobiotechnology, Genomics and Proteomics, Animal Biotechnology, Analytical Techniques in Biotechnology, Bioinformatics, Computational Biology.

Research: Nanobiotechnology, Industrial Biotechnology, Microbial Biotechnology, Protein Biotechnology, Enzyme Biotechnology, Computational Biology.

Media Highlights

- <https://www.youtube.com/watch?v=Meh6FQXGwyM>
- www.amarujala.com appeared on dated 29, Mar.'22